International Urban Planning
and Environment Association

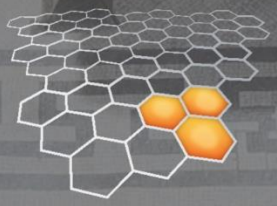
UPE 12 Symposium

12th International Symposium on Urban Planning and Environment

1st UPE Lusophone Symposium

CITIES FOR US

ENGAGING COMMUNITIES AND CITIZENS FOR SUSTAINABLE DEVELOPMENT



CIDADE PARA NÓS

ENVOLVER COMUNIDADES E CIDADÃOS NO DESENVOLVIMENTO SUSTENTÁVEL

Book of Proceedings | Livro de Atas

IGOT – ULisboa | May 31 – June 3 2016

31 de Maio a 3 de Junho 2016 – Lisboa, Portugal

ORGANIZATION//ORGANIZAÇÃO

U LISBOA | UNIVERSIDADE DE LISBOA

IGOT Instituto de Geografia e Ordenamento do Território UNIVERSIDADE DE LISBOA

CEG Centro de Estudos Geográficos

TÉCNICO LISBOA

SPONSORS//PATROCINADORES

FCT

EGEAC

Authors: Eduarda Marques da Costa; Carlos Cardoso Ferreira; José Manuel Simões
Editorial Support: Carlos Freitas; Ana Louro
Publisher: Lisboa, Centro de Estudos Geográficos da Universidade de Lisboa (CEG-UL)
ISBN: 978-972-636-268-5 (E-Book)
Year: 2018

IUPEA International Urban Planning and Environment Association

International Board of Directors | Direção Internacional

Donald Miller, Chair, University of Washington, Seattle, USA
Adrienne Keane, Macquarie University, Australia
Chris Zuidema, University of Groningen, Netherlands
Hilda Blanco, University of Southern California, USA
Jiang Wu, Tongji University, Shanghai, China
Jorge J. Karol, University of La Plata, Agentina
José Manuel Simões, Universidade de Lisboa, Portugal
Katie Williams, University of the West of England, United Kingdom
Nancey Green Leigh, Georgia Tech University, USA
Nicole Gurran, The University of Sidney, Australia
Perry Pei-Ju Yang, Georgia Institute of Technology, USA
Peter B. Meyer, The E.P. Systems Group, USA
Peter Phibbs, University of Western Sydney, Australia
Robin Ganser, University of Applied Sciences Lubeck, Germany
Rocky Piro, Denver Department of Community Planning and Development., USA
Sarah Coffin, Saint Louis University, USA

UPE12 & 1ST UPE LUSOPHONE | UPE12 e 1º SIMPÓSIO LUSÓFONO UPE

Organization Committee | Comité de Organização

IUPEA: International Urban Planning and Environment Association

CEG – IGOT – ULisboa: Centro de Estudos Geográficos, Instituto de Geografia e Ordenamento do Território, Universidade de Lisboa

IST – ULisboa: Instituto Superior Técnico, Universidade de Lisboa

Local Organizing Committee | Comité Local de Organização

José Manuel Simões (Chair), Universidade de Lisboa, Portugal
Carlos Cardoso Ferreira, Universidade de Lisboa, Portugal
Eduarda Marques da Costa, Universidade de Lisboa, Portugal
Fernando Nunes da Silva, Universidade de Lisboa, Portugal
José Antunes Ferreira, Universidade de Lisboa, Portugal

Scientific Committee UPE12 | Comité Científico UPE12

Adrienne Keane, Macquarie University, Australia
Armando Montanari, University La Sapienza, Roma, Italy
Arnaud Banos, Universite de Paris, France
Carlos Cardoso Ferreira, Universidade de Lisboa, Portugal
Caroline Scarles, University of Surrey, United Kingdom
Chris Zuidema, University of Groningen, Netherlands
Cristina Castel Branco, Universidade de Lisboa, Portugal
Daniel Rauhut, Norwegian Institute for Urban and Regional Research, Norway
Donald Miller, IUPEA Chair, University of Washington, Seattle, USA
Eduarda Marques da Costa, Universidade de Lisboa, Portugal
Elisabeth Hamin, University of Massachusetts, USA
Eran Razin, The Hebrew University of Jerusalem, Israel
Fernando Nunes da Silva, Universidade de Lisboa, Portugal

Hilda Blanco, University of Southern California, USA
Isabel Loupa Ramos, Universidade de Lisboa, Portugal
Jorge J. Karol, University of La Plata, Argentina
José Antunes Ferreira, Universidade de Lisboa, Portugal
José Manuel Simões, Universidade de Lisboa, Portugal
José Reis, Universidade de Coimbra, Portugal
Katie Williams, University of the West of England, United Kingdom
Manuel Laranja, Universidade de Lisboa, Portugal
Maria Prezioso, University of Rome Tor Vergata, Italy
Nicole Gurran, The University of Sidney, Australia
Nuno Marques da Costa, Universidade de Lisboa, Portugal
Paulo Morgado, Universidade de Lisboa, Portugal
Perry Pei-Ju Yang, Georgia Institute of Technology, USA
Peter B. Meyer, The E.P. Systems Group, USA
Peter Phibbs, University of Western Sydney, Australia
Robert Maitland, University of Westminster, United Kingdom
Robin Ganser, Nuertingen-Geislingen University, Germany
Rocky Piro, Denver Department of Community Planning and Development, USA
Samuel do Carmo Lima, Universidade Federal de Uberlândia, Brasil
Sarah Coffin, Saint Louis University, USA
Teresa Heitor, Universidade de Lisboa, Portugal

Scientific Committee 1st Lusophone Symposium | Comité Científico 1º Simpósio Lusófono

Dennilson Pinto, Direcção da Ordem dos Engenheiros de Angola, Angola
Glaucio José Marafon, Universidade do Estado do Rio de Janeiro, Brasil
Helsio Azevedo, Universidade Eduardo Mondlane, Moçambique
Isabel Loupa Ramos, Universidade de Lisboa, Portugal
Judite Nascimento, University of Cabo Verde, Cabo Verde
Margarida Pereira, Universidade Nova de Lisboa, Portugal
Margarida Queirós, Universidade de Lisboa, Portugal
Maria Encarnação Sposito, Universidade Estadual Paulista, Brasil
Maria Rosário Partidário, Universidade de Lisboa, Portugal
Neli Aparecida Mello, Universidade de Sao Paulo, Brasil
Nuno Marques da Costa, Universidade de Lisboa, Portugal
Teresa Alves, Universidade de Lisboa, Portugal

Technical Secretariat | Secretariado
Ana Louro, Universidade de Lisboa, Portugal **Márilisa Coelho**, Universidade de Lisboa, Portugal

Sponsors | Patrocinadores
IGOT – Instituto de Geografia e Ordenamento do Território, ULisboa
FCT – Fundação para a Ciência e Tecnologia
CGD – Caixa Geral de Depósitos
EGEAC – Câmara Municipal de Lisboa

UPE12 PRESENTATION

The city is an imagined and drawn space, a densified and volumetric landscape. But it is also a living space, and is memory, work and leisure, tradition and innovation, technology and capital markets; an asymmetric mosaic of wealth and misery, abundance and deprivation, inclusion and exclusion; a place of arrival, both to migrants and tourists, and for people seeking new opportunities.

The city is, first and foremost, people!

To build a city of citizens -**a city for us** -is a purpose and a greatest responsibility of a collective effort including elected officials, administration, technicians, business and citizens. This is why public participation in urban planning processes -from diagnosis to strategy and the intervention proposal -should become a more effective practice.

Sustainable spatial planning and urban design are keys to human well being. We need a new vision of cities and regions for sustainable urban life after human-cause or natural crisis.

Many of the decisions made today will have long-term consequences, and we are certain that we must strive towards creating more inclusive and healthy cities, that are more green and sustainable, more innovative and smart, with greater support for leisure and tourism, economically more robust, and supplying more and better jobs, with inclusive governance models, opening a new era where cities are more livable, effective, competitive, attractive, learning, equitable, and resilient.

1st UPE LUSOPHONE SYMPOSIUM

The 1st UPE Lusophone Symposium will be a place to exchange knowledge and discuss the problems and dynamics of urban development in lusophone countries, and a discussion forum to cross planning and managing approaches towards sustainable urban and environmental development.

APRESENTAÇÃO UPE12

A cidade é um espaço imaginado e desenhado, uma paisagem densificada e volumétrica. Mas também é um espaço vivo, é memória, trabalho e lazer, tradição e inovação, tecnologia e mercado de capitais; um mosaico assimétrico de riqueza e miséria, abundância e privação, inclusão e exclusão; um lugar de chegada, tanto para migrantes como para turistas, assim como para as pessoas que procuram novas oportunidades.

A cidade é, acima de tudo, gente!

Construir uma cidade dos cidadãos -**uma cidade para nós** -é um propósito e uma grande responsabilidade de um esforço coletivo, incluindo funcionários eleitos, administração, técnicos, empresas e cidadãos. É por isso que a participação pública em processos de planeamento urbano -desde o diagnóstico para a estratégia até à proposta de intervenção deve tornar-se uma prática mais eficaz.

O ordenamento do território e urbanismo sustentáveis são fundamentais para o bem estar humano. Precisamos de uma nova visão de cidades e regiões para a vida urbana sustentável em contextos de crise de origem humana/natural.

Muitas das decisões tomadas hoje terão consequências a longo prazo, e estamos certos de que nos devemos esforçar para a criação de cidades mais inclusivas e saudáveis, mais verdes e sustentáveis, mais inovadoras e inteligentes, com um maior apoio ao lazer e turismo, economicamente mais robustas,e fornecedoras de mais e melhores empregos, com modelos de governança inclusivos, abrindo uma nova era onde as cidades são mais habitáveis, eficazes, competitivas, atraentes, equitativas e resilientes.

1º SIMPÓSIO LUSÓFONO

O 1º Simpósio Lusófono em Planeamento Urbano e Ambiental será um espaço de partilha de conhecimentos e discussão dos problemas e dinâmicas de desenvolvimento urbano nos países lusófonos, para cruzar abordagens de planeamento e gestão para um desenvolvimento urbano e ambiental sustentável.

UPE12 TRACKS

T01 / INCLUSION AND HEALTH: *towards livable cities*

T02 / GREEN AND SUSTAINABILITY: *towards effective cities*

T03 / INNOVATION AND INTELLIGENCE: *towards competitive cities*

T04 / LEISURE AND TOURISM: *towards attractive cities*

T05 / GOVERNANCE AND POLICIES: *towards learning cities*

T06 / ECONOMY AND JOBS: *towards equitable cities*

TEMAS UPE12

T01 / INCLUSÃO E SAÚDE: *para cidades habitáveis*

T02 / *GREEN* E SUSTENTABILIDADE: *para cidades eficazes*

T03 / INOVAÇÃO E CONHECIMENTO: *para cidades competitivas*

T04 / LAZER E TURISMO: *para cidades atrativas*

T05 / GOVERNANÇA E POLÍTICAS: *para cidades de aprendizagem*

T06 / ECONOMIA E EMPREGO: *para cidades equitativas*

1st UPE LUSOPHONE TRACKS

The discussion will be based on the following issues:

LS01 / Urban Planning for sustainable development in lusophone contexts;

LS02 / Multilevel governance experiences for sustainable urban and environmental development.

TEMAS 1º SIMPÓSIO LUSÓFONO

A discussão será focada nas seguintes questões:

LS01 / Planeamento urbano para o desenvolvimento sustentável em contextos lusófonos;

LS02 / Experiências de governança multinível para o desenvolvimento urbano e ambiental sustentável.

UPE12
12th International Urban Planning and Environment Association Symposium

KEYNOTE SPEAKERS

Simin Davoudi (Newcastle University)

Simin Davoudi is Professor of Environmental Policy & Planning at School of Architecture, Planning and Landscape, and Associate Director of the Institute for Sustainability at Newcastle University. She is past President of the Association of the European Schools of Planning (AESOP); Fellow of the Academy of Social Sciences and Fellow of the Royal Society of Arts. She has led the UK Office of Deputy Prime Minister's Planning Research Network; was a member of expert panels for: 3 UK government departments (DCLG, DECC & DEFRA), 2 EU Directorate Generals (Environment & Regional Policy), the ESRC Grant Assessment Panel, Research Excellence Framework (REF), and several European research councils; held visiting professorship at the universities of: Amsterdam and Nijmegen (Netherlands), Karlskrona (Sweden), Virginia Tech (USA) and RMIT (Australia) and served on several advisory councils (including Hong Kong University); is co-Editor of the Journal of Environmental Planning and Management. Her research on urban planning, environmental governance, climate change and resilience is published widely. Selected books include: Justice and Fairness in the City (2016, Policy Press), Town and Country Planning in the UK (2015, Routledge), Reconsidering Localism (2015, Routledge), Climate Change and Sustainable Cities (Routledge, 2014), Conceptions of Space and Place in Strategic Spatial Planning (Routledge, 2009), Planning for Climate Change (Earthscan, 2009) Planning, Governance and Spatial Strategy in Britain (Macmillan, 2000).

Professora de Política Ambiental e Planeamento na Faculdade de Arquitetura, Planeamento e Paisagismo, e diretora associada do Instituto para a Sustentabilidade da Universidade de Newcastle. Ex-presidente da Associação das Escolas Europeias de Planeamento (AESOP), membro da Academia de Ciências Sociais, e membro da Royal Society of Arts. Coordenou a Rede de Investigação em Planeamento do Vice-Primeiro-Ministro do Reino Unido. Foi membro do painel de especialistas para três departamentos governamentais do Reino Unido: (DCLG, DECC & DEFRA), 2 Direcções Gerais da União Europeia (DG Ambiente e DG Política Regional, Painel de Avaliação para financiamentos ESRC, Rede de Investigação de Excelência (REF), e vários Conselhos europeus de investigação; professora visitante nas Universidades de Amesterdão e Nijmegen (Holanda), Karlskrona (Suécia), Virginia Tech (EUA) and RMIT (Austrália) e participou em vários Conselhos Consultivos (incluindo a Universidade de Hong Kong). É co-Editora do Journal of Environmental Planning and Management. A sua investigação em planeamento urbano, governança ambiental, alterações climáticas e resiliência foi amplamente publicada. A selecção de livros inclui: Justice and Fairness in the City (2016, Policy Press), Town and Country Planning in the UK (2015, Routledge), Reconsidering Localism (2015, Routledge), Climate Change and Sustainable Cities (Routledge, 2014), Conceptions of Space and Place in Strategic Spatial Planning (Routledge, 2009), Planning for Climate Change (Earthscan, 2009) Planning, Governance and Spatial Strategy in Britain (Macmillan, 2000).

Paulo Ferrão (IST-ULisboa / FCT)

President of the Foundation for Science and Technology (FCT), the public agency that funds scientific sector.Full Professor at Instituto Superior Técnico of Universidade de Lisboa where he is co-founder and actually President of the Scientific Council of the of IN+, Center for Innovation, Technology and Policy Research. He is the National Director of the MIT-Portugal Program, the major international partnership on Science and Technology

Professor Catedrático do Instituto Superior Técnico da Universidade de Lisboa, onde é co-fundador e actual Presidente do Conselho Científico do IN +, Centro de Inovação, Tecnologia e Políticas de Desenvolvimento. Diretor Nacional do Programa MIT-Portugal, a maior parceria internacional em Ciência e Tecnologia em Portugal, no domínio dos sistemas de engenharia. Também é o representante Português no Grupo de Coordenação do Plano Estratégico

in Portugal, in the field of Engineering Systems. He is also the Portuguese representative at the Steering Group of the European Strategic Energy Technology Plan (SET-Plan) and the Director of the Energy Technologies Competitiveness Cluster in Portugal (PCTE).

Europeu para as Tecnologias Energéticas (Plano SET) e o Diretor do Cluster para a Competitividade nas Tecnologias de Energia em Portugal (PCTE).

Gert de Roo (Groningen University)

Full professor in Spatial Planning, Head of Department of the Department of Spatial Planning and Environment at the Faculty of Spatial Sciences, University of Groningen. De Roo is responsible for various fields of research, all of which are related to decision-making concerning purposful interventions within the physical environment. Most of his research and his publications are focusing on decentralization processes, in particular those concerning physical and environmental planning. Another part of his research focuses on the development of decisionmaking models that support choices concerning interventions within the physical environment. In his research De Roo takes the stand the world develops non-linear, is dynamic and is to be seen as 'complex'.De Roo participates in various national and international associations and organizations, all of them having in common the physical environment, quality of life, sustainability and urban development. Gert de Roo is elected President of the Association for European Schools of Planning (AESOP), which is from 2011 until 2015. De Roo is editor of AESOP's InPlanning Digital Platform, and the Ashgate Publishing Series on Planning Theory. He also participated in the editorial board of Planning Theory & Practice.

Professor de Planeamento Territorial, Coordenador do Departamento de Planeamento Territorial e Ambiente da Faculdade de Ciências Territoriais, universidade de Groningen. De Roo é responsável por várias áreas de investigação, todas relacionadas com a tomada de decisão para intervenções no mabiente físico. A maioria da sua investigação e publicação foca-se nos processos de descentralização, em particular aqueles que afectam o planeamento físico e ambiental. Outra componente da sua investigação foca o desenvolvimento de modelos de tomada de decisão que suporte escolhas de intervenção no ambiente físico. Na sua investigação, De Roo considera que o desenvolvimento do mundo é não-linear, dinâmico e deve ser visto como "complexo". De Roo participou em diversas associações e organizações nacionais e internacionais, todas tendo em comum o ambiente físico, qualidade de vida, sustentabilidade e desenvolvimento urbano. Ger de Roo foi eleito Presidente da Associação de Escolas Europeias de Planeamento (AESOP), de 2011 a 2015. É também Editor da InPlanning Digital Platform da AESOP e da Ashgate Publishing Series on Planning Theory, participando também na equipa editorial da Planning Theory & Practice.

1st UPE LUSOPHONE SYMPOSIUM

KEYNOTE SPEAKERS

Jorge Gaspar (CEG-ULisboa)

Geographer and Urbanist. Professor Emeritus, University of Lisbon, Institute of Geography and Spatial Planning. Researcher at the Centre for Geographical Studies. Visiting Professor at the Technical University and the Universities of Umea and Paris X. Doctorate from the University of Lisbon (1972), postgraduate from the University of Lund. Coordinated investigations and projects applied in Geography, Planning and Urban Development. Technical coordinator of the National Programme for Spatial Planning Policy - PNPOT. He published some twenty books and more than two hundred articles. Effective member of the Academy of Sciences, member of the Academia Europaea and Doctor Honoris Causa by the Universities of León, Geneva and Évora.

Geógrafo e Urbanista. Professor Emérito da Universidade de Lisboa, Instituto de Geografia e Ordenamento do Território. Investigador do Centro de Estudos Geográficos. Professor Visitante na Universidade Técnica e as Universidades de Umea e Paris X. Doutorado da Universidade de Lisboa (1972), pós-graduação da Universidade de Lund. Investigações e projetos coordenados aplicados em Geografia, Planeamento e Desenvolvimento Urbano. Coordenador técnico do Programa Nacional de Política de Ordenamento do Território - PNPOT. Publicou cerca de vinte livros e mais de duas centenas de artigos. Membro efetivo da Academia de Ciências, membro da Academia Europaea e Doutor Honoris Causa pelas Universidades de León, Genebra e Évora.

Judite Nascimento (Cape Verde Univ.)

Judite Medina de Nascimento - concluded in 2009, a PhD in Geography - Regional and urban planning at the University of Rouen, France. In 2004, completed the Master in Geography - Regional and Local Planning at the University of Lisbon. Finished her degree in Geography in 1995 at the State University of Kharkov, Ukraine. She was a member of the Board of the Department of Science and Technology, University of Cape Verde and is a professor in the framework of this University since its foundation. It was Professor of Geography of the former Institute of Education in Cape Verde since its founding in 1996 to its integration at the University. She has dedicated its research and teaching activities in scientific fields: regional planning, planning and urban management, urban governance, urban geography and urban growth and development. Judite has a book and several published articles in international journals, and participated in several collective books. She was Director of the Local Development Research Centre and Regional Planning at the University of Cape Verde. She is currently Dean of the University of Cape Verde.

Judite Medina do Nascimento – Concluiu, em 2009, o Doutoramento em Geografia – Ordenamento do Território e urbanismo, na Universidade de Rouen-França. Em 2004 concluiu o Mestrado em Geografia – Planeamento Regional e Local, na Universidade de Lisboa. Terminou a sua Licenciatura em Geografia em 1995 na Universidade Estatal de Kharkov- Ucrânia. Foi Membro do Conselho Diretivo do Departamento de Ciência e Tecnologia da Universidade de Cabo Verde e é professora do quadro dessa Universidade, desde a sua fundação. Foi docente de Geografia do antigo Instituto Superior de Educação em Cabo Verde desde a sua fundação em 1996 até à sua integração na Universidade. Tem dedicado as suas atividades de investigação e docência aos domínios científicos: ordenamento do território, planeamento e gestão urbana, governança urbana, geografia urbana e crescimento e desenvolvimento urbanos. Tem um livro e vários artigos publicados nesses domínios em revistas internacionais e participa, com artigos, em vários livros coletivos. Foi Diretora do Centro de Investigação em Desenvolvimento Local e Ordenamento do Território da Universidade de Cabo Verde. Atualmente é Reitora da Universidade de Cabo Verde.

Contents | Índice

Author Index | Indice de Autores

TRACK 01

INCLUSION AND HEALTH: towards livable cities

Chair: Eduarda Marques da Costa, Universidade de Lisboa, Portugal

Scientific Committee: Donald Miller, University of Washington, Seattle, USA
Katie Williams, University of the West of England, United Kingdom
Samuel do Carmo Lima, Universidade Federal de Uberlândia, Brasil
Teresa Heitor, Universidade de Lisboa, Portugal

The improvement of life frameworks in cities and metropolis, in order to achieve well-being, requires best practices to promote inclusion as a means to creating a healthy city.

The rapid growth of the urban phenomenon witnessed since the 50s (more than 3 % per year, with over 55 % of the population today urban), gave rise to cities and metropolis marked by strong tensions, segregation and both social and territorial disparities, which are multidimensional in nature and not confined only to a sector of society (economy, education, health, culture, ...). Hence, the production of health and improvement of the social inclusion, in its many facets, is increasingly present in the agendas of politicians and technicians who intervene more directly in urban management.

The concern with the construction of healthier cities increased starting from the mid-seventies. First, in 1974, it was driven by the findings of the Lalonde Report, later, in 1978, the International Conference on Primary Health Care in Alma-Ata, where the World Health Organization launched the ambitious challenge of obtaining the "Health for all". Afterwards, in 1986, the World Health Organization formally launched the "Healthy Cities" project, recommending that a healthy city is one that, with the multi-sectorial coordination of the various public policies and of the wide set of stakeholders (government, political parties, public and private institutions, unions, associations, NGOs, families and individuals), promotes collective production of health and the improvement of the urban quality of life.

This track encourages the presentation of initiatives focused on the design of well-being frameworks in cities and metropolitan areas, including promoting social inclusion, and improving the health of residents.

DISABLED PEOPLE IN CITY AND LIVABLE CITY

Session T1.1 | June 1 | 11:00 – 12:30

Berfu Guley Goren
Department of Architecture, Istanbul Arel University, TURKEY

ABSTRACT: The aim of this study is to analyze the effects of the inability to participate urban life of marginalised groups on sustainable urban development. The relation between disabled people, who are in marginalised groups, sustainable urban development and urban design are focused. In the city, physical barriers and also social barriers build inaccessible environment for disabled people to access to the public spaces, urban functions and urban life.

“Livable city” term may be described by different disciplines or different branches of the same discipline. However, the common purpose of all disciplines or different branches is to improve the cities for “all people”. Livable city is in a deep relation between disabled people and the behaviour of the society towards these groups.

Urban citizens are “all people”, regardless of their race, sex, age, socio-economic conditions, physical features, ability or disability. In the most cities, all people may not be seen in all urban spaces because of their ethnic groups, economic, social or physical features. Thus marginalised groups may be created by the society. Marginalised groups can not participate in urban life physically and socially due to culture and attitudes of society towards them. Whereas, every urban citizen has the right to participate in urban life as an active member of the city by laws and regulations. Inability of the all citizens to participate to the urban life is a hidden and big danger for livable and sustainable city. Disabled people, who are in marginalised groups in society, has a large number in the total world population. Disabled people are %10 percent of total world population. Because of behaviour and perspective of society towards disability, %10 percent of world population can not participate to urban life effectively. Physical environment design and behaviours of society are in a deep interaction with the urban life.

Participating in urban life is mortal for social and physical integration of society. Every individual has the right of free mobility whatever their physical features are. When physical environment design and public awareness work together, accessible and safe spaces for “all” citizens are created.

Mostly, urban design practices create the environment for the people who are without disability. Whereas, all citizens should be considered in all urban design practices. Everybody should be aware that everybody may have a disability in a moment of their lives. Urban design practices should be created with consciousness and awareness to solve the problems of disabled people in urban physical and social life. For a sustainable and livable city, optimum balance between behaviour of society and urban environment should be ensured.

KEYWORDS: disability; disabled people; marginalization; livable city; urban sustainability.

INTRODUCTION

Urban citizens and their urban space should not be separated for a sustainable society and urban life. The correlation between citizen and space must be in a balance. In this balance all the citizens must be taken in consideration. For urban, nature and human sustainability, urban space design should be in harmony with nature and human. Spots, where human and nature is integrated, are restricted by urbanization. Spaces shaped by human hands, is the individual's physical environment. Therefore, urban space design must be safe and accessible for all citizens. The most basic right of every human being is to be able to use the right of free mobility without any barriers, regardless of the physical and social features. There is a direct proportion between being a livable city and using the right of free mobility. Handicapped people are required to meet the needs of city as the other citizens not to meet any social and physcial barriers. While meeting the needs and fulfilling responsibilities, society and spaces must be accessible.

Turkey has various laws and regulations as well as in many countries to ensure the participation of citizens with disabilities in social life without any barriers. However, in many cities, specified requirements does not appear in urban space. In different countries, problems and their solutions are different according to their level of socio-economic development and their cultures. Habits and awareness of actors of urban space design, the lack of legal regulations, and public interest make different the disability problems and their solutions. The joint solution of the problems is to adopt the design philosophy for everyone.

TERMS

IMPAIRMENT, DISABILITY AND HANDICAP

Impairment was described by World Health Organization in 1980 as “in the context of health experience, an impairment, any loss or abnormality of psychological, physiological or anatomical structure or function.”

Disability was described by World Health Organization in 1980 as “in the context of health experience, a disability is an restriction or lack (resulting from an impairmnet) of ability to perform an activity in the manner or within the range considered normal for a human being.” Disability was described as “congenital or acquired by Number 5378 Disability Law of Turkish Republic in 2005, Due to any reason loosing varying degrees of physical, mental, sensory and social skills, who needs the social life adaptation and daily necessities to meet challenges of protection, maintenance, rehabilitation counseling and support services”.

Handicap was described by World Health Organization in 1980 as “in the context of health experience, a handicap is a disadvantage for a given individual, resulting from an impairment or a disability that limits or prevents the fulfilment of a role that is normal (depending on age, sex and social and cultural factors) for that individual.”

In United Nations Convention on th Rights of People With Disabilities (UNCRPD), handicapped was described as “Due to long-term physical, mental or psychological impairment who can not fully participate in society equal and effective”.

Impairment and disability is a result of disability as paralysis, blindness, state of health in body function and structure. But, handicap is broader and more comprehensive than impairment and disability. Handicap is about to use public transport, difficult situations which are limitations in social activities, such as not being able to go to school. Impairment and disability focus on loss of body function or incapability, but handicap focuses on social life condition which is affected by social, cultural and pyhsical barriers outside. Correct sloping ramps at building entrances, public transport with specific mechanisms or other specific occasions can reduce handicap. Disability is not just based on individual. It is a condition which occurs with the interaction between people and the environment. For the solution the correct interaction should be ensured. For the real solution marginalization and stigma must be eliminated to motivate the personal development, self-esteem and to increase handicapped people’s physical and social conditions should be created (Goren, 2014).

Many people have different definitions of handicapped according to their different perceptions. For some people, being handicapped is a personal tragedy, for some, it is medical problem and for some it is a part of life and reality. In this study, the concept of impairment and disability are not used. The concept of handicap and handicapped are used which have social and urban barriers in its definitions.

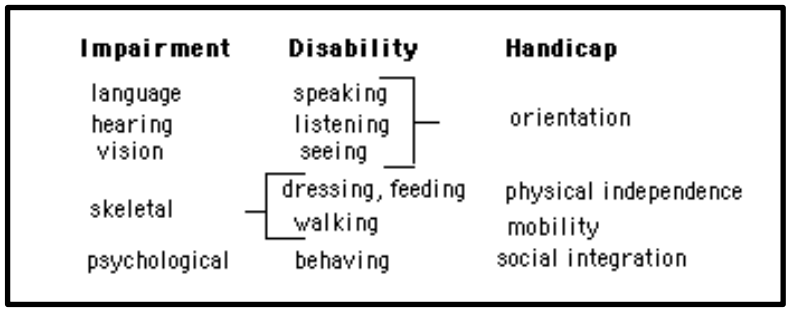


Figure 1: Relation between Impairment, Disability and Handicap (WHO, 1980, p.30)

Impairment	Disability	Handicap
Loss or abnormality of psychological, physiological, or anatomical structure or function	Restriction in ability to perform a function that may result from an impairment	Disadvantage that results when a disability or impairment limit sor prevents the fulfillment of a role
Organ or system	Whole person	Social

Table 1: Definition and Effetcs of Impairment, Disability, Handicap (WHO)

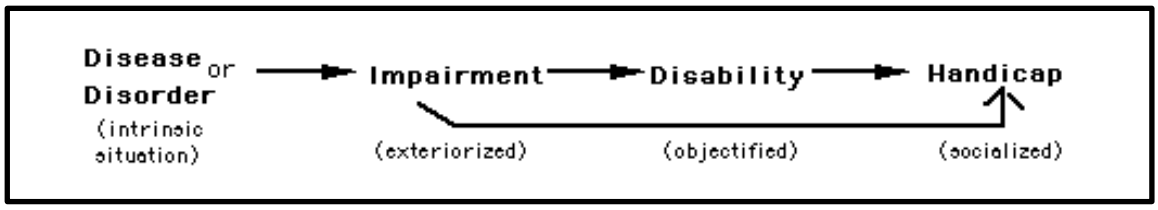


Figure 2: Differencies of Impairment, Disability and Handicap (WHO, 1980, p.33)

STIGMA AND MARGINALIZATION

French sociologist Émile Durkheim was the first to explore stigma as a social phenomenon in 1895 (Durkheim, 1885). Marginalization is excluding the people from society due to their socio-economic situation, gender, age, race, etnicity and disability. Disabled people are marginalized due to major group of society see them as “different” and “abnormal”. The proper relation between design and public awareness prevents the marginalisation of disabled and handicapped people.

Wrong habits and beliefs of public push into marginalization of disability. To pull down the bias against handicapped people in mind of public handicap must be understood. One important principle of urban design practices is that marginalized handicapped people in society must be in urban space without any stigma and marginalization. Handicapped individuals are stated on the basis of the problems experienced in urban life is not because of the restriction of their ability, because of physical conditions in urban and building design and society's prejudiced.

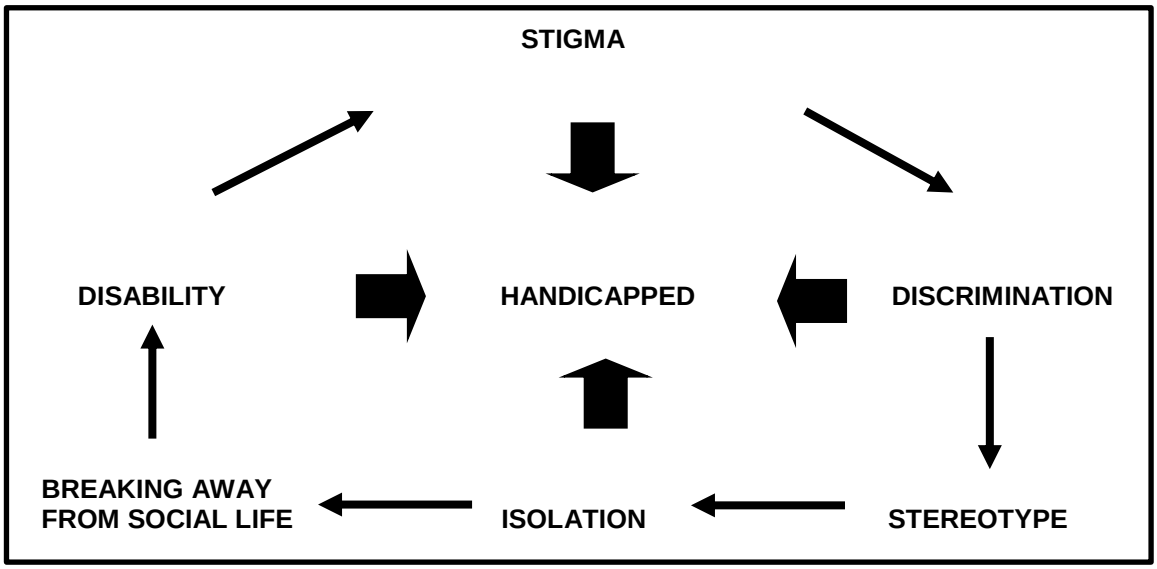


Figure 3: Elements of handicap

When the disabled people are seen as "different" in a city and society, the city’s physical and social structure have discriminatory attitudes and inequality of opportunity towards disabled people. If the city has wrong attitudes towards marginalized groups as is mentioned, disabled people become handicapped people. If we get the handicapped people productive and active members of society, awareness will be created and urban designs will be accessible for everyone.

ACCESSIBILITY

Accessibility identifies as the character of the activities and also as to access from a point in the spatial distribution to the potential destination point (Handy & Neimer, 1997). Accessibility is the most important characteristic of space geography. Accessibility means that any user of the city may move in the city without any barriers. Accessibility concept’s scale may be in different scales as just a single structure or transportation planning or land use, or a major metropolitan area planning. Accessibility has been a major topic of human rights. In 1964, in the United States, Human Rights Act, which was against racism, has played an important role to initiate the disability movements and raise awareness on equality of opportunity, and discrimination of the disabled people. In the same period, the concept of universal design movement has emerged with disabilities.

UNIVERSAL DESIGN

Central for Universal Design describes the universal design as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Center for Universal Design,1997, para. 1, Mace, 1985) Universal design has seven principles. These are; equitable use, Flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for approach of use.

- The aims of universal design are:
- Body fit: Accommodating a wide a range of body sizes and abilities
- Comfort: Keeping demands within desirable limits of body function
- Awareness: Ensuring that critical information for use is easily perceived
- Understanding: Making methods of operation and use intuitive, clear, and unambiguous
- Wellness: Contributing to health promotion, avoidance of disease, and prevention of injury
- Social integration: Treating all groups with dignity and respect
- Personalization: Incorporating opportunities for choice and the expression of individual preferences
- Cultural Appropriateness: Respecting and reinforcing cultural values and the social and environmental context of any design project (Steinfeld, E. & Maisal, J.).

Figure 4: Stairs from the point of disabled people (American Disability Association)

According to the principles of universal design philosophy, the environment provides for the use of all people without the need for adaptation. Such as, to organize stepless entries, height-adjustable countertops use solutions, different arrangements are discussed in this approach. Universal design provide to use environment and products regarless age, sex, all kinds of talents and qualifications of the user's without any marginalization. Universal design principles are applied in wide scale from product design to the urban environment.

A LIVABLE AND SUSTAINABLE CITY

On the basis of the concept of a livable city lies to be habitable for "everyone". Each individual in the city is included as "everyone" in the concept. After Declaration of Human Rights, many international conventions regulations and laws highlight the equality of individuals and protect the marginalized groups. The most effective areas of the city to get social integration are public spaces. When these spaces are accessible and usable for everyone, the city become sustainable and habitable. Disabled people, who is one of the marginalized group in society, are 10% of the world population. This shows that the 700 million people have disabilities.

Livable city should enclose the people who are respectful to each other and have conscious social behaviors and habits. In sustainable cities that provide social and physical integration with meeting of urban needs and everyone should be able to participate in social life.

SOCIAL ASPECTS OF A LIVABLE CITY

Disability the medical model was adopted, and dealt with only as a medical problem until the last quarter of 20th century. Disability was not included in the humanities and social sciences. In 1960s social movement against racism

had started in USA. It has created awareness about the serious human rights and equality. And in these years handicapped people has begun to make their voices heard. Especially in USA and Great Britain, social model of disability has begun to appear in the context of social mobility. Disability has begun to be seen as a socio-political problem.

According to the medical model of disability, direct a disease caused by trauma or other health conditions is a individual problem and require medical care. The problem belongs to the people and to be resolved by medical treatment, In this model there is binary struction as sick and healthy or strong and weak.

According to the social model of disability, disability was created as a social problem, and it is the problem particularly about full participation of the individual in society. Negative attitudes and marginalization cause social exclusion thus disabled people become handicapped.

Figure 5: International Symbol of AccessibilitY

Figure 6: Active Symbol of Accessibility

International symbol of accessibility (Figure 5) was designed by a Danish student in a competition in 1968. In this symbol, disabled person was portrayed as static and passive mood. This is because until 1970s disability was seen as just a medical problem and disabled people are seen inactive people in society. Active symbol of accessibility (Figure 6) was designed in 1980s, which years were important for begining of disablity movements, to emphasize that disabled people must be active in society.

Concept of “equality for everyone” has been raised for the first time in 1948 in the United Nations Declaration of Human Rights. According to Universal Declaration of Human Rights, "Life, liberty and personal security is the right of every human being." American Disability Act enacted in 1990 in the United States has been quite effective in the country also it has become a good example for other countries. In the law, discrimination of disabled people in public areas, residential areas, transportation and communication.

DESIGN ASPECTS OF A LIVABLE CITY AND STREETS

Individuals with disabilities or without any disability try to learn to adopt to live in cramped urban areas by moving, breathing and ensuring their personal safety. According to Gracq, living in the city through the daily commute route are generally articulated around some main axes as knit laces (Paquot, 2011; Gracq, 1989). The city is a living organism, and while living in a continuous motion, is in transformation. Cities, morning and evening, weekday-weekend, summer and winter don’t have the same quality and behaviour. Every living creature interacts with the environment throughout its life. These interactions occur when individual recognize his/her environment or produce a new living space for himself / herself, or reach from a place to another. Individuals are affected by their environment thus they differ from each other. The power of interaction between individual and environment variate by indivdual’s physcial abilities, characteristics, resistance, intelligence and possibilities offered by the environment. The relationship between individuals and their environment is a complex structure.

The design of the physical environment and space, is very important and effective to adapt the people to both urban and socail life. Every design, which provides to meet needs, improve adaptation to environment and free mobility. Technology is also important to meet the needs of individuals and to ensure free mobility.

However, improper design of technology causes results contrary to facilitate the lives of individuals, such as hight buttons, narrow gates for wheelchair users. The physical environment should be habitats for all people and support to individuals whatever their features are. While meeting the needs of every individual the similar enegry and time should be spended. In the center of universal design concept, removal of all existing barriers to each individual is located. Any physical or social barriercause difficulties to access any purpose of people in cities. The barriers may be in mobility, accessibility, time, space, and communicate. Existing barriers may make it difficult to the use. Barriers may

cause difficulty or completely remove the meeting the needs of daily life, developing the self-development of individuals in intellectual life and mobility.

Physical and emotional distance are in interaction with each other. Individuals who can not form partnerships in contact with physically, they also can not form partnerships emotionally each other. In this case, people can not socialize and they get away from society and urban life. In the concept of universal design, the balance of relationship between and social order and urban design is very important. Spaces can combine people as well as it completely put them out. Barriers in the built environment prevent social integration and individual development. These barriers are parts of every individual's life. Urban design affects the individual's potential limit, social identity and dependence on one another. The current state of the built environment affects the individual's habits and behavior. In the Panopticon, criminals were separated from each other thus some behavior patterns were created by spatial arrengements and design. Urban and spatial design can have a therapeutic effect on individuals.

Streets prevent the introverted individual and it is effective in social communication. Physical characteristic of the Streets affect the interpersonal interaction and the near and distant concept of social integration. Unused street is dead but the street which may be used and may be the space for interaction, is alive. An alive street is crowded thus encourages the people to get in the crowd, who are not included in street. The street which is not just a transition space and is animated with different activities, strenghts the relation between city and individuals. For participating in physical and social life urban designs should be done with thorough understanding of the barrier free design and assistive technology should be used. The city has had continuous contradictions and extremes thus the streets also have these. In Urban Revolution, Lefebvre specified that the modern city, which is in capitalism period, is a critical space for social life and it should not be just a circulation space. Georg Simmel indicated that one of the greatest human achievements is to determine the way between two spaces for the first time. Streets are one of the mainstays of communication. With its unique layout of the streets are for everyone. Streets are formed by the coming together of citizens in the same place. The streets must be both accessible and protected. Street is bustling unique and is a major public space for the people (Paquot, 2011). Streets should be combining area for everyone but in the modern cities they are just transition areas. Therefore, residents of city have social and urban integration problems because of spacelessness.

Problems experienced by people with disabilities are not seen just in the modern time. Marginalization and exclusion have been seen through history. “Normal” forms, which are universalized and hollow, cause that people without any disability see different the people with disabilities thus disabled people feel themselves as “different”. Gropius says that “To build means organization of social, psychological, technical and economical life.” (Lefebvre, 2013). As highlighted here, urban design formats the urban and social life for “everyone”. Urban spaces carry double natures as morphological and sociological. These qualities are inseparable from each other and have a mutual interaction. As design affect the social life, also social life and habits affect the design. Harvey describes the globalization as a macro concept and describes the body as oa micro concept (Harvey, 2008). In this respect, the body has been globalized, and the problem of marginalization of persons with disabilities is a local but not a global problem.

City produces a common life side by side for the people of every type and class, also for the people who are reluctant and agonistic (Harvey, 2013). Effects of capitalism make the urban space as a meta for surplus value and produce pragmatic approach between individuals in society. Capitalism has desired to to further increase the speed for maximum benefit from the urban spaces and individuals. Disabled or handicapped people are seen inadequate because of their physical abilities and speed, so they become marginalized. Each person can use the city as they wish and can take place without the marginalization of urban life. Creating free spaces should be in the hands of city planners and architects. The people in larger cities, can not find the time and opportunity even to get to know themselves also cannot recognize and understand each other. Urban living prevents individuals both with and without a disability. Each individual with his/her own body, lives around with his/her own experience. Trying to overcome the challenges of urban living with disabled body, handicapped people become more desperate, into the closure thus they break of the urban and social life. Therefore, every individual in the city has a responsibility to empathize and try to understand the problems faced by the disabled people and develop concrete solutions to these problems.

CASES IN ISTANBUL

Observation and other analysis show that in Istanbul many streets are not suitable especially for orthopedicaly and visually disabled people. The most important elements of the streets are surfaces and heights for comfortable mobility. In general in Istanbul streets, surface material of the street pavement for pedestrians and the space above the surface create serious problems in mobility. Especially for wheelchair users ramps, proper slope of ramps, surfaces of ramps are very important for their free mobility. For mobility of visual disabled people, dicontinuity, damage, wrong orientation, sudden stop of yellow strips and urban furniture on yellow strips prevent their mobility.

Figure 2: The blind person trying to walk tactile paving, İstanbul

Figure 3: Electricity pylon on the yellow on the yellow tactile paving, İstanbul

Figure 4: Electricity pylon on the yellow paving, Kadıköy, İstanbul

Figure 5: Bus stop unit on the yellow tactile paving, Sarıyer, İstanbul

Yellow strips should provide correct route for individual mobility of visually disabled people. Incorrect alignment of surface of pavements prevent the perception of direction of visually disabled people mand throw their safety in jeopardy.

Figure 6: Failure guidance because of failure flooring, Pendik, İstanbul

To facilitate the mobility the most important elements of the pavements are ramps for orthopedic disabilities. Entrance and exit ramps of pavements and narrow ramps are crucial especially for mobility of wheelchair users. The slope, the width, length and surface of materials of the ramp affect efficiency of mobility. Absence of ramp on the sidewalks, entrance of any building restrict the mobility.

Figure 7: Narrow ramp and barrier on Acıbadem, İstanbul

Figure 8: Failure ramp, stairs on ramp, ramp Kadıköy, İstanbul

Figure 9: Failure yellow tactile pavings and failure ramp, Acıbadem, İstanbul

Figure 10: Stairs without any ramp, Ataşehir, İstanbul

Figure 11: Stairs without any ramp, Ataşehir, İstanbul

High pavements make difficult the mobility for elderly, disabled people and also for children because of their abilities and physiological structures. Unconscious social behaviors, such as parking of cars on pavements block the use of existing pavements.

Figure 12: Car parkings on the pavement, İstanbul

Figure 13: Car parkings on the pavement, reduction of pavement, Kadıköy

Figure 14: Barriers on pavement

Figure 15: High pavement, Beşiktaş

Improper designing and positioning of urban furniture prevent the mobility of orthopedic and visually disabled people.

Figure 16: Inaccessible atm

Figure 16: Inaccessible atm

CONCLUSION

In this study, the causes of nonparticipating in urban life of disabled people are discussed. Physical barriers in Istanbul that restrict access to the built environment are explained with practical examples.

For urban sustainable development, all members of society must participate in civil and social life actively. In social sense sustainability of the city, all members of society must not be exposed to any marginalization and stigma.

Evolving of public culture and behaviours in the direction of the well prevent marginalization. This evolution will be possible with childhood education, thus creation of awareness and equality of all individuals and the idea that there is no difference between people should be understood from childhood.

Respect for people with disabilities into the built environment should be created on each individual's perception. In this case there is a serious interaction between the habits, behaviours and perspectives towards the disabled people and the urban design. At least one of two factors is more potential turns into positive when other factors play a positive attitude. However, two factors that also play a negative attitude to resolve the situation will become more complex and challenging. Besides making these regulations also international agreements and laws create awareness of disability and make necessary urban design for disabled people these will be effective in providing the urban and social sustainability. The main aim of urban design should motivate disabled people to be a part of urban life. For achieving accessibility, proper transportation routes and systems should be designed, thus disabled people may move in city comfortably and they may be in urban and social life.

In literature reviews, there are lots of terms and ideology on disability, but unfortunately in the city there is no practice of the terms and ideology. Providing of social integration of disabled people is a social responsibility. To achive the responsibility, public consciousness should be created and awareness of disability should be developed with the possibility of being disabled in one moment of daily life. Consciousness and design should be integrated and developed by mostly urban planners, architects and sociologists. In this point, urban design has a critical role. When design is proper for disabled people, they may participate in urban social life physically. Thus, “handicapped” people may be seen in the city by all citizens. Disabled people, who are integrated into social life and are not handicapped anymore, may develop their quality of life and also all the citizens may develop their quality of life too. Environment is an important factor for participating in urban social life. Relationship between environment, individuals and society should not be seen basic but complicated and inclusive.

Many built environment create barriers for lots of people in society not just for disabled people. In urban design practices, citizens must not be separated each other as disabled or nondisabled. Every citizen has the right to have equal service and accessibility to all the urban spaces in the city. Actors of accessibility and equality, who are urban planners, architects, sociologists, politicians, etc, have to find effective solutions by their consciousness on relationship between human and environment. The actors should have a common language among themselves to prevent unconsciousness, ignorance, contradictions and communication problems. Thus, every citizen, whatever their physical, social or economical features are, may be seen equally in society and city.

REFERENCES

Émile Durkheim, Rules of Sociological Method (1895) The Free Press, 1982.

Goren, B.G., Marginalized Citizens and City, 2014 Asian Conference on Arts-Humanities and Sustainability, Japan, 2014.

Goren, B.G. & Berkoz, L., Kentsel Açık Alanlarda Engelli Kullanıcılara Yönelik Çevre Tasarımı, Sağlıklı Çevre Tasarımı Kongresi, Bursa, 2013.

Handy, S.L. ve Neimeier, D.A., Measuring Accessibility, An Exploration of Issues and Alternatives, Environment and Planning, A29, 1175-1194, 1997.

Harvey, D., Umut Mekanları, Metis Yayınları, 2008.

Harvey, D., Asi Şehirler Şehir Hakkından Kentsel Devrime Doğru, Metis Yayınları, 2013.

Lefebvre, H., Kentsel Devrim, Sel Yayıncılık, 2013.

Paquot, T., Şehirsel Bedenler, Everest Yayınları, 2011.

Steinfeld, E. & Maisel, J., Universal Design Inclusive Design, Wiley Press, 2012.

Vitrivius, Mimarlık Hakkında On Kitap, Şevki Vanlı Mimarlık Vakfı Yayınları, 2000.

World Health Organization, International classification of Impairments, Disabilities and Handicaps, Switzerland, 1980.

http://www.buradaengellendim.com

FROM WALKABILITY TO HEALTH AND WELLBEING. GUIMARÃES A CASE STUDY

Session T1.1 | June 1 | 11:00 – 12:30

Susana Pereira (1); Teresa Heitor (2); Nuno Costa(3)
(1) Instituto Superior Técnico, CERIS, DECivil - Departamento de Engenharia Civil, Arquitetura e Georecursos da Universidade de Lisboa, Lisboa, PORTUGAL.
susana.silva.pereira@ist.utl.pt
(2) Instituto Superior Técnico, ICIST, CERIS, DECivil - Departamento de Engenharia Civil, Arquitetura e Georecursos da Universidade de Lisboa, Lisboa, PORTUGAL.
teresa.heitor@tecnico.ulisboa.pt
(3) Centro de Estudos Geográficos, Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa, Lisboa, PORTUGAL.
nunocosta@campus.ul.pt

ABSTRACT: It is now consensual that the features of the built environment (BE) have a key role in promoting healthy lifestyles. There is evidence from several clinical trials that moderate physical activity (PA) (≥30 minutes daily walking), is the basis of prevention of various contemporary chronic diseases (e.g. diabetes, obesity, or hypertension) while environmental conditions and morphological features of the BE, can be a driving force or constraints of active lifestyles, contributing to individual health and wellbeing.

This paper refers to an evidence-based research initiative supported on an integrative approach based on a specific case-study carried out in the city of Guimarães, aiming at identifying urban key features associated with PA. The purpose is to discuss the strategies used to analyse the influence that the BE has on PA and the variables used to allow comparison of different urban key features.

In studies of BE-PA relationship, there are some indicators frequently related to the capacity of built space to promote walking. These indicators are usually reflected in walkability maps produced using data entered in the Geographic Information Systems (GIS). Some of the most commonly GIS measures observed in the literature are, population density, net residential density, land use mix, intersection density, street pattern or connectivity, retail floor area ratio, access to recreational facilities, presence of sidewalks, number of public transit stops, traffic volume, crime statistics, number of trees, average slope, or composed indexes of some of the listed variables, being one of the most used equations, walkability = [(2xz-intersection density)+(z-net residential density)+(z-land use mix)]. This information, and its translation into maps, allows to identify areas according to their degree of vulnerability, and foresee implications for the health of their inhabitants. These tools are important in such diverse areas of knowledge as human geography, public health or urban planning and transportation.

Because there was no other information available, it was decided to build a composed index of four variables: residential density; land use mix; intersection density; and slope. The first two variables were extrapolated from 2011 census data, and the last two built upon the information from streets and the topography provided by the town hall, information also inserted into GIS. QGIS software was used because it is open source and have features similar to the

most frequently used, ArcGIS. We seek to demonstrate that available information free for download at Instituto Nacional de Estatística (INE), can be easily displayed in this open source software. The information was included in QGIS, relating the alphanumeric information with the geographic one in order to make the different maps.

The map of the residential density was constructed using the INE census data and it was computed dividing the number of dwellings per the area of each statistical unit. The land use mix map, and because there was no direct indicator either in the census as from the town hall, was extrapolated from the item “Exclusively Residential Buildings” in the existing census. It was assumed that inverting this value an indicator of land use mix could be obtained, so the more exclusively residential, the lower the mix of uses, and the less, the greater the mix of uses. So we calculated the percentage of buildings exclusively residential in relation to the total of buildings in the census unit. The map of the intersection density was calculated based on the information available from the survey of the streets in CAD from the municipality. Because the existing survey consists of the centre line of the streets and these are fractionated at each intersection, it was calculated the number of segments in each statistical unit and then these were divided by the area of each geographical unit, assuming a greater number of segments corresponds to a higher number of intersections. The average slope was inserted into the final equation because it was considered that in the case of the city of Guimarães the steep slope of some of its areas considerably affects walkability. Thus, the average slope map was executed based on the topographic survey of the municipality. That information was transferred to QGIS and built up a digital terrain model and the average slope was calculated for every statistical unit. For all the four maps z-scores were calculated. The different maps were classified into a five value scale composed by 5 different colours. Upon the execution of the thematic maps, their value ranges were ranked from 1 to 5, where 1 is the least favourable value and 5 the most favourable relatively to the end walkability map. The map was obtained by the equation, walkability = [(2xintersection density)+(2xslope)+(residential density)+(land use mix)]/6, in order to obtain a weighted average of values corresponding to the four parameters of the equation, thereby putting a greater emphasis on intersection density and slope.

The construction of the walkability map allows to distinguish which areas and respective inhabitants are the more and less vulnerable. This will enable to relate the available data with reported levels of PA and health.

KEYWORDS: built environment; chronic diseases; physical activity; health and wellbeing; walkability map.

INTRODUCTION

It is now consensual that the features of the built environment (BE) have a key role in promoting healthy lifestyles. The major causes of death in today's society, the contemporary non-communicable chronic diseases are related precisely with sedentary lifestyles. The increasing prevalence of diseases and disorders associated with physical inactivity (e.g. type 2 diabetes, coronary and cerebrovascular diseases, dyslipidemia, osteoporosis, obesity, cancer, depression, among others (Knight , 2012)) require the urgency to include physical activity as part of the daily routine of individuals. According to the World Health Organization (WHO, 2014) physical inactivity is the fourth risk factor for mortality worldwide and is the leading cause of approximately 21% to 25% of breast and colon cancers, 27% of cases of diabetes and 30% of ischemic heart disease. Regular physical activity (PA) reduces the risk of these diseases and, among other benefits, improves muscle tone and cardiorespiratory function, bone and functional health, reduces the risk of falls and fractures, and is fundamental to energy balance and weight control (WHO, 2015).

Walking, the most common form of PA has recognized benefits for health and general wellbeing (WHO, 2006). In order to meet the latest health recommendations, updated in 2007, each individual must walk at least 3000 steps in 30 minutes 5 days a week, or three bouts of 1000 steps in ten minutes at a time (Knight, 2012, p.321). City space can be designed to promote continuity in walking and thus help to tackle one of the most onerous current public health problems. It is the ability that a space have to support and encourage walking that is called walkability.

This property of spaces can be viewed by the execution of maps resulting of the inclusion of objective measures of the BE in Geographic Information Systems (GIS). Widespread in countries like the United States, Canada, or Australia, and less frequent in Europe especially in the southern countries, particularly in Portugal, where there is a considerable lack of studies that make use of objective measures in the analysis of BE-walking relationship, these maps, help to identify areas that are more or less favorable to walking, being considered as indicators of urban health.

This paper, presents the development of a walkability map resulting from an index based on objective measures within easy reach inserted in GIS, of a medium-sized city in northwest Portugal, Guimarães. It is argued that this, is constituted as a trusted object in the prior assessment of walkability conditions at the macro- and meso-scale of the territories, and is presented as a valid tool in the identification and characterization of the most and least vulnerable areas of the urban context, being proposed as a method of prior analysis replicable in similar contexts.

BACKGROUD

Since the beginning of the New Urbanism movement, up to it inclusion in public health literature with Sallis et al. (1998) and King et al. (2002) (Fitzsimons D' Arcy, 2013), the term walkable or walkability, has been replaced, as stated by Ozer and Kubat (2013), with the expression: “that promotes PA”. This change, is related with the growing body of evidence that relates it to health benefits and the foundation of a transdisciplinary perspective by public health and urban planning and transportation researchers. This has, included the development of new concepts, theories, and methods of the various areas of knowledge involved like socio-ecological models in interpreting the BE-PA relationship (Sallis et al. 2004), as well as the, increasing production of scientific evidence which had had as the ultimate goal to inform the design of healthy spaces.

The design of cities, once based on the observations of referenced urban design theorists like Jane Jacobs, Christopher Alexander, Kevin Lynch, William Whyte, Gordon Cullen, Jan Gehl, among others, presents now a days established in evidences that bring to urban areas design the verification of science. It is precisely with the defense that walk, seen as a moderate form of PA, can bring benefits to human health, that this significant change took place. These authors argued that a good environment to walk, include the features proven in the literature as those that have a more positive correlation with this form of PA, which are the so-called 5D's, i.e.: density; diversity; design; destination accessibility; and distance to transit (Cervero & Kockelman, 1997; Ewing & Cervero, 2001; Ewing et al. 2009; Ewing & Cervero, 2010). Density variables include population, dwelling units, employment, building floor area density, among others; diversity variables include land use mix, being commuting data less common; design variables include average block size, number of intersections and others such as sidewalk coverage e.g.; destination accessibility variables focused on distance to a central business district or in other cases can be the number of jobs or other attractions existent in a given distance; and distance to transit can be measured e.g as the number of stations or transit stops per unit area (Ewing & Cervero, 2010). The authors also refer to a sixth D as being a demographic variable. Thus, this led to the emergence of several tools that sought to measure these properties of spaces.

In recent years, especially since 2002, a growing number of articles and literature reviews are being produced. They seek to synthesise the existing evidences that help understand the role of the BE on PA, particularly in areas such as public health, urban planning, transportation, and exercise or leisure sciences (Ding & Gebel, 2012, p.100). Some of the BE characteristics are consistently related to the propensity of individuals to walk. According to Saelens and Handy (2008) density, distance to non-residential destinations and mixed land use are positively related to walking as a mean of transport, being the relationship, with connectivity, the existence of parks or open spaces, and personal safety, less evident, in what concerns recreational walking the results are steel equivocal.

These features consistently related with walking are inserted in the set of the so-called 5D's of the BE mentioned above, however, there are still many features that require empirical recognition, verifying that, in one hand, these vary according to the measurement instrument used, and, on the other hand, is due to the nature of the variable itself, more or less subjective (Manghelal & Capp, 2011). The measurement methods used in the survey of the features that are prevalent in BE-PA equation fall into three categories: 1) the perceived, collected by questionnaires; 2) the observational, resulting from spatial audits; and 3) those derived from data inserted in GIS (Brownson et al. 2009); all have the ultimate goal of producing evidences that guide the design and planning of cities. However, it is argued that the use of objective measures produce more reliable results, as are those derived from GIS, thus allowing replication and consequently the comparison between different studies (Manghelal & Capp, 2011). The analysis derived from data in GIS present in this way, as fundamental in the analysis of large areas of the territory being one undoubtedly important tool, because they allow to view within regions where it is most and least common that this kind of PA (i.e. walking) happen, allowing further analysis of the referenced areas.

Thus, in studies of BE-PA relationship, there are certain indicators which are usually related to the propensity of spaces to present or not characteristics that promote walking. These indicators are usually reflected in walkability maps produced using GIS data. This information and its translation into maps allows a reasoned analysis of the macro- and meso-scale of the territory, allowing to referral areas and populations according to their degree of vulnerability for existing territorial characteristics, and predict the health consequences of its inhabitants, being important instruments in very different areas of research.

Brownson et al. (2009) present as some of the most frequently observed variables in GIS the following: population density; mix land use; access to recreational facilities; street pattern or connectivity; presence of sidewalks; traffic; crime rate; others like building design, transit density, slope, existence of green areas; and indexes resulting from the combination of some of these variables. These measures are used to build walkability indicators as e.g. in, Cervero & Kockelman (1997), Ewing et al. (2003), Krizek (2003), Lopez (2004), Frank et al. (2005), Ewing et al. (2006), Norman et al. (2006), Leslie et al. (2007), or Ross et al. (2007), being one of the most frequently used equations: walkability = [(2xz-intersection density)+(z-land use mix)+(z-net residential density)] (e.g. in Van Dyck et al. 2010). The referred

equation results from the adaptation of the one developed by Frank et al. (2009) and that is as followed: walkability = [(2xz-intersection density)+(z-net residential density)+(z-retail floor area ratio)+(z-land use mix)]; since its not always considered the retail floor area ratio because it is a measure difficult to compute through information available in the existing databases. However, this has been used internationally as in the case of IPEN (International Physical Activity and the Environment Network) study, by Kerr et al. (2013), being applied in the prior evaluation of walkability conditions in different cities from various countries.

In the literature, however it is possible to find various indexes. Manghelal and Capp (2011), in an existing walkability indexes literature review, analysed 25 different indices of which only 7 were developed through GIS. Referring to the investigations carried out in the previous two decades, the authors argue that these tools allow to locate areas where it is more or less convenient that walking happens, being built using different types of variables, these classified as objective when resulting from audits or data inserted in GIS. The authors also argue that the GIS indexes that should be built in the future must be validated and adapted to the characteristics of the specific areas and incorporate measures at the micro-scale level (Manghelal & Capp, 2011).

It is precisely with the confirmation that the micro-scale characteristics of the BE appear to be more important as factors that affect the levels of total walking, relating in a more evident way with this type of PA than with the macro-scale features like density, connectivity and land use mix as argued e.g. in its recent study by Cain et al. (2014), that these regained attention of researchers. The research were led thus to the study of the influence of the constituent elements of the street environment in this form of PA, as is advocated by e.g. Gehl (2010). For the author, some of the elements that influence the predisposition to walk are the aforementioned macro-scale measures such as residential density, land use mix, the street connectivity, and measures relating to the constituent elements of the street environment. Gehl identifies a large number of features with a leading role in this equation (Gehl, 2010). Among many BE features referred by the author as elements that influence walking levels are e.g. the amount of transparency in the façades at the ground floor level, or the number of distinctive buildings and landmarks in a street (Gehl, 2010).

Walkability maps developed in GIS allow to reference areas to study, which are further analysed through audits, allowing to compare features at the macro and micro level. Or if possible, as Manghelal and Capp (2011) propose, include this micro level features in more accurate walkability maps. This paper is part of a broader research that has as an ultimate goal, to seek to understand if the elements of the street environment, or micro-scale BE features, reveal as more important regarding walking, this is, if they have more influence in this type of behaviour than the macro-scale BE features, so often proven in the literature as the predominant characteristics.

In recent years, due to the accumulation of evidence confirming the influence of BE on walking and health of the population, there has been a awareness by the cities planning authorities of the importance of creating healthy spaces i.e. promoting an active life in their inhabitants by inserting PA habits in the daily life of people, by including in its built spaces elements that boosters such activities as e.g. equipping with sports facilities and playgrounds public parks and squares, or reformulating through active design buildings and public areas to include in their spaces elements that promote spontaneous forms of PA, and also taking good care of the design of city streets to increase the walking habits among the population. Including space walkability as a feature that should be fostered, helps reduce the impact of less positive characteristics of BE in the day-to-day lives of people. Having the ability to measure this feature and transform them in object of a previous analysis of the BE makes the observation of the city more conscious of the possibilities and dangers to the health of its inhabitants. The execution of walkability maps allows to point areas where those interventions should be a priority, being that, this quality of spaces it should be fostered and pursued by the responsible of city design and from local authorities.

Looking at the context of the case study, despite the large amount of evidence from large cities from countries such as the United States, Australia, New Zealand, Canada and some northern European countries, there is a considerable gap in studies of the relationship between BE-PA in medium to small sized cities especially in countries from southern Europe such as Portugal, although this has one of the largest rates of physical inactivity in the European Union as seen in 2014 data, since 64% of the Portuguese never exercise or practice any sport, and about half of the Portuguese (55%) who said they had walked for at least 10 continuous minutes in the last 7 days, reported having walked in total only 30 minutes or less (EC, 2014).

This article thus refers to an investigation in this socio-spatial context where the city under study is characterized by having a center with a high quality of public spaces and characterized by a periphery that contains urban areas with lacking basic infrastructure such as e.g. sidewalks. One of the goals of this research is to understand if the indexes that compose the walkability maps in these countries can be adapted to this context, being still an objective, to demonstrate that it can be easily built a tool for assessment of the macro- and meso-scale of a city environment with free access resources such as data from the census and information provided by the municipality which are presented as objects of prior analysis of the walkability conditions of the areas under study.

METHOD

Guimarães is a city in the northwest of Continental Portugal belonging to the Ave region with an area of 240,955 km2 of which 2,6 km2 are green areas, with 264 sports facilities and 46 playgrounds, with a resident population of about 158124 inhabitants spread over 48 parishes, and a population density of 656 inhabitants per km2 (CMG, 2016). Guimarães's district is characterised by a small-size urban centre and surrounded by a territory of intense urbanisation and diffuse industrialisation developed along the valleys, the main road system and rail axis (Domingues, 2006). The mobility is very dependent on car use. The city was European Capital of Culture in 2012, and its historic centre is classified as Cultural Heritage of Humanity since 2001 and thus has suffered over the past few years, numerous improvement and interventions in its public spaces, including streets, squares and parks, as well as recovery and creation of various sports and cultural equipments, both in the centre and the periphery, however, in these latter areas there is still a considerable lack of pedestrian infrastructure such as sidewalks. Guimarães thus presents itself as an interesting case study that, is similar to a large part of the urban tissue of much of the European territory, characterised by a diffuse urban context.

In this study, and because of the lack of available information, it was decided to build an index composed of four indicators: 1) residential density; 2) land use mix; 3) intersection density; and 4) slope. The first two measures have been extrapolated from 2011 census data, and the last two built upon the existent survey of the streets and topography from Guimarães municipality, this last information also inserted into the GIS program.

The GIS software that was used was QGIS version 2.8 Wien for Windows XP. This software was chosen because it is open source and have features similar to the most frequently used ArcGIS. It seeks to demonstrate that the information in the INE website, available free for download can easily be viewed with this software without additional costs for the research. The ease with which it can be produced an important spatial analysis document that is an indicator of health of the population, make us question why these are not widely implemented by municipalities.

Thus it was download from INE website the available data from the last census, the one of 2011, for Guimarães county. These are composed by the *Base Geográfica* de Referenciação de Informação (BGRI) and by the version of 2012 of the Carta Administrativa Oficial de Portugal (CAOP). The existent data consist of several different files from diverse formats: csv files and dbf files with the alphanumeric data corresponding to the values of the variables in the existent census and a sheet with the synthesis of the variables; and files containing information that enables connection between layers and data relative to geographic information in prj, sbn, sbx, shx format and shp or shapefile. It was also used existing information in dxf format files, corresponding to roads, buildings, contour lines and elevation points, provided by Guimarães municipality. All the information was open in QGIS, relating through a union the alphanumeric information with the geographic one (in vectorial format) in order to make the thematic maps necessary to the composition of the final walkability map composed of the weighted values of: residential density map; mix land use map; intersection density map; and average slope map. The coordinate system used was the PT-TM06/ETRS89, European Terrestrial Reference System - ETRS89, official system for Continental Portugal. The layers that were not in this system were converted into it in QGIS.

The block group, i.e. the territorial unit that corresponds to a continuous area of the parish with about 300 dwellings (INE, 2016), was considered as the unit of analysis. In spite of the information available at the INE website had a smaller unit, the block, the block group was used because the intersections density could not be calculated because it is the number of intersections per given area, and the smallest statistical unit corresponds to a block in urban areas and to a place in rural areas (INE, 2016).

Thus, the map of residential density was constructed dividing the number of households by the area of each statistical unit. This calculation method was used because the information of the area affected to the residential use in each statistical unit, normally used in the calculation of the net residential density, was not available.

The land use mix (LUM) map, commonly presented in the literature as being calculated by the following equation:

$$LUM = - \sum_{i=1}^{n} pi \, 1n \, pi \, / 1n \, n$$

where pi is the proportion of estimated square footage attributed to land use i, and n is the number of land uses in a given area (Frank et al. 2004); was instead, in the case study, and because there was no direct indicator, either in the census as from the information from the municipality, extrapolated from the item, “Exclusively Residential Buildings” existing in the census. Thus it was assumed that inverting this indicator a land use mix measure could be obtained, being that, the more exclusively residential the lower the mix of uses, and the less, the greater the mix of uses. Thus,

it was calculated the percentage of exclusively residential buildings in relation to the total number of buildings in each statistical unit.

The map of the intersection density was computed based on the county road network in CAD. The streets axes in dxf were converted in the QGIS to shp format and the number of segments per each statistical unit was calculated intercepting the layer of the axes with the one of each statistical unit associating thus to each segment the identification number of the statistical unit. Thus, as the existing survey is constituted by the axis of the routes and these are fractionated at each intersection, we calculated the number of segments per statistical unit and divided it by the statistical area, assuming that to a greater number of segments would correspond a larger number of intersections being therefore an indicator of connectivity. The axes that were included however were not all the existing in the survey of the municipality, some of these were excluded, e.g. the axis of some of the complementary network of roads, the axis of the forest path, among others. At the bottom we measured the segment density rather than intersections density although we call it the same since we considered as an indicator of connectivity.

The average slope was inserted in the final equation because it was considered that in the case of the city of Guimarães, the steep slope of some of its areas considerably affects the walkability of them. Thus, the average slope map was executed based on the survey of the municipality. The file containing the contour lines and elevation points which was in dxf format was converted to shp in QGIS. By the triangular interpolation method, it was built a digital terrain model (raster format) using the vector layer of the contour lines and with the interpolation attribute of the value of elevation of the elevation points. Using the terrain analysis module and with the slope functionality, the slope was calculated. Finally the chart of slope, classified into 5 ranges of values, was crossed with the layer of the statistical unit in order to calculate the mean slope in each unit of analysis.

For all the values of the four maps the z-scores were calculated. It was used the Group Stats plugin in order to calculate the mean and standard deviation for all the values and then it was created a new column of values resulting from the equation that allow to calculate the z-score that results from dividing, the subtraction of the respective values by its mean value, by the standard deviation. The results were then classified into 5 ranges of values, presenting in grade 5 distinct colours. After the execution of the thematic maps, residential density map, land use mix map, intersection density map, and average slope map, its values were range from 1 to 5, where 1 is the least favourable value and 5 the most favourable relative to the end walkability map (see fig. 1). So e.g. we have in the mean slope map, to the steepest slope we made match the lowest value i.e. 1, the same happening e.g. to the land use mix map, where to the most exclusive residential it was match the lowest value of land use mix, the 1. The walkability map was obtained by the equation: walkability = [(2xintersection density)+(2xslope)+(residential density)+(land use mix)]/6, in order to obtain a weighted average of values corresponding to the four parameters of equation, thereby putting a greater emphasis on intersection density and slope (see fig. 2).

Besides the walkability map it was executed a map of the average age of buildings, because in some cases of the literature this is considered as a walkability indicator (Kerr et al. 2013, p.589) constructing the analysis only with this parameter. In the approach to the case study, the map was constructed based on the data corresponding to the number of buildings within a certain time interval. For the existing intervals, prior to 1919, from 1919 to 1945, from 1946 to 1960, from 1961 to 1970, from 1971 to 1980, from 1981 to 1990, from 1991 to 1995, from 1996 to 2000, from 2001 to 2005, and from 2006 to 2011, the midpoints of each time interval were calculated, by multiplying the midpoint of the interval by the number of buildings existent in the interval in each statistical unit, and posteriorly dividing it by the total number of buildings in each statistical unit, it was obtained as a result the prevailing year of construction in each statistical unit (see fig. 3). Following the same procedure, and because the information available on the age of the population was also presented in intervals, it was executed a map of the average age of the resident population, this information allow to choose areas where the average age of the targeted population in study doesn't vary to much.

RESULTS

The principle used to select the variables to include in the equation was based on the available literature, in particular the 5 D's of the BE. The residential density was used as a density measure; the land use mix, as a measure of diversity; the intersections density as a design measure. A topographic variable, i.e. slope was also associated. The equation developed by Frank et al. (2009) was reinterpreted and adapted to existing data. The retail floor area ratio was not included.

For each type of the above mentioned analysis two maps were performed, one of the whole of the county and other of the central parishes (see fig. 2) in order to have a more detailed and accurate analysis of the reality corresponding to the parishes in study: that from the União das Freguesias de Oliveira, São Paio e São Sebastião; the one of Azurém; the one of Costa; the one of Urgezes; the one of Creixomil; the one of Fermentões; and the one of Mesão Frio. The

maps have allowed to considered for study 8 neighbourhoods (corresponding to 8 statistical units), 4 classified as very walkable and other 4 classified as having a very low walkability rate.

The walkability map differs considerably in relation to the age of the building map advocated as a walkability indicator by Berrigan & Troiano (2002). However, given the discrepancy between the two different maps, it is concluded that the last one is to discard as an indicator reliable to measure the walkability of a zone (see fig. 2 and fig. 3). Therefore, and giving as an example one of the neighbourhoods of city centre, this presents high levels of reported walking (in the surveys currently underway), and is considered as having a low level in the walkability map based on the age of the building and high walkability in the map based on the index advocated here. The population age map allowed also to produce an analysis of the mean age of the population of the neighbourhoods to be chosen for the study allowing to pick case studies that did not present very different population profiles.

The walkability map was complemented by site visits to pre-selected locations in order to verify how far they fall under the classifications that the index had assigned to them, understanding that they had characteristics that gave reliability to the index proposed. Thus so, it was constituted the previous analysis of the neighbourhoods corresponding to the case studies, which will then allow to relate with the data resulting from the survey of the population (currently running), in particular to the levels of transportation walking and recreational walking reported, amount of moderate to vigorous form of physical activity made, health indicators such as body mass index and prevalence of the most common diseases associated with physical inactivity, as well as personal characteristics such as age, gender, education level, and occupation, thereby complementing the prior analysis of the territory with the study of individuals and targeted behaviour.

DISCUSSION AND CONCLUSIONS

The walkability map presents itself as a relevant approach to explain the relationship between BE and walking and to, identify areas that must be more carefully analysed by urban planers and health researchers in order to understand their features. In particular the ones with the most obvious discrepancies are the ones where the behavior and health of its inhabitants are at stake or instead protected by walkability BE features. The map is a useful tool because it allows to define what can be improved in city space so that it becomes a healthy environment.

In terms of limitations of the present study it is important to stress that the map developed and resulted of the presented index is not composed exactly by the same measures developed by Frank et al. (2009), although it is supported on the same principles and have it as a reference, which makes international comparison of results difficult. Another limitations of this study is related to the size of the statistical units used in Portugal. They are considerably smaller than those used in other countries such as the United States, Canada or Australia. This allow us to question whether the walkability levels are so different between areas so close to each others and with such small sizes as in the case study. However one of the strengths of this research is due to the fact that it can be easily developed an analytical tool of the territory using available data, presenting itself as an easy tool that can be replicated by other municipalities in the portuguese context.

The execution of the maps allowed to reference in the county parishes to be studied and which were the more and less vulnerable neighbourhoods in comparison to the territory indicators, helping to understand the geography of the county's health, allowing a previous analysis of the amount of elements that can influence the health of the inhabitants of the referenced areas. With this cartographic base it will be possible, not only to compare what BE elements of the macro-scale that most affect the walking, as well as, their dominance or not, in relation to the BE micro-scale elements resulting from the assessments of street environment to be made in the future, and also their degree of correlation with the health and levels of walking reported by the inhabitants. There are currently ongoing surveys to the inhabitants of the selected areas, and areas classified as very walkable in the map defended in this study, have shown high rates of reported walking confirming the reliability of the final walkability map.

ACKNOWLEDGEMENTS

This research was financed by FCT (Fundação para a Ciência e a Tecnologia) through the PhD grant SFRH/BD/76311/2011. This work was developed with the total support of CERIS (Civil Engineering Research and Innovation for Sustainability) from Instituto Superior Técnico, Lisbon University. We like to thank to Guimarães municipality for making available the required data. We also like to thank to Manuela Sampayo for her assistance with QGIS.

REFERENCES

Berrigan, D., & Troiano R. P. (2002). The association between urban form and physical activity in U.S. adults. American Journal of Preventive Medicine, 23(2),74-79. doi:10.1016/S0749 - 3797(02)00476-2

Brownson, R. C., Hoehner, C. M., Day, K., Forsyth, A., & Sallis, J. F. (2009). Measuring the built environment for physical activity: State of science. American Journal of Preventive Medicine, 36(4), S99-123. doi:10.1016/j.amepre.2009.01.005.

Cain, K. L., Millstein, R. A., Sallis, J. F., Conway, T. L., Gavand, K. A., Frank, L. D., … King, A. C. (2014). Contribution of streetscape audits to explanation of physical activity in four age groups based on the microscale audit of pedestrian streetscapes (MAPS). Social Science & Medicine, 116, 82-92. doi:10.1016/j.socscimed.2014.06.042

Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. Transportation Research Part D: Transport and Environment, 2(3), 199-219. Retrieved from http://www.sciencedirect.com/science/journal/13619209

CMG. (2016) Dados demográficos. Retrieved from http://www.cm-guimaraes.pt/pages/1058

Ding, D., & Gebel, K. (2012). Built environment, physical activity, and obesity: What have we learned from reviewing the literature? Health & Place, 18(1), 100-105. doi:10.1016/j.healthplace.2011.08.021

Domingues, A. (2006). Cidade e democracia. 30 anos de transformação urbana em Portugal. Lisboa: Argumentum Edições.

EC. (2014). Special eurobarometer 412. Sports and physical activity. Retrieved from http://ec.europa.eu/health/nutrition_physical_activity/docs/ebs_412_en.pdf

Ewing, R., & Cervero, R. (2001). Travel and the built environment: A synthesis. Transportation Research Record, 1780, 87-114. doi:10.3141/1780-10

Ewing, R., Schmid, T., Killingsworth, R., Zlot, A., Raudenbush, S. (2003). Relationship between urban sprawl and physical activity, obesity, and morbidity. American Journal of Health Promotion, 18(1), 47-57. doi:10.1007/978-0-387-73412-5_37

Ewing, R., Brownson, R. C., Berrigan, D. (2006). Relationship between urban sprawl and weight of United States youth. American Journal of Preventive Medicine, 31(6), 464-474. doi:10.1016/j.amepre.2006.08.020

Ewing, R., Greenwald, M. J., Zhang, M., Walters, J., Feldman, M., Cervero, R., ... Thomas, J. (2009). Measuring the impact of urban form and transit access on mixed use site trip generation rates - Portland pilot study. Washington, DC: U.S. Environmental Protection Agency.

Ewing, R., & Cervero, R. (2010). Travel and the built environment. A meta-analysis. Journal of the American Planning Association, 76(3), 1-30. doi:10.1080/01944361003766766

Fitzsimons D'Arcy, L. (2013). A multidisciplinary examination of walkability: Its concept, assessment and applicability (Doctoral thesis, Dublin City University, Dublin, Ireland). Retrieved from http://doras.dcu.ie/19387/1/Lorraine_Fitzsimons_D'Arcy_PhD_Vol_1.pdf

Frank, L. D., Andresen, M. A., & Schmid, T. L. (2004). Obesity relationships with community design, physical activity, and time spent in cars. American Journal of Preventive Medicine, 27(2), 87-96. doi:10.1016/j.amepre.2004.04.011

Frank, L. D., Schmid, T. L., Sallis, J. F., Chapman, J., Saelens, B. E. (2005). Linking objectively measured physical activity with objectively measured urban form: Findings from SMARTRAQ. American Journal of Preventive Medicine, 28(2S2), 117-125. doi:http://dx.doi.org/10.1016/j.amepre.2004.11.001

Frank, L. D., Sallis, J. F., Saelens, B. E., Leary, L., Cain, K., Conway, T. L., & Hess, P. M. (2009). The development of a walkability index: Application to the neighborhood quality of life study. British Journal of Sports Medicine, 44, 924-933. doi:10.1136/bjsm.2009.058701

Gehl, J. (2010). Cities for people. Washington, Covelo, London: Island Press.

INE. (2016). Censos 2011. Retrieved from http://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=censos_subseccao

Kerr, J., Sallis, J. F., Owen, N., De Bourdeaudhuij, I., Cerin, E., Sugiyama, T., … Bracy, N. (2013). Advancing science and policy through a coordinated international study of physical activity and built environments: IPEN adult methods. Journal of Physical Activity and Health, 10(4), 581-601. Retrieved from http://journals.humankinetics.com/JPAH

King, A. C., Stokols, D., Talen, E., Brassington, G. S., & Killingsworth, R. (2002). Theoretical approaches to the promotion of physical activity: Forging a transdisciplinary paradigm. American Journal of Preventive Medicine, 23(2), 15-25. doi:http://dx.doi.org/10.1016/S0749-3797(02)00470-1

Knight, J. A. (2012). Physical inactivity: Associated diseases and disorders. Annals of Clinical & Laboratory Science, 42(3), 320-337. Retrieved from http://www.annclinlabsci.org/

Krizek, K. J. (2003). Residential relocation and changes in urban travel: Does neighborhood-scale urban form matter? Journal of the American Planning Association, 69(3), 265-281. doi:10.1080/01944360308978019

Leslie, E., Coffee, N., Frank, L., Owen, N., Bauman, A., Hugo, G. (2007). Walkability of local communities: Using geographic information systems to objectively assess relevant environmental attributes. Health & Place, 13(1), 111-122. doi:10.1016/j.healthplace.2005.11.001

Lopez, R. (2004). Urban sprawl and risk for being overweight or obese. American Journal of Public Health, 94(9), 1574-1579. doi:10.2105/AJPH.94.9.1574

Manghelal, P. K., & Capp, C. J. (2011). Walkability: A review of existing pedestrian indices. Journal of the Urban and Regional Information Systems Association, 23(2), 5-19. Retrieved from http://www.urisa.org/resources/urisa-journal/

Norman, G. J., Nutter, S. K., Ryan, S., Sallis, J. F., Calfas, K. J., Patrick, K. (2006). Community design and access to recreational facilities as correlates of adolescent physical activity and body-mass index. Journal of Physical Activity and Health, 3(S1), S118-S128. Retrieved from http://journals.humankinetics.com/jpah

Ozer, O., & Kubat, A. S. (2013). Walkability: Perceived and measured qualities in action. Retrieved from http://www.sss9.or.kr/paperpdf/ussecp/SSS9_2013_REF091_P.pdf

Ross, N. A., Tremblay, S., Khan, S., Crouse, D., Tremblay, M., Berthelot, J. M. (2007). Body mass index in urban Canada: Neighborhood and metropolitan area effects. American Journal of Public Health, 97(3), 500-508. doi:10.2105/AJPH.2004.060954

Saelens, B. E., & Handy, S. L. (2008). Built environment correlates of walking: A review. Medicine & Science in Sports & Exercise, 40(7), S550-S566. doi:10.1249/MSS.0b013e31817c67a4.

Sallis, J. F., Bauman, A., & Pratt, M. (1998). Environmental and policy interventions to promote physical activity. American Journal of Preventive Medicine, 15(4), 379-397. doi:http://dx.doi.org/10.1016/S0749-3797(98)00076-2

Sallis, J. F., Frank, L. D., Saelens, B. E., & Kraft, M. K. (2004). Active transportation and physical activity: Opportunities for collaboration on transportation and public health research. Transportation Research Part A, 38(4), 249-268. doi:10.1016/j.tra.2003.11.003

Van Dyck, D., Cardon, G., Deforche, B., Sallis, J. F., Owen, N., & De Bourdeaudhuij, I. (2009). Neighborhood SES and walkability are related to physical activity behavior in Belgian adults. Preventive Medicine, 50, S74-S79. doi:10.1016/j.ypmed.2009.07.027

WHO. (2006). Physical activity and health in Europe: Evidence for action. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0011/87545/E89490.pdf

WHO. (2014). Actividad física. Retrieved from http://www.who.int/mediacentre/factsheets/fs385/es/

WHO. (2015). Physical activity. Retrieved from http://www.who.int/mediacentre/factsheets/fs385/en/

FACTORING HAPPINESS INTO URBAN PLANNING – AN INNOVATIVE CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

Session T1.2 | June 1 | 14:00 – 15:30

Donald Miller
Department of Urban Design and Planning
University of Washington, USA
Seattle, WA 98195

ABSTRACT: This paper explores what we think that we know about happiness, and possible roles of urban planning in fostering happiness of a city's residents and visitors. Developments in positive psychology over the last two decades provide a basis for this inquiry and identify two selected sets of factors. The first are those that contribute to happiness throughout life including health, arts and culture, environment, and community (Layard, 2005; Hotha, 2008; OECD, 2009). The second are factors that affect happiness at various life stages including during childhood, youth and education, working years, and older age (Diener, 2004; Blanchflower, 2008). Thus a number of drivers of happiness and wellbeing are identified and differ in their influence depending on stage of life and life situation. These inform developing happiness domains and some appropriate measures for assessing them (GfK NOP, 2005).

A second focus of this paper is on the Seattle Area Happiness Initiative in Seattle, Washington. This recent non-governmental program, begun by Sustainable Seattle, is inspired by the earlier effort in Bhutan to replace or augment Gross Domestic Product with measurement and attention to the Gross Domestic Happiness. This case is chosen because it is widely regarded as the first such program in the US, and because the author of this paper has been a participant observer since its beginning in 2011. A description of the procedure used and a critical assessment of the results of this procedure can be of value to other initiatives that similarly seek to address this subject.

Finally this paper addresses urban planning applications of happiness research and the results of the Seattle initiative (Bacon, 2010). The categories of life domains and factors affecting happiness presented earlier provide a framework for identifying how planning interventions can support and enhance the happiness of those inhabiting cities. Accounting for this in designing planning programs and proposals can add to their effectiveness and popular support (Frey, 2011).

KEYWORDS: urban planning; happiness; Seattle.

INTRODUCTION

Aristotle posited that "Happiness is the meaning and the purpose of life, the whole aim and end of human existence." The U.S. Declaration of Independence cited pursuit of happiness as an unalienable right of humankind along with life and liberty. Kahneman and Deaton (2010) have found that the quest for happiness challenges the model of economic rationality. What is the nature of happiness, and how might urban planning seek to foster and contribute to residents of a locality realizing it in their lives? Our knowledge of both of these issues is currently limited, but particularly over the last two decades considerable progress has been made in defining and gaining an understanding of factors that influence the happiness that people feel, and this emerging understanding can inform planning and public policy. Figuring out what we think that we know about what happiness means can provide the basis for exploring the factors that contribute to it, and subsequently which of these factors could inform planning.

SOME DEFINITIONS OF HAPPINESS

In the view of Aristotle, happiness is the realization of one's capacities as a human being. Newer definitions focus on how people subjectively evaluate their lives; including engagement with experiences, satisfaction, positive and negative emotions, and meaning (Diener, 2004) Some of the contributors to happiness include time spent in pleasurable activities such as with recreation and with friends, employment that provides satisfactions as well as income, deep engagement with activities being pursued, and the confidence and resilience to face changes with a positive attitude (Dolan, 2008). Even so, there are a number of perspectives on life, each giving rise to a different weighting on life conditions that result in what one perceives as being happy. These perspectives include happiness as net pleasure, positive emotional states and aspirations, self-fulfillment, high virtue, and overall life-satisfaction (Layard, 2005). Each of these appear to assume that basic material needs are being met, and consequently that a person can turn to seeking happiness in one or more of these forms.

The concept of happiness is sometimes confounded with the notion of wellbeing, and with fulfilment (Bacon, 2010; Cummins, 2003). Some argue that these are different things, and others suggest that happiness is an element of wellbeing. And while there is considerable agreement that the public sector should undertake activities that make

people feel better and that reduce anxiety and stress – to create conditions that will likely contribute to happiness because there are a number of definitions and individual differences in situation and predilection, happiness and wellbeing are difficult to measure (Diener, 2006). But similarly individual competence levels and even gross national product have proven challenging to measure, yet are the focus of important public policies (Layard, 2005). Measurement is important if happiness is to get the policy attention that it deserves and if there is to be accountability that plans and programs adequately contribute to it (Frey, 2011). While we are in the developmental stages of designing reliable and valid metrics of happiness, empirical evidence and analysis does provide understanding of some of the things that are important to happiness, as well as some of the things that shape one's happiness (Clark, 2002). A framework for addressing important factors contributing to happiness is to look at features that planning might address that relate to people throughout their lives including: health, arts and culture, environment, and community. Additionally, we can look at factors that affect happiness at various stages in one's life.

FACTORS THAT CONTRIBUTE TO HAPPINESS THROUGHOUT LIFE

Health – The World Health Organization as well as other agencies point out that physical health and mental health are interrelated, and that both are important to people in evaluating their subjective wellbeing. Positive health in both of these forms is widely taken to mean conditions that facilitate individuals enjoying their lives and realizing their potential; some would call this flourishing. Self-reported ill health is increasing in most societies, and contributors including smoking, use of drugs, and obesity are public policy concerns. Recent public sector responses include increasing opportunities and coaching for physical activities, services encouraging healthy choices such as diet and smoking reduction, and health services that emphasize maintenance rather than a focus on treating illness.

Arts and Culture – Personal engagement in cultural and arts activities contributes to happiness in several ways. These include self-expression, increased mindfulness, sense of accomplishment and competence, motivation and self-worth, and development of social networks and cohesion (Diener, 1998). For young people, benefits can include more self- expression and academic accomplishment and better social behavior. Direct participation is seen as providing values that are not realized in observing performances as an audience, though the two are related. Consequently, many governmental programs encourage and support direct engagement in artistic and cultural activities.

Environment – The physical setting in which people live and work is a major influence on their sense of wellbeing and happiness, and is the area of concern on which urban planning has traditionally focused. The role of exposure to nature and vegetation is understood to contribute directly to aesthetic pleasure as well as a sense of competence and a lowering of stress. Poor air and water quality and noise are sources of annoyance as well as threats to health, with a heavy cost to happiness. Conversely, interactions with the environment that contribute to sustainability also appear to contribute to happiness. These include such things as substituting cycling and public transport for private automobile use, community gardening and encouragement of local and organic agriculture, engagement in environmental conservation activities such as stream restoration help create a stronger sense of community and place, that in turn contribute to happiness.

Community – A sense of belonging to a community, having social contacts through a network of people with whom one is familiar, and empowerment to influence what goes on in one's community all contribute to personal wellbeing and happiness (Hothi, 2008). A positive social context includes norms and personal familiarity that gives rise to social cohesion and social behaviors that are not threatening, including reduction of crime and the fear of crime. And low crime rates have been found to be a prime consideration to people when they choose a place to live (Kruger 2007).

Social networks include both communities of interest that may be non-spatial, and place-based communities such as neighborhoods. Organization of people living in geographic communities is a means of exercising influence over their immediate environment, and that sense of empowerment or reduction in feelings of powerlessness support happiness. Engagement in direct democracy also is a means of developing social capital that increases the effectiveness of people individually as well as collectively (Van Praag, 2003).

FACTORS CONTRIBUTING TO HAPPINESS AT VARIOUS LIFE STAGES

While the preceding discussion noted some of the drivers of happiness that affect the population at large, it is important as well to realize that there are factors that relate to specific life stages – from childhood through retirement years.

Childhood and Families – In the early years of life, the quality of child care and parenting are important in shaping aptitudes and outlooks both then and later in life. Family break-up can result not only in reduced parental supervision but economic difficulties that cause stress in the household, affecting happiness. Good preschool and child care opportunities contribute importantly to a child's effectiveness in taking advantage of education, as well as the

children's behavior, and sense of security (OECD, 2009). Services that promote social networking, effective parenting skills, and involvement of children in sports and arts all contribute to their emotional growth and wellbeing.

Youth and Education – The school-age years are especially important to intellectual development and learning resilience or the emotional competence to cope with life's successes and set-backs. School experiences that contribute to creativity, problem solving, and critical judgment are important in preparing young people for a satisfying life and for employment that in turn affects happiness (OECD, 2009). Many of these skills can be acquired during the early school years, and some such as critical judgment are more effectively addressed in the teen years, from 16 to about 19 when major life changes occur. Concern is growing that the testable knowledge demands of curriculums are crowding out treatment of important softer life skills that are important to a later sense of wellbeing.

Working Years – Successful work life is important not only for income but for job satisfaction that surveys indicate is a major basis for happiness. Major contributors to job satisfaction include good supervision, room for creativity and variety, adequate income and security, and social contacts and regard that result from work life. Unemployment results in significant unhappiness and often lingering feelings of inadequacy and depression (Clark, 2001; Winkelman, 1998). Increasing research attention is being focused on 'work-life balance' as a basis for wellbeing and happiness (Burke, 2008; Krueger, 2009). A work-related concern is time-consuming travel to work and its effects on health, frustration, and reduced job satisfaction (Stutzer, 2008). This relates to the earlier comments on environmental contributions to happiness, and the role that planning can play in reducing time-distances between activities. Recent research has found that high income, beyond a level that provides modest material comfort, does not result in similar increases in happiness, though people are responsive to the relative incomes of those in similar jobs (Dolan, 2008; Kahneman, 2010).

Older Age – While retirement is increasingly delayed for economic and job satisfaction reasons and for a sense of being valued, increasing numbers of people are living for many years and are in good health beyond the conventional period of employment. Even so, this life stage will frequently include loneliness, bereavement, and later reduced physical capacities. Concerning happiness, some research is concluding that later life for most people is a positive experience with happiness levels comparable to those enjoyed by people in early adulthood: that happiness follows a 'U'-shaped curve declining from youth to mid-life and then rising again during older age (Blanchflower, 2008). While public programs tend to focus on the elderly with health and other problems, there is value in programs that promote independent living among the majority of this age group that is more fit and to assist them to cope with threats to this. This assistance can include recreational and social activities that keep older citizens engaged in the community, services as necessary that facilitate remaining in their own homes, and public transportation that reduces dependence on driving.

This brief discussion leads to a number of conclusions. These include that there are a number of drivers of happiness and wellbeing that apply to people throughout their lives. And it points up that one size does not fit all: that people in various life situations including household composition, employment and income, and stage in life have differing problems that affect their levels of happiness, and that these differences need to be taken into account in understanding their wellbeing and in designing public programs and initiatives that promote happiness. This discussion also provides a basis for describing and assessing the Seattle Sustainable Happiness Initiative.

SEATTLE HAPPINESS INITIATIVE

The Seattle Area Happiness Initiative was initiated by Sustainable Seattle, a non-governmental organization that gained international recognition as being one of the first to develop and apply a set of sustainability indicators in 1991 (Miller, 2004). This was a grass-roots effort involving an open public process in identifying an ambitious list of indicators that could be used to report on local progress with respect to sustainable development practices, and then narrowing that list to 32 indicators. In several successive reports during the 1990s and early 2000s, each of these were described, performance over several years was presented in a time series, and interrelations between them was discussed (Miller, 2007). Sustainable Seattle reports that over 100 localities in the US have used this project to design their own counterparts, and the UN recognized this Seattle program as outstanding.

In 2011, Sustainable Seattle initiated the Seattle Area Happiness Initiative, in collaboration with Take Back Your Time, another Seattle-based organization. The mission of this project is "…to provide a comprehensive assessment of wellbeing and to engage and inspire people, organizations and policy makers to action" in replacing Gross Domestic Product with creditable evidence concerning Gross Domestic Happiness. The acknowledged source for this idea is the work by the country of Bhutan to address and measure happiness, and initiatives in Canada and Brazil to do so as well.

The first phase of this project was to develop a survey instrument, based largely on the 2010 Greater Victoria Wellbeing Survey (Happiness Index Partnership, 2010). This survey was distributed by email lists and taken by over

500 people, but funding was not available to carry this out involving a random sample. The second phase was to assess and modify the set of life domains or groups of factors influencing happiness and wellbeing generated in the Bhutan project, and to identify objective indicators under each of these domains for the purpose of doing much the same thing that the sustainability indicators project did, but with a changed focus on happiness. Many local residents participated in these two activities, some in the role of the lay public, some as experts in design and use of indicators (www.susstainableseattle.org/sahi). The Seattle City Council went on record as encouraging these activities, funded bringing people engaged in counterpart initiatives in Bhutan and Victoria, BC to Seattle for presentations and discussion, and promised to use the results in its policy deliberations.

Mid 2012, the Happiness Initiative left Sustainable Seattle, and became the Happiness Alliance, a separate non-profit organization to continue the Happiness Initiative but with a national orientation. The survey design underwent several revisions and tests, supervised by the Personality and Wellbeing Laboratory at San Francisco State University. This included greatly expanding the set of questions to gain exhaustive coverage of items that contribute to happiness, and then factor analysis and correlations to reduce the questions to a practical number, and employing a five-point Likert scale (www.happycounts.org/survey-methodology) . The questions were organized under ten happiness domains, including the following:

- Mental Wellbeing: optimism, positivity, purpose, sense of accomplishment
- Material Wellbeing: financial security, meeting basic needs
- Work: productivity, achievement, autonomy, sense of fair payment for services
- Time Balance: sufficiency of time to complete tasks, leisure time, enjoyment of activities
- Community: volunteer time, safety, trust in strangers
- Social Support: family and friends, feeling lonely, cared for or loved
- Health: energy levels, performance of everyday activities, exercise
- Governance: confidence in government, involvement, influence
- Environment: access to nature, pollution, conservation and preservation efforts
- Education, Arts & Culture: access, participation and spectatorship sports and cultural activities (www.happycounts.org/the-domains-of-happiness/)

Additional questions inquired into “Overall Satisfaction with Life: Satisfaction with Life and Affect (How you feel).” This provided a basis for relating responses to questions under each of the domains with overall happiness. A reported 25,560 people took the GNH survey between March 2011 and September 2013, and while not randomly selected, respondents live in all of the states in the US and demographic data was collected that permits some assessment of the representativeness of this data, referred to as the GNH Index scores (www.happycounts.org/aboutthesurvey/). Averages on a scale of 0 – 100 for all other respondents are presented and individuals are invited to compare their comparable score to these (www.happycounts.org/grossnationalhappinessindex/).

The ten happiness domains or life domains contributing to happiness are also used as the framework for an effort to develop indicators that can be used to report on local conditions as they affect happiness. While considerable effort was invested in identifying valid metrics under each of these ten categories, the need to employ available data sets resulted in awkward and incomplete metrics in portraying the content of each domain as defined earlier. A tool proposed by this current version of the Happiness Initiative involves asking how well a policy or program design accomplishes or contributes to each of the domains, on a scale of one to three, then summing these scores to provide a measure of success in contributing to happiness. This can be misleading since all of the scores are implicitly considered as equally important, which may not be the weight that people would give these items if they were aware that this is a feature of doing an evaluation in this way.

In summary, the initial Seattle Area Happiness Initiative and the more recent work of the Happiness Alliance are important initiatives that provide lessons to people considering similar project in other communities. Using domains as an organizing device, especially for survey design, makes explicit the complexity of dealing with the range of factors that contribute to happiness, and employs some of the research discussed in the first section of this paper. But the difficulties in designing valid metrics to comprehensively address these domains are also pointed up. These Seattle initiatives are important early steps in developing a creditable humanistic substitute for the limited and even misleading economic measurement of Gross Domestic Product.

APPLICATIONS OF HAPPINESS RESEARCH IN URBAN PLANNING

The purpose of this section is to identify some of the ways in which planning can explicitly contribute to happiness, rather than proposing a model and metrics for accomplishing this. The approach used involves applying research findings about drivers of happiness to issues and topics that urban planning frequently addresses in designing and assessing alternatives. This way, the features of these alternatives that positively and negatively impact happiness

can be noted and taken into account. While it is attractive to organize these possible contributions of planning by the life domains described earlier, there is enough cross-over of effects between these categories that to do so would result in repetition. Instead, only four of those domains will be used as a loose framework: environment, community, health, and governance.

Since much of urban planning deals with physical features of the city, the environmental domain provides a useful starting point for identifying some the ways that it affects subjective wellbeing. A significant contributor to happiness is providing people with nice places to live and to work. Planning has long addressed ways of protecting sensitive activities such as residential areas from environmental intrusions, including air and water pollution, noise, vibration and odor (Miller, 1996). In the past, this was done by spatially separating the polluting activities such as manufacturing and major transportation infrastructure from areas occupied by homes, but the current interest in minimizing trip distances and encouraging walking and cycling has changed the focus to controlling these negative externalities at the sources. Reducing time required in commuting, especially to work and other daytime activities, is served by increasing residential densities and developing mixed-use neighborhoods that are transit oriented. Long, crowded commutes detract from subjective wellbeing, and inadequate time for a range of enjoyable activities is among the most frequent of responses in happiness surveys (Frey, 2008). Over the last few years in the US, a major segment of the housing market has sought walkable communities that provide close access to shopping, recreation, and jobs, as reflected in the use of "walkability scores" as a major amenity in real estate marketing.

Similarly, attention to the design of street fronts and incorporation of greenery such as street trees provide aesthetic pleasure. This relates to residential streets and especially to community business centers that provide opportunities for people to meet, socialize, and gain a sense of place-identity or community, all of which are factors in increasing subjective happiness. Planning that attends to providing a variety of parks and natural areas serve the human desire for this exposure as well as enhancing a sense of place, community, and recognition. This variety includes large and small vegetated areas, trails, accessible streams, and areas that serve as habitat. Involving residents in projects such as planting parking strips and traffic circles, stream restoration, and constructing rain gardens contribute to community building and individual agency as well as accessible greenery. Incorporation of public art plays a related role in wellbeing. Installations often serve as landmarks that help people in way-finding, contribute to a sense of place and community pride and identity, and when involving local artists contribute in a tangible way to the cultural community.

An additional way that planning can enhance happiness is to incorporate inclusionary zoning. This involves requiring residential development to include some proportion of units that are affordable to lower income households, often improving access to work and public infrastructure for them and providing demographically mixed neighborhoods. A final item for this partial list is for planning agencies to offer planning games to young people in schools and recreation centers. These games commonly involve building miniature cities with blocks or boxes, providing an experience that increases the participants' awareness of their environment and its assets and limits, encourages their later participation in planning, and can be a source of evidence that can inform planning that takes the preferences and wellbeing of children into account.

Community is a second domain useful in organizing some of the factors that planning should address. Attention to providing social gathering and activity places is important to developing social networks and identity with a place, which are important factors in happiness. These places can be public community centers that are the location of active recreation, classes, and information about useful services, and retail and commercial services centers that often serve as "third-places" where people meet to socialize. Other physical improvements that encourage neighbors to know each other and for an area to be a nice place to live include traffic calming projects such as complete streets, green streets, and speed reduction devices that contribute to noise reduction, security from fast traffic, and sense of place. In growing cities, increasing real estate values that are often boosted by public investment in infrastructure too often result in displacement of lower income residents. Often referred to as gentrification, this has a number of negative effects on the displaced households, including loss of important social and cultural connections, a feeling of powerlessness, and a sense of low social standing. While displacement is a difficult problem for urban planning to solve, it is an important effect to include in designing and evaluating alternative courses of action.

Health is both a complex set of issues and an important contributor to happiness: a national poll indicated that it accounts for what nearly a quarter of respondents identified as of major significance (GfK NOP, 2005). A crossover with the environmental domain is the importance of controlling pollution in its several forms. Encouraging exercise can contribute to health maintenance including weight and blood pressure control, and can be accomplished by providing facilities for safe biking and walking, active sports fields, and other outdoor exercise opportunities. Easy access to activity centers through a connected, grid street system and higher density development are means to this end.

Health concerns include planning for personal security, such as providing effective lighting, open viewing of public spaces and routes, and traffic control that results in safe vehicle speeds, all of which are important both in an objective sense, and in contributing to a subjective sense of safety. And planning can contribute to healthy diet by eliminating food deserts in cities, accommodating farmers' markets that both provide locally sourced and fresh food and support regional agriculture, and including community gardens such as Seattle's successful Pea-Patch program.

The fourth life domain used here as an organizing device to identify some planning initiatives that can contribute to happiness is that of governance. The planning process should engage the public in all deliberations and decisions, as a means of making the planning responsive to the concerns and preferences of all of the affected parties, and as an exercise in democracy. Having a political voice and a role of agency in influencing what happens in one's city and neighborhood are important to happiness, as are the sense of community, the sense of belonging, and the social networking that can result. Active outreach is a necessary means to accomplishing this public participation, and can result in greater public satisfaction with government and with civil and political rights. As noted earlier in this paper, having a sense of personal effectiveness and thus mastery, confidence and competence is a major factor in achieving happiness. This involves a collaborative approach to the planning process rather than desirable physical features identified earlier as important ways that planning can foster happiness.

CONCLUSIONS

The major mission of this paper is to explore our empirically based understanding of the factors that contribute to human happiness and how to use this knowledge to inform urban planning. This is a dimension or area of concern that has not gotten much explicit attention in the past, and is an opportunity for planning practice to be more comprehensive and humanitarian in the scope of criteria that is used in both design and evaluation (Dolan, 2007). A pioneering effort to raise this as a major public issue is the Seattle Area Happiness Initiative, that sought to discover how people felt about their lives and their situations and using this information as a substitute Gross Domestic Product, a metric that does little to provide insight into the wellbeing of a population. As the review of research on happiness reveals, major progress in this field is recent and the results can be informative to planning. It is hoped that the discussion presented in this paper will encourage others in planning research and practice to embrace enhancing happiness as a major purpose of the field. Next steps include developing metrics that are valid and practical, and designing evaluation frameworks that are useful and widely understandable to compare planning alternatives in terms of their effectiveness in this regard.

REFERENCES

Bacon, N. et al. (2010), The State of Happiness – Can Public Policy Shape People's Wellbeing and Resilience?", London, The Young Foundation.

Blanchflower, D. and A. Oswald (2008), "Is well-being U-shaped over the life cycle?", Social Science and Medicine, Vol. 66(8).

Burke, R. and C. Cooper (2008), The Long Work Hours Culture: Causes, Consequences and Choices, Bingley, Emerald Group Publishing.

Clark, A. and A. Oswald (2002), "A simple statistical method for measuring how life events affect happiness", International Journal of Epidemiology, No. 31, pp. 1139-1144.

Clark, A. et al. (2001), "Scaring: the psychological impact of past unemployment", Economica, Vol 68, pp. 221-241.

Cummins, R. et al. (2003), "Developing a national index of subjective wellbeing: the Australian Unity Wellbeing Index", Social Indicators Research, Vol. 64, No. 2, pp. 159-190.

Diener, E. (2006), "Guidelines for national indicators of subjective well-being and ill-being", Applied Research in Quality of Life, No. 1, pp. 151-157.

Diener, E. and M. Seligman (2004), "Very happy people", American Psychological Society, Vol. 5, No. 1, pp. 1-31.

Diener, E. et al. (1998), "Subjective wellbeing is essential to wellbeing", Psychological Inquiry, Vol. 9.

Dolan, P. et al. (2008), "Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being", Journal of Economic Psychology, Vol. 29, pp. 94-122.

Dolan, P. and M. White (2007), "How can measures of subjective well-being be used to inform policy?", Perspectives on Psychological Science, Vol. 2, No. 1, pp. 71-85.

Frey, B. and A. Stutzer (2011), “The use of happiness research for public policy”, Social Choice Welfare, Vol. 38, No. 4, pp. 659-674.

Frey, B. and A. Stutzer (2008), “Stress that doesn’t pay: the commuting paradox”, Scandinavian Journal of Economics, Vol 110, No. 2, pp. 339-366.

GfK NOP (2005), “Poll undertaken for BBC”, Document available at http://news.bbc.co.uk/nol/shared/bsp/hi/pdfs/29_03_06_happiness_gfkpoll.pdf.

Happiness Index Partnership (2010), 2010 Greater Victoria Wellbeing Survey, Victoria, BC, The Victoria Foundation.

Hothi, M. et al. (2008), Neighbourliness + Empowerment = Wellbeing, London, The Young Foundation.

Kahneman, D. and A. Deaton (2010), “High income improves life evaluation but not emotional well-being”, Proceedings of the National Academy of Sciences, Vol. 107, No. 38, pp. 16489-16493.

Kruger, A. et al. (2009), “Time use and subjective well-being in France and the US”, Social Indicators Research, No. 93, pp. 7-18.

Kruger, D. et al. (2007), “Injury rates, social capital, and fear of neighbourhood crime”, Journal of Community Psychology, Vol. 35, No. 4, pp. 483-498.

Layard, R. (2005), happiness: Lessons from a New Science, London, Penguin Press.

Miller, D. (2007), “Indicators in the context of fuzzy planning”, G. de Roo and G. Porter, Fuzzy Planning, pp. 85-100.

Miller, D. (2004), “Developing and employing sustainability indicators as a principal strategy in planning: experiences in the Puget Sound region of Washington State’, A. Sorenson et al., Towards Sustainable Cities – East Asian, North American and European perspectives on Managing Urban Regions, pp. 112-131.

Miller, D. and G. de Roo (1996), “Integrated Environmental Zoning,” Journal of the American Planning Association, Vol. 62, No. 3, pp. 373-380.

OECD (2009), Doing Better for Children, Paris, OECD Publishing.

Van Praag, B. et al. (2003), “The anatomy of subjective well-being”, Journal of Economic Behaviour and Organisation, No. 51, pp. 29-49.

Winkelman, L. and R. Winkelman (1998), “Why are the unemployed so unhappy? Evidence from panel data”, Economica, Vol. 65, pp. 1-15.

LIFE IN PUBLIC SPACES OF NEIGHBORHOODS, A CASE STUDY OF MISURATA CITY, LIBYA

Session T1.3 | June 2 | 11:00 – 12:30

Ibrahim Abaid, Tang Yue
University of Nottingham, UNITED KINGDOM
laxia5@nottingham.ac.uk

ABSTRACT: This paper focuses on the role of public spaces in the neighbourhoods in particular, as a crucial indicator of their success. The research essentially explores the impact of public space on the social value including sense of community and psychological comfort in the local communities and its influence on the residents’ relationship, second, it investigates the different characteristics between the traditional neighbourhoods TN and the governmental once GN in terms of the level of interaction and the community cohesion in the outdoor public space. Finally, discussing the social satisfaction of the residents towards the existing public space in two neighbourhoods named ‘Almegawba’ and ‘9th July’ Misurata-Libya. The research highlights significant issues with regard to urban redevelopment of new residential areas and contributes to establishing a developed framework to the future urban schemes.

KEYWORDS: public space PS; sense of community; interaction; psychological comfort; cohesion; social relationships; satisfaction.

INTRODUCTION

The idea of the research was based on the latest policy of Libyan government when it started to build a large number of housing units around the country. This policy was set mainly to make a solution of the shortage in the housing units as well as to regulate the rapid urbanization within a developed plan for a period of 20 years since 2005 to 2025 (Kezeiri, 2007). In Libya, in the last decade, the government has set a new policy to provide housing units because of the rabid urbanization due to the increase of the population growth by building new neighbourhoods which defined in this study as a Governmental Neighbourhoods GN. The government claims that this new strategy aims to fill the shortage of houses within as shorter time as possible. Therefore, a phenomenon of mixed users' communities has started to emerge newly in the country which has different form than the traditional settings. The traditional neighbourhoods often include families who live together as neighbour long years ago, all residents know each other very well, and this form usually has strong community cohesion. This research evaluates the public space in these communities from a social perspective, through deep qualitative discussion to establish a specific framework of the future neighbourhood projects which may contribute to the urban development of the city, hence, to the other cities of the country.

In this research, public space is defined as space used and shared by all the people who live in the neighbourhoods of the city regardless of their age, gender, status and cultural backgrounds (Iveson, 2011). An example of public space forms in the neighbourhoods such as parks, squares, gardens, children playgrounds and green spaces (Madanipour, 2013). This type of public space plays a significant role in the urban development and quality of life (Das, 2008). This research investigates the social satisfaction of people within the public space of their community. Therefore, there will be an examination of the quality and effectiveness of the public space within the neighbourhoods by measuring the availability and provision of many elements such as playgrounds, physical settings, and green areas in order to assess the residents' satisfaction (Kim and Kaplan, 2004). In addition to that, research intends to examine the social aspects and the level of the interaction between the residents (Cattell et al., 2008). Due to the moderate temperature and humidity conditions in this region during almost all of the year, people usually use open public space in all seasons but nor the close spaces as it is not popular in this country because of the climate conditions. Thus, this research focuses on open public space of neighbourhoods in particular regarding the case study in Misurata city-Libya, with taking on account the advantages of the weather conditions in this region.

RESEARCH CONTEXT

According to the former mentioned policy of the Libyan government that planned to build large number of houses within a short time, this action may create some negative affection such as social isolation, less interaction and community disorder because the residents of these new neighbourhoods do not know each other and they come from different parts of the city and probably from another cities of the country. The new neighbourhoods contain hundreds of housing units, occupied by users from different backgrounds: different habits, status, education levels and different mentality. It is important to know how do residents feel about themselves and about others, how they use the open space around their houses and what activities that link their interests. Watson and Kessler (2013) states that there is an evidence shows that the design concept and green areas have fundamental impact on the users in these neighbourhoods in many aspects such as their health, comfort and feeling of safety and security (Jalaladdini and Oktay, 2012). Thus, the investigation should not ignore the physical characteristics such as, sidewalk (paths) design, seats, green areas and playgrounds in order to gain the fulfil picture of the community composition and to find out the impact of these elements on the local community.

This research aims to focus on the role of public space in residential areas / neighbourhoods in terms of social values and sense of community. This role will be examined through measuring the impact of public space inside the neighbourhoods, social coherence and community interaction (Kim and Kaplan, 2004). The findings will conclude a clear evaluation about whether the governmental/private projects have considered these dimensions or not with regard to the social needs of the residents. The main objective of this research is to illustrate the impact of public space of neighbourhoods on the social integration and to ensure that design of public space enhances the sense of community which should lead to a better quality of social life.

METHODOLOGY

Initially, there are three advanced approaches to collect data of research: quantitative, qualitative and the mixed methods (Creswell, 2013). Nevertheless, these three methods may seem separated, but practically they are used in varies approaches for different purpose depends on each discipline and the nature of the study, the elements of the research methods in which the result become more contributable (Beins, 2012). The mixed methods research is

placed in the central position between the two other methods, because it integrates components from both quantitative and qualitative approaches. Additionally, the case study approach which usually identified as a qualitative study design, 'e.g., quantitative experiments or qualitative case study (Creswell, 2013).

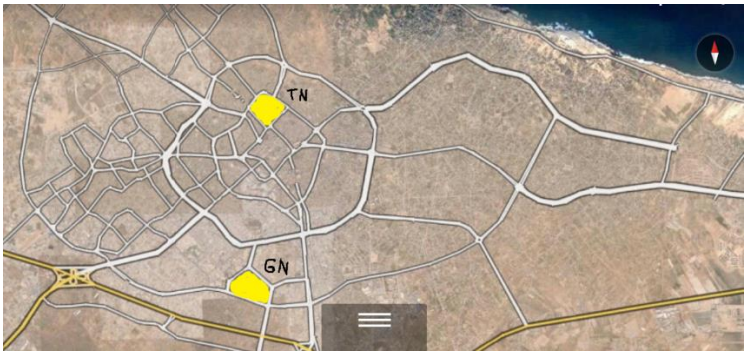


Photo 1: Location of the case study sites: a): Almegawba (TN). b): 9th July (GN)

It has been suggested from many scholars and professionals that the appropriate research approach in such study is the mixed approaches method which combined of quantitative and qualitative case study (Merriam and Tisdell, 2015, Yin, 2013). The case study includes two sites, a) Site 1 named '9th July', which is governmental neighbourhood GN; b) Site 2 named 'Almegawba', which is a traditional neighbourhood TN, in the city of Misurata, Libya, see Photos (1, 2 & 3). All the quantitative data gathered from the questionnaires has been input to the statistics programme 'SPSS' to be able for analysis and Nvivo version 10 software has been used for the qualitative data gathered from the in-depth interviews. A mixed strategy used in terms of data collection including random and snowball policies to ensure the accuracy of the information and avoiding bias answers (Woods et al., 2015).

Photo 2: a) 9th July Neighbourhood (GN)

Photo 3: B) Almegawba Neighbourhood (TN)

Questionnaire: 200 questionnaires were sent out to the residents of the two above sites, a total of 158 questionnaires were returned as following: Almegawba neighbourhood 81 participants and 9th July neighbourhood 77 participants. The questionnaires include a number of open-ended, closed and multi-choice questions.

Sampling strategy: Sample selection was obtained using a snowball technique, "This involves asking people who have participated in a survey to nominate other people they believe would be willing to take part sampling continues until the required number of responses is obtained" (Kitchenham and Pfleeger, 2002 , p19). Participants joined to take part of the research through an invitation from other residents and so on. Data collection was stopped when the appropriate number of questionnaires has been reached and repeatable answers from the last few participants were noticed (Kotrlik and Higgins, 2001).

Interviews: In-depth interviews conducted to provide a further understanding of the existing situation as well as to gain clearer features about the quality of the public space of the case study. Moreover, to collect appropriate evidence that clarifies the research issue and contributes to solving the research matter and creating a coherent framework to be used in the future policies. There was total of 15 interviews conducted during the field work as following: Decision makers 4, Professionals 4, Residents of Governmental Neighbourhoods GN 4, and Residents of Traditional Neighbourhoods TN 3.

Limitation: Limitations of the research conduction starts from the literature sources to the data collection difficulties due to the lack of database available in the responsible authorities in Libya. Accordingly, to minimise the possibility of this limitation, researcher has spent extra individual effort to gain the most of the essential and appropriate key information. These efforts including contacting the relevant local consultant authorities, effective use of the researcher experience during the work period in similar firms. Further efforts have been made through the in-depth interviews with decision makers and professionals. These difficulties are not only because of the lack of data but also the poor documentation system of the country of the case study. Nevertheless, this matter is challenging issue, but at the same time it increases the value of the research to contribute effectively to the future researches in this field. In addition, there might be a slight limitation according to the reliability of the data collected from participants, especially the data by questionnaire method. There is evidence that participants might not be completely aware of the function and purpose of the public spaces and their use due to the lack of attention to this subject. Therefore, researcher overcome this point by conducting a pilot study which allow amending and adjusting the questionnaire form before sending it out to the participants, so it increases the accuracy of the data obtained. It will also provide a wide range of suggestion from the participants which can draw a clear understanding and evaluation to the existing situation of the public space in these neighbourhoods.

To conclude, the idea of the research has been explored to contribute to the future development of the Misurata city, likewise to the other similar cities of Libya. The fact that, this research is quite new in the city of the case study thus, it is positive action that probably open a new approaches of future researches to promote the urban redevelopment not only to the city of the case study but also to the entire country. However, this research is based on former literature to the similar cases from other cities over the world such as in Turkey, Iran and Mediterranean region which can be contributable as a similar case study (Oktay and Rustemli, 2011, Ghoomi et al., 2015, Jalaladdini and Oktay, 2012, Costa and Lopes, 2015) . The research is aiming to evaluate the quality of public spaces in the local neighbourhoods and examining the social satisfaction of the residents with regard to the social dimension.

CONCEPTUAL FRAMEWORK OF THE RESEARCH

The approach of this research is designed to find out evidence about the positive features of the public space in neighbourhoods, data collection techniques formed to explore answers to the research question/s and highlight the appropriate tool in order to identify and clarify the situation of the public space of the neighbourhoods in the city of Misurata, Libya. A part of that is to find out answers to the question/s that is adopted in this research which are:

- How public spaces of the neighbourhoods improve and enhance the quality of residents' life, and how this affects the sense of community and social cohesion of the community?
- Why developing the public spaces of the neighbourhoods are important? To what extent is the public space enriches the quality of urban design of the city?
- Do residents feel socially satisfied with the public space quality in their neighbourhoods?

Therefore, data collection tools structured to provide information about the key points as following:

- What are the bases of the public space design in Misurata neighbourhoods?
- How do people feel about the space that should be shared for public activities? And do they obtain the benefits of their functional purpose or not?
- Why people use this space and when? Are they socially satisfied with the quality of the existing public space?
- Is this public space suitable for all the residents groups such as children, youth, female, adults and elderly?

DISCUSSION AND FINDINGS

THE INFLUENCES OF RESDINTS' RELATIONSHIPS:

This paper focuses on the social side of residents' relationships in the public space of neighbourhoods. The residents' relationships within the residential areas and cities' neighbourhoods are one of the most fundamental issues that urban quality is facing in the country of the case study (Salhin, 2011). In the following section, research attempts to illustrate the significant of these relationships and its impact on the urban development of the residential areas including the both types of common neighbourhoods of the local region.

THE COHESION AND SOCIAL INTERACTION BETWEEN THE RESIDENTS

Social relevance is one of the central issues that should be considered in neighbourhood design concepts (Carmona, 2010). In this research tools to examine the level of residents' relationships and the magnitude of their social

interaction were applied. Findings show that almost all of the participants stated that public space plays an essential role to strengthen the relationships between the residents of the neighbourhood, see Figure 1.

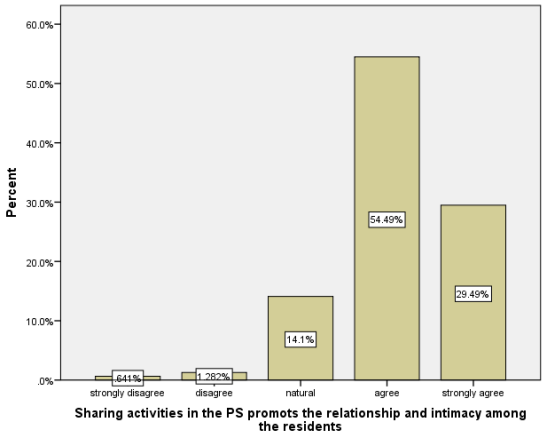


Figure1: Residents' attitude towards the importance of sharing activities in PS of the neighborhoods

In terms of social interaction, participants indicated that they have a limited range of activities in the public realm of their community because of the lack of facilitated public spaces. Therefore, they use the private spaces most of the time at their houses gardens. On the other hand, the level of participation depends on the category of the residents whether they are male/female, individuals/groups and children/youth …etc. (Loughman and Montias, 2000). For instance, men usually use the public space more than female because of traditional backgrounds which are different than other nations such as in Europe and USA. In this local community because of religion rules that not allow women to speak and interact with men and women are not allowed to be unaccompanied with a relative man like her father, brother or husband. This will be discussed more in the section of behaviours and backgrounds. The social value of the community actually is directly linked to the open and public spaces as they are the main spaces regarding interaction and integration (Gehl, 2011). These activities create a better chance for the residents to interact, therefore, this will strengthen the level of relationship between the residents by involving them in activities that can build a good level of communication (Gehl, 2013). Moreover, the social function of the PS can help to get residents more involved and promote the level of intimacy between the neighbours. One of the significant findings in this research is that participants support the idea of mixed age groups in the public space which can be the base of creating these types of activities for the age groups with an appropriate range for each one. This involvement can lead to the integration between the residents together and finally will strengthen the relationship and the intimacy between the residents.

Table 1 shows that 50.0% + 29.7% = 79.7% of the participants in this neighbourhood who agreed or strongly agreed that public space contributes positively and helps to provide psychological comfort to the residents of the community.

Public space contributes to providing psychological comfort to the residents				
		Frequency	Percent	Valid Percent
Valid	strongly disagree	1	.6	.6
	disagree	8	5.1	5.1
	natural	21	13.3	13.5
	agree	79	50.0	50.6
	strongly agree	47	29.7	30.1
	Total	156	98.7	100.0
Missing	999.00	2	1.3	
Total		158	100.0	100.0

Table 1: The participants' attitude towards the impact of the PS on the psychological comfort of the residents

From a social perspective many participants indicated in the interviews that when the revelation in Libya was started on Feb 2011 many social problems had happened in the GN, less problems were occurred in TN which indicate that the level of integration between the residents are not the same in the two types of neighbourhoods. This case confirms that the relationship between the residents of the same neighbourhood was not enough to provide safety to the residents who come originally from other cities. Many residents had to move from a certain neighbourhood to another, as they had experienced different acts than what their neighbours were expecting. Therefore, the residents who are not originally from this community prefer to return to their original area or city because they felt insecure in this community, while this situation did not happen in TN because all the residents knew each other and they face all the problems and the reaction of the government during the revolution together and they help, share, cooperate and support each other.

The most common and popular activities in the public spaces of the neighbourhoods are meeting other residents, exchanging ideas and chatting (Iveson, 2011). These activities will create a high level of life quality which confirms the preference of the integrated communities. Therefore, based on the research findings public space of the neighbourhoods is the most effective area that impacts the relationships between the residents which is the core link of the community cohesion. For instance, one of the participants explains the relationship between the residents in a traditional neighbourhood as following: "I am not exaggerating that we were like one family in the previous community". For example, when a mother of one of the neighbours get ill, one of our community mothers will join that family staying in their house and do all the housework and take care of this mother until she recovers. In the same way, the youth who are in the similar age, they grew up with a very strong relationship. This makes them always feel like brothers and even more because they were spending the most of their time together outdoor in public space of the community. Many participants argue that this relationship is not as before according to several changes as indicated in this study former and later on.

To conclude, public space activities are strongly supporting the cohesion and the integration in our neighbourhoods which lead to successful and comfortable communities.

THE INFLUENCES OF PUBLIC SPACE ON CHILDREN'S INTERACTION WITHIN THE NEIGHBORHOOD

Regarding the age groups in this research, results show that children often use the public space as a place to discharge their energy and making friendship with other children during the play activities in their free time. In addition, public space also used in the social events of the local community because in local culture public space is the main place that people usually address their activities such as weddings (marriage festival) and consolation (it last few days after the funeral). Gehl (2011, p21) highlights that "people in general inspired to others action, children see other children at play and get the urge to join in, or they get ideas for new games by watching other children or adults". Therefore, the idea that is not to provide a public space rather than how to allow and support the residents to communicate and share the spaces to increase the level of interaction and create an appropriate sense of community in their neighbourhoods.

Many participants believe that children are more likely to have a strong relationship than adults, because they spend more time together and grew up together with very interact activities, thus, the expectation is that the second generation will have stronger relationships and social communication which lead to integrated and coherent community.

Physical activities in outdoor space are the most preferred to the children in the sites of the research, children love to spend their time out of their houses. This issue is also debatable, as almost 20% of the participants think it is not safe enough to send their child on the public spaces. The playground for the children is also one of the most important elements that contribute positively to the link between families, some families start to know each other and become friends because of the relationship between their children see photos (4, 5 & 6).

Photo 4: children play football outdoor, by researcher, location 9th July GN, 15/08/2015

Photo 5: children play in the city playground, by the researcher, 13/08/2015

Interestingly, the study highlighted statement from many participants who indicates that life now become faster and people affected significantly by the speed of life. They explained that the feeling of integration and cohesion between the neighbours might be affected by the change of the life's rhythm. Noticeably, nowadays people seem more engaged and busy with their work, study and other businesses rather than social activities.

With regard to the majority of the participants in both research methods, the survey and the interview, they stated that children are not happy with this situation of the public space. This is because of the lack of facilities and the provision of the green areas, playgrounds, pitches and open spaces. One of the interviewees indicated that "I think children are not happy to use the public space like in our time before 10 -20 years". With regard to the findings the following points might be the most dominant reasons of this change which led to a concern from the parents of the children:

Photo 6: poor public space, by the researcher, Aljazeera Neighbourhood, Misurata Libya, 19/08/2015

- The form of life has been changed, now there are more risks for children: the number of cars has increased; the parents are busier as they spend more working hours so the control of watching their children may become less. Therefore, most of the people prefer not to let their children play out in public space. Instead, they go together with them to the beach in the summer time or to any central gardens or countryside in another season.
- Recently, there is more traffic on the streets of the neighbourhood; it becomes more crowded (high density) which need a special design for the pedestrian movements. There should be a safe area for children to play in; this can also create weaknesses in the social communication and risk to the children who play in the public spaces of the neighbourhood.
- Many children are addicted to the new technology tools such as computer games, X-box, iPad and other home games rather than going out for physical activities.
- Because of lifestyle change which make people work more hours, thus, the carrier/parents literally have less time to share activities with their children, thus, they are more convenient to keep children at home because it is safer and easier to be watched.

According to the rhythm of life change, one parent stated in the interviews that "we have less time for social activities than before". He explained that "when they come back from work at 16:00 pm need time for lunch with the whole family, then everyone will have some rest then children need to study and do their homework then it is dark". This is probably the case for many local people nowadays, everyone their children goes to school has less time to spend in

social life, as a result, the only chance that we would use for social activities is the weekends. This is limited their time of participation in the public space within their community, and they mostly use the weekends for going out to the beach, visiting other families and picnicking. Therefore, the rhythm of life also affect the relationships between the residents even though they all live together in the same neighbourhood yet there are some other features which minimise the chance of interaction and promoting the relationship between them such as spending more time at work, traveling and spending time on electronic devices than socialising with neighbours.

Photo 7: children play football on streets, 9th July neighbourhood, Misurata, by the researcher on 12/08/2015

The above photo 7 shows children while they are playing football on the roads because there is none/less facilitated playground, pitches and sport open spaces for such activities. These daily activities that children do in their free time might be really risky and can cause accidents at any time, therefore, the enclosed safe public spaces for the children activates are fundamentally necessary. All the participants included in this study stated that the most needed facility in this neighbourhood is the prepared public spaces such as playground, pitches and soft areas … etc. see figure 2 show the percentage of the participants who are disappointed because of the lack of children facilities in the public spaces.

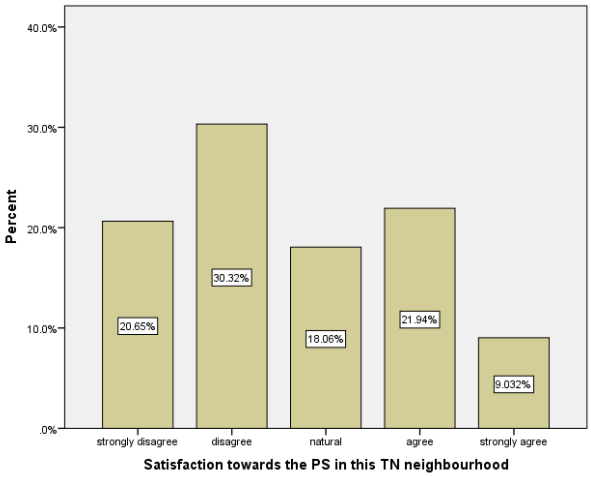


Figure 2: Participants satisfaction towards the PS of their neighbourhood

The above figure 2 illustrates the level of the residents' satisfaction towards the quality of the public space in both neighbourhoods while the figure 3 shows the value in each individual neighbourhood separately.

9th July neighbourhood (GN) Almegawba neighbourhood (TN)

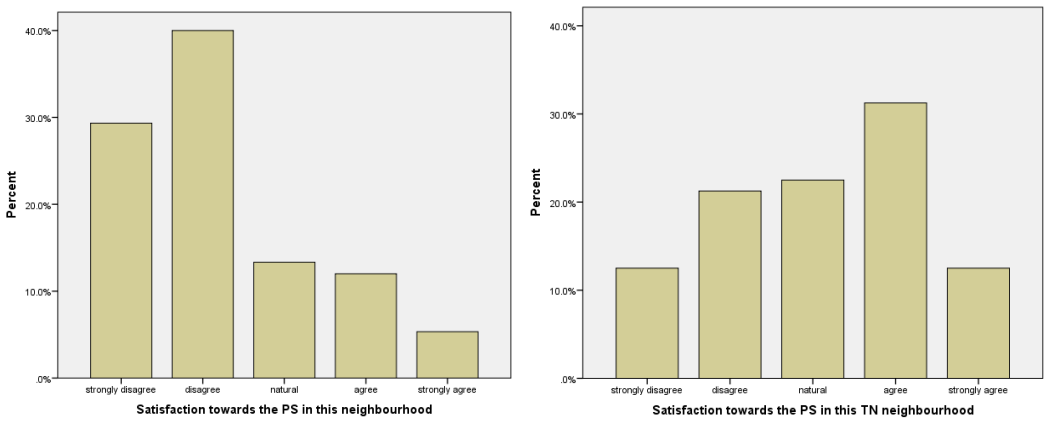


Figure 3: Participants satisfaction towards the PS of their neighbourhood

In particular the questionnaire survey includes a specific question about the most negative feature of the public space of the neighbourhood, almost all of the participants stated that "lack of children's playground and sport places for the youth" which yet indicate the massive need for these elements in the neighbourhood to be more successful and to fulfil the local social needs especially the children and the youth's desire. In figure 4 it is very clear that over half of the participants are married and have children, this percentage is applicable to the neighbourhood population because the selected sample is representative.

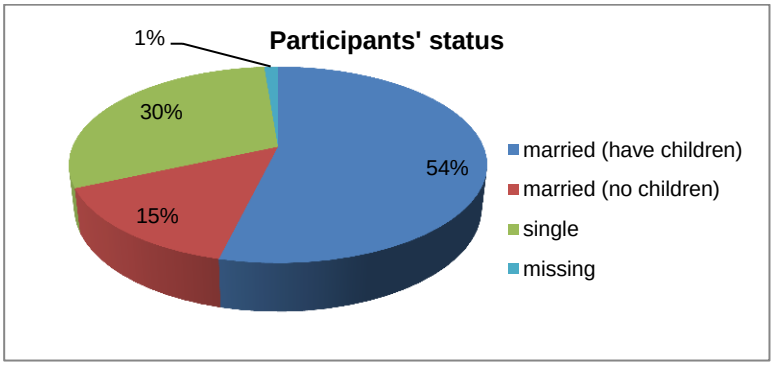


Figure 4: This graph shows the participants' status

THE IMPACT OF POOR PS OF THE NEIGHBORHOOD

One of the research tasks is to classify the most effective social features that impact the behaviour of the residents either in negative or positive cases. The results show that daily activities of the residents in the neighbourhood especially in the public space are not enough to vitalise the public space. In many parts of the neighbourhood there are empty neglected areas, see photos (8 & 9). However, this area might be used for some social events. The following interpretations show in details the positives and negative of the public space features and how they affect the social life of the residents of the neighbourhood. Madanipour et al. (2013, p50) highlight that in public sphere there is a fundamental question which always should be asked: "To whose service should public space be built".

Photo 8: neglected PS in the central of GN, by the researcher, Aljazeera, Misurata, Libya, 25/08/2015

A large number of participants who indicate that the most need for them now are to build up the relationships with their neighbours because they do not know them very well. Therefore, they don't feel the sense of integration in the neighbourhood, and most of them answered as following towards the question "what is your urgent social need in the neighbourhood now?", looking for a warm social relationship with the neighbours, good communication, social intimacy, activities involves the residents and strengthen the social cohesion. This reaction from the participants confirms that the open and public space in the neighbourhoods is the most favourite place that residents need to be involved in.

In 9th July neighbourhood, some of the participants stated that the size of the existing PS for young children is enough, as they often adapted themselves to the available space even if it is too small. However, their parents are completely unsatisfied with this size of public spaces; they claim that it is not appropriate for the children and the youth activities. From this perception from the residents of the neighbourhood, it is worth to mention the statement of Gehl and Svarre (2013, p2) indicate that designers often get involved in their design ideas and forget about the life. "While architects and urban planners have been dealing with space, the other side of the coin – life – has often been forgotten".

Photo 9: Poor open PS in the GN, by the researcher, Aljazeera, Misurata, Libya, 25/08/2015

In terms of the public space quality, from the findings of this research, it is clear that one reason for the weaknesses of the residents' relationships is the lack of facilitated public spaces. As a result, there will be a less chance for the residents to meet, gather, share activities and practical communication, which may lead to a disintegrated community. Because of less sharing and participation in the community, there might be a social isolation and this will not help for the cooperation and the interaction between the residents.

CULTURE BACKGROUND AND RESIDENTS' BEHAVIOUR

According to the qualitative data collected from interviews, all the participants agreed that the public space is the dominant place where residents can interact with each other. Especially, the residents who age between 7 and 15, they indicated that they have a very strong relationship in this particular age as they were having the most of their free time together applying varies of activities.

In terms of public space quality, residents from this particular ages that mentioned former do not actually care about what facilities has the public space contained, they will usually create their way to innovate several activities because they have no choice apart of that see photo (10). From another point of view, residents who age from 18 and above, they are thinking about the safety of their children and family members. Therefore, the research focus on the adult perception towards the quality of the public space and how they will describe it as a place where they have to spend their leisure time with their children and share with other residents social activities.

Photo 10: Plenty of open PS with poor provision of physical settings and entertainment facilities, by researcher, GN, Misurata, Libya, 25/08/2015

Findings show that the most important factors for the level of interaction between the residents are the time, behaviour and people's react to other residents' actions. Hence, the culture background, local behaviour and local relations are the bases of residents' action towards others while they are sharing activities. For this reason, the study found out that TNs are more integrated and coherent than the governmental once because people know each other from a long time. This makes them more careful when dealing with neighbours and always trying to be positive to their community. On the other hand, in GNs because the residents come from different parts of the city and from other cities and live in the same neighbourhood, so it is less possible to interact with each other. Many participants demonstrate that they often spend time with their friends from the families that they know even if they live in another area, at least until they become more familiar with their new neighbours. From the research data, this issue can be improved in many cases, for example, if the neighbourhood provides facilitated playgrounds, green areas and other relevant amenities which attract the residents to spend more time in their neighbourhoods. Therefore, create more chance for the residents to interact and socialise with each other, which naturally lead to stronger relationships between the local residents.

One important fact that study has measured is the number of residents who have a sense of initiation to contribute positively to the neighbourhood development. Many of the participants indicated in the interview that residents are not motivated to contribute positively to improve the PS of the neighbourhood. They always expect the government to build and provide all the facilities. One resident stated that "I think the initiative actions from residents are unlikely to happen at least in the near future because it is related to the background and the mentality of the residents". Furthermore, from another point of view, some residents are ready to support and create a strategy to develop the public space of the neighbourhood but they usually fail when it involves other neighbours who do not believe in teamwork, cooperation and voluntary support. Although, their attitude towards the idea is very good but most of the residents do not support it. They rather choose individual solutions such as going to the beach in the summer or go to public gardens in the city centre rather than contribute financially to develop a permanent work of open public space of the neighbourhood. They will only rely on the government to do so.

Another side of the study is to find out female contribution in the public, how women use the PS and do they have the motivation to be part of the residents who supposed to be sharing and interacting in the PS of the neighbourhood. Several women stated that they were using the public space, meeting, chatting in public and walking, however in many cases were not comfortable because of the place quality. In terms of community behaviour and culture background, the female does not equally share the public space, as they should have their own place within the public space which does not exist. The common situation that female is only active to the public spaces when they are participating as a group with their children, parents and brothers/husbands or with other family. In this case, women can spend some time in the public which is considered as a weak participation. Therefore, many female participant in this research suggesting that there should be a private places for women to apply their activities such as walking, sitting and chatting with their friends and watching their children in a positive comfortable atmosphere.

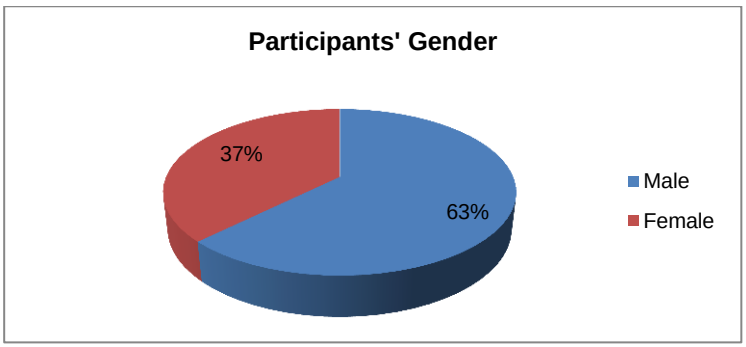


Figure 5: Percentage of the participants' gender

In terms of the type of activities also there are many limitations can be found according to a culture and religion restrictions see figure 4. That is why most of the participated female indicate that they need a separate space within the PS of the neighbourhood for women, especially who are in the youth age. One of the participants stated in the interview that "If we want to use the nearby space we should go as a group of female or as a family which limited our participation in the public space".

CONCLUSION

The paper has investigated the very important side of PS development in the neighbourhoods and providing new findings of psychological comfort and social integration of the neighbourhoods within the city of Misurata, Libya. The findings show that neighbourhoods can be successful with regard to the resident's reaction and level of interaction between them especially in the PSs of the neighbourhoods. From this perspective, it is essential that design and development work should be based on local environment including the residents' behaviour and their perception towards the understanding of sociality and community cohesion. Therefore, it is crucial that in the stage of neighbourhoods design and urban development to be based on the residents' social needs in order to achieve the right results according to the sense of community and social comfort.

Residents of the neighbourhood share the PS because of similar purposes with other residents which are spending their free time in several types of activities. Public space is an important indicator for the level of successfulness of the neighbourhoods, especially from social perspectives. In terms of psychological comfort, scholars in this field indicate that open public spaces play a fundamental role to improve the quality of life and the community cohesion (Nasar and Julian, 1995). Research show clearly that most of the residents are not satisfied with the existing quality of the public space and they are looking forward to improvement in their communities. In figure 5 results show that most of the participants either disagree or strongly disagree about their satisfaction towards the public space quality of the neighbourhood.

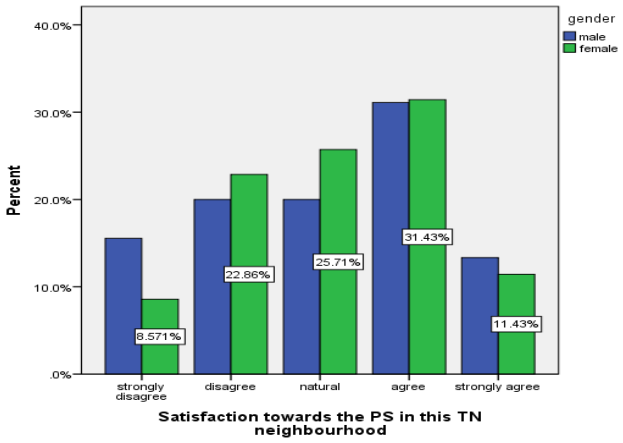


Figure 6: Resident's satisfaction towards the PS of their neighbourhood

Overall results, almost all of the participants ensured that PS is the most significant place for all the residents. Hence, they will be more connected and integrated. Also, youth can earn new skills and more experience and confidence by interacting with the adult, this interaction may reflect positively on their life. In addition, most of the participants stated that they will choose TN in a case of choices because they prefer to live near their relatives and the people who knew from long time ago. This illustrates how much people are attached to the social features and how much this

community needs to be designed and based on social considerations in most of the projects. In addition, residents need high-quality PSs and a central area which include facilities for children such as playgrounds and all outdoor play areas. For youth more space is needed for example, sports pitches and green areas for walking and some other activities, this makes the residents of the neighbourhood more interacted and more closed to each other which lead to stronger relationships with the residents all around the neighbourhood. The public spaces are not used properly because the government does not build playgrounds or such facilities for children. Therefore, the interaction and the relations between the neighbours are not strong.

Finally, it has clearly appeared that PS is crucial indicator of the urban quality and the well-being of the neighbourhoods' development. It plays an essential role not only in urban development but also in promoting and enhancing the social interaction and the residents' satisfactory in their neighbourhoods. Therefore, creating successful neighbourhoods which support and fulfil the social needs of the people is a fundamental need. This is probably the key to improving the other related important elements such as safety, sustainability and environmental communities. It is new future tasks to find out how all these communities can be linked together, and create schemes that can improve the relationship between the neighbourhoods of the city to enhance the social cohesion in the entire country.

REFERENCES

BEINS, B. C. 2012. Research methods: A tool for life, Pearson Higher Ed.

CARMONA, M. 2010. Public places, urban spaces: the dimensions of urban design, Routledge.

CATTELL, V., DINES, N., GESLER, W. & CURTIS, S. 2008. Mingling, observing, and lingering: Everyday public spaces and their implications for well-being and social relations. Health & place, 14, 544-561.

COSTA, P. & LOPES, R. 2015. Urban Design, Public Space and the Dynamics of Creative Milieux: A Photographic Approach to Bairro Alto (Lisbon), Gràcia (Barcelona) and Vila Madalena (São Paulo). Journal of Urban Design, 20, 28-51.

CRESWELL, J. W. 2013. Research design: Qualitative, quantitative, and mixed methods approaches, Sage publications.

DAS, D. 2008. Urban quality of life: A case study of Guwahati. Social Indicators Research, 88, 297-310.

GEHL, J. 2011. Life between buildings: using public space, Island Press.

GEHL, J. 2013. Cities for people, Island press.

GEHL, J. & SVARRE, B. 2013. How to study public life, Island Press.

GHOOMI, H. A., YAZDANFAR, S.-A., HOSSEINI, S.-B. & MALEKI, S. N. 2015. Comparing the Components of Sense of Place in the Traditional and Modern Residential Neighborhoods. Procedia-Social and Behavioral Sciences, 201, 275-285.

IVESON, K. 2011. Publics and the City, John Wiley & Sons.

JALALADDINI, S. & OKTAY, D. 2012. Urban public spaces and vitality: a socio-spatial analysis in the streets of Cypriot towns. Procedia-Social and Behavioral Sciences, 35, 664-674.

KIM, J. & KAPLAN, R. 2004. Physical and psychological factors in sense of community new urbanist Kentlands and nearby Orchard Village. Environment and behavior, 36, 313-340.

KITCHENHAM, B. & PFLEEGER, S. L. 2002. Principles of survey research: part 5: populations and samples. ACM SIGSOFT Software Engineering Notes, 27, 17-20.

KOTRLIK, J. & HIGGINS, C. 2001. Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. Information technology, learning, and performance journal, 19, 43.

LOUGHMAN, J. & MONTIAS, J. M. 2000. Public and Private Spaces Works of Art in Seventeenth-Century Dutch Houses.

MADANIPOUR, A. 2013. Whose public space?: international case studies in urban design and development, Routledge.

MADANIPOUR, A., KNIERBEIN, S. & DEGROS, A. 2013. Public Space and the Challenges of Urban Transformation in Europe, Routledge.

MERRIAM, S. B. & TISDELL, E. J. 2015. Qualitative research: A guide to design and implementation, John Wiley & Sons.

NASAR, J. L. & JULIAN, D. A. 1995. The psychological sense of community in the neighborhood. Journal of the American Planning Association, 61, 178-184.

OKTAY, D. & RUSTEMLI, A. 2011. The quality of urban life and neighborhood satisfaction in Famagusta, Northern Cyprus. Investigating quality of urban life. Springer.

SALHIN, S. M. 2011. A critical evaluation of Libya's urban spatial system between 1970 and 2006.

WATSON, G. B. & KESSLER, L. 2013. Small Changes – Big Gains: Transforming the Public and Communal Open Spaces in Rundown Neighbourhoods. Journal of Urban Design, 18, 565-582.

WOODS, M., PAULUS, T., ATKINS, D. P. & MACKLIN, R. 2015. Advancing qualitative research using qualitative data analysis software (QDAS)? Reviewing potential versus practice in published studies using ATLAS. ti and NVivo, 1994–2013. Social Science Computer Review, 0894439315596311.

YIN, R. K. 2013. Case study research: Design and methods, Sage publications.

QUALITY OF LIFE BENEFITS OF URBAN TRAILS: ANALYSIS OF THE ATLANTA BELTLINE

Session T1.4 | June 2 | 16:00 – 17:30

Catherine Ross (1); Alex Karner (1); Peter Hylton (1); Elliot Sperling (1); Subhrajit Guhathakurta (2)
(1) Center for Quality Growth and Regional Development, School of City and Regional Planning
Georgia Institute of Technology, Atlanta, GA 30308, USA
(2) Center for Geographic Information Systems, School of City and Regional Planning
Georgia Institute of Technology, Atlanta, GA 30308, USA
catherine.ross@coa.gatech.edu; alex.karner@coa.gatech.edu; peter.hylton@gatech.edu;
esperling@gatech.edu; subhro.guha@coa.gatech.edu

ABSTRACT: This study examines the role of urban trails in promoting urban regeneration contributing to quality of life. The Atlanta BeltLine is a 35-kilometer loop of trails, parks, and eventually light rail transit under planning and construction in Atlanta, Georgia, in the United States. Our analysis of the BeltLine trail includes surveys to explore the BeltLine's effects to date on multidimensional measures of resident quality of life; and accessibility analysis to parks and transit to examine the equity implications of accessibility for different communities at full build-out. The results show a correlation between BeltLine usage and some quality of life measures, including physical activity and social capital. Moreover, the BeltLine is likely to improve park and rail transit access in ways that generally improve equity.

KEYWORDS: public health; livability; wellbeing; quality of life; urban regeneration; active transportation; access.

INTRODUCTION

Urban trail projects have grown in popularity in recent decades as cities have sought to introduce new vitality into old, underutilized, and often abandoned infrastructure (Lilly, 2012). These projects fit into a 'third wave' style of urban regeneration and gentrification in which local governments take an active role through investment and projects including urban trails, parks, biking and pedestrian facilities (Immergluck, 2009). Despite the inherent challenges in quantifying quality of life benefits, it is important to estimate a project's impact on quality of life, and it is typically either an implicit or explicit justification for investment in urban redevelopment projects. This study examines how a 35-kilometer urban trail in Atlanta, Georgia, USA, the BeltLine, is impacting residents' quality of life. The BeltLine converts an abandoned railway to a system of paths, parks, and eventually light rail transit. As it approaches completion of one-third of its trail components, the BeltLine is providing social, environmental, and economic connections to areas of the city that were previously isolated or divided by these mostly abandoned rail lines. As

such, the Atlanta BeltLine is a propitious setting to explore quality of life changes among users and the equity implications of the BeltLine implementation.

Quality of life includes multiple dimensions, and we utilize surveys of BeltLine users regarding their lifestyles, physical activity, and ability to reach urban amenities. We also employ spatial analysis to understand park and rail transit access before and after BeltLine implementation. The BeltLine provides insights into the social, and usage characteristics that are representative of the impacts that such investments can be expected to generate in other cities converting industrial infrastructure to active space, some of which are reviewed as case studies in this analysis.

This study includes six sections. The 'Literature Review' addresses past papers and important works. The 'Case Studies' section assesses other similar trail projects around the world to draw similarities and analyze comparisons. The "Method of Approach" discusses the methods used in this study. The 'Bifurcated Analysis' section includes survey results and examines BeltLine effects on park and transit accessibility. Finally, the 'Conclusions' section summarizes and draws overall findings and incites regarding quality of life impacts.

LITERATURE REVIEW

QUALITY OF LIFE DETERMINANTS

Quality of life determinants are multifaceted and shaped by many different aspects of people's lives. The built infrastructure ultimately molds interactions and influences residents' interactions with their surroundings. Quality of life is generally defined as well-being along multiple dimensions, either at the individual or social levels. Standard indicators of quality of life go beyond wealth and employment to include physical and mental health, education, recreation and leisure time, and social belonging (Gregory et al., 2011).

The connection between quality of life and the built environment is well-recognized, particularly in the health community. Regular physical activity benefits people of all ages and walks of life, improving health, longevity, and quality of life (Warburton et al., 2006). Physical activity may improve self-image, self-esteem, physical and mental wellness, and overall health among people of all ages and including those with disabilities or chronic diseases (Kaplan et al., 1996; Paffenbarger et al., 1993; Sherman et al., 1994; Transportation Research Board, 2005).

The built environment can also impact social interactions and social capital, and several studies have documented the built environment's ability to increase sense of community and decrease social isolation (Centers for Disease Control and Prevention, 2006; Transportation Research Board, 2005). Built environment decisions such as land use mix, density, and transit availability combine with intangible elements like demographics and displacement to affect social capital levels (Ross et al., 2007). Moreover, it is plausible to assume that the built environment and intangible social capital determinants may interact. For example, public space or amenities promote social capital even while engendering gentrification and therefore breaking social connections among existing residents. There is evidence that mixed land uses and higher density may support social capital by increasing the ability to access people and destinations, although results are not conclusive (Ewing and Kreutzer, 2006). Use of non-automotive transportation (Ewing and Kreutzer, 2006), shorter commutes (Putnam, 2000), smaller cities (Putnam, 2000), and ample public space (Ewing and Kreutzer, 2006) have all been linked with greater social capital (Ross et al., 2007). By contrast, a deteriorating built environment, loss of public space, and displacement characteristic of gentrification all tend to decrease or harm social interaction, social capital, and mental health (Bhatia et al., 2006).

This study examines whether the BeltLine promotes positive physical activity and increased accessibility outcomes. The BeltLine may augment total physical activity by encouraging new people to become physically active or exercise more, or it may be reconfiguring activity patterns by encouraging people who exercise to do so on the BeltLine instead of elsewhere. The former improves quality of life, whereas the latter does not.

CASE STUDIES

The following case studies review selected urban trails worldwide that are BeltLine peers and which are reported to have improved the quality of life for residents of adjacent neighborhoods through increased social interaction, physical activity, and accessibility to urban opportunities or other amenities. Similar to the BeltLine, they are conceived to generate new people-oriented connections, reuse industrial land or transportation infrastructure, promote active transportation, provide amenities in relatively dense urban settings, and ultimately unite communities that were once separated or lacked these centers of connection and active recreational spaces. Among other factors, they differ in their length, cost, and stage of completion (summarized in Table I), as well as in the association of complementary projects, such as the Madrid green cycle belt or the Atlanta BeltLine's park and transit plans.

This section briefly summarizes six projects: three in the United States (Atlanta BeltLine, New York High Line, Indianapolis Cultural Trail), two in Spain (Madrid Río and associated cycle paths), and one in South Korea (Cheonggyecheon). The study does not contend that they or their contexts are identical or that their quality of life lessons will be entirely transferrable, both because of differences in conception and execution, as well as their economic and cultural contexts. Rather, they are presented as similar projects around the world with the goal of enhancing quality of life.

Project	City (State)	Country	Current Length	Full Length	Cost
BeltLine	Atlanta, GA	USA	10.9 km	35.4 km	$4.8 billion*
High Line	New York, NY	USA	2.3 km	2.3 km	$187 million
Cultural Trail	Indianapolis, IN	USA	12.9 km	12.9 km	$63 million
Madrid Río (incl. highway tunneling)	Madrid	Spain	10 km	10 km	€ 5 billion
Madrid *Anillo Verde Ciclista* (cycle ring)	Madrid	Spain	65 km	65 km	€ 50 million
Cheonggyecheon	Seoul	South Korea	5.8 km	5.8 km	~ $281 million

Table I: Urban Trail Project Case Studies by Cost and Length Compared t Atlanta BeltLine
Sources: High Line:(New York City Economic Development Corporation, 2016); Indianapolis Cultural Trail: (Indianapolis Cultural Trail Inc, 2016); Madrid Río (Hill et al., 2013); Madrid Green Cycling Ring (Communidad de Madrid, 2009); Cheonggyecheon: (Shin and Lee, 2006); Atlanta BeltLine: (Atlanta BeltLine Inc., 2016)
Note: Atlanta BeltLine total project cost based on project build-out to 2030*

BELTLINE, ATLANTA, GEORGIA, USA

The Atlanta BeltLine began as a reimagining of the city of Atlanta's mostly abandoned inner rail loop, which suffered from abandonment, blight, crime and unsightly structures. In addition, it separated neighborhoods. From its conception (Gravel, 1999), the BeltLine gained grassroots and ultimately political support, resulting in the creation of a non-profit to partner with the city in its redevelopment. The BeltLine has three major existing trail segments, but the plan includes connecting the trail segments, adding rail transit on and across the BeltLine, and adding and improving parks along its length. The first trails opened in 2008, and construction of trails, transit, and parks are expected to continue at least through 2030 (Atlanta BeltLine, Inc., 2013), meaning that the majority of the $4.8 billion construction costs remain to be spent. Figure 1 shows the Atlanta BeltLine's paths, including the Eastside Trail, which is the subject of these surveys.

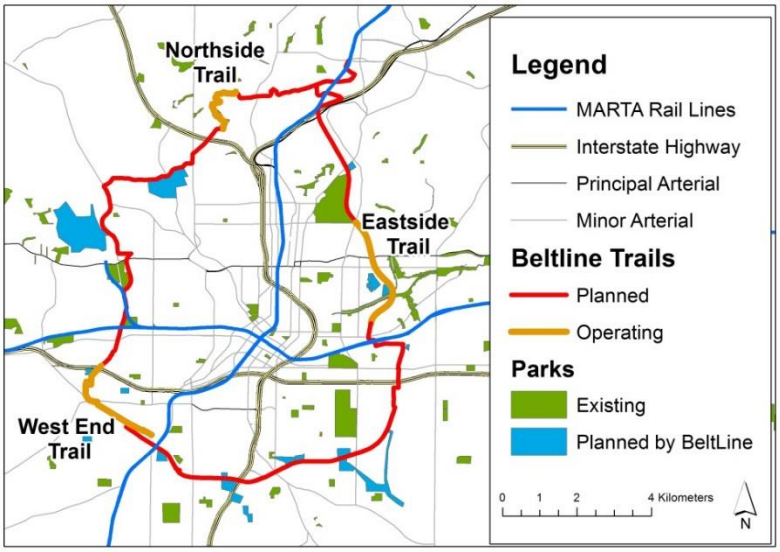


Figure 1: Atlanta BeltLine Trails and Parks
Source: Created by Authors

HIGH LINE IN CHELSEA, NEW YORK CITY, USA

The High Line is a 2.3 kilometer elevated park and trail operated by a community non-profit (Ascher and Uffer, 2015). The High Line was an old railway bed that brought goods in and out of Manhattan's largest industrial district. Railroad operations ceased in 1980, and subsequently nearby property owners lobbied for its demolition (Ascher and Uffer, 2015). However, two residents founded Friends of the High Line in 1999 to advocate for the High Line's preservation

and reuse as a linear public park. Work began in 2005 (Ascher and Uffer, 2015; Friends of the High Line, 2016), with the three subsequent phases finishing in 2009, 2011, and 2014 (Ascher and Uffer, 2015). The High Line is the first U.S. rail-to-trail project to be completed in a dense urban environment, whose diversity of neighbors and interaction with adjacent spaces are visible in Figure 2.

Figure 2: Photos After High Line Restoration
Photos taken by co-author: Elliot Sperling, June 17, 2013

INDIANAPOLIS CULTURAL TRAIL, INDIANAPOLIS, INDIANA, USA

The Indianapolis Cultural Trail is an 8-mile long urban greenway that links five of the six cultural districts in the city, and includes bike and pedestrian paths (Figure 3). The project right-of-way comes largely from road diets (Federal Highway Administration, 2016). Finished in 2013, the Indianapolis Cultural Trail contains 19 public art exhibits and adds 163,000 square feet of green space to the city (Haley, 2012). The thought process for the Indianapolis Cultural Trail began as early as 1999, when the city officially designated six cultural districts charged with promoting the city's cultural assets. The trail emerged as a contender to stitch together the city's cultural districts. In 2004, the City of Indianapolis donated the right-of-way to build the trail and has since championed the trail benefits to downtown. The trail broke ground in 2007, and six years later the trail became fully open to the public (Indianapolis Cultural Trail Inc, 2016).

Figure 3: Indianapolis Cultural Trail
Source: (Indianapolis Cultural Trail Inc, 2013)

MADRID RÍO, MADRID, SPAIN

Launched in 2008, the Madrid Río Project reclaims the Manzanares River for people by burying a highway and converting the land to recreation (Hill, Henderson, Lebkuecher, Moorhead, & Weekley, 2013). The Calle 30 project, introduced in 2004, was responsible for the conduct of the study and burying of the Madrid highway M-30 along the Manzanares River (Hill et al., 2013). Madrid Río provided pedestrian access to the river, added 10 kilometers of ground level pedestrian and cycle routes, created new parks, a beach, and bicycle paths, and planted of trees to produce a roughly 20% increase in the trees in the area to a total of 26,000 (Hill et al., 2013). These two projects taken together have reclaimed 2,961 hectares of land into spaces creating pedestrian ways for people through added green spaces and public parks (Hill et al., 2013). In response to the Madrid Río's positive reception, additional green spaces are being added around the city, including Virgen del Puerto Park and the Aniceto Marinas Gardens (Hill et

al., 2013). . In addition, there is the Anillo Verde Ciclista, another project aimed at tying the city together through a connected bicycle network that forms a 65-kilometer ring around the City of Madrid (Communidad de Madrid, 2009).

CHEONGGYECHEON, SEOUL, SOUTH KOREA

Cheonggyecheon is a natural stream predating Seoul, South Korea. As the city grew, the surrounding land became heavily developed, and over time the river channel was treated as a sewage collector and surrounded with shanties. Ultimately the stream was capped and a 10-lane highway built on top to serve surrounding neighborhoods (Shin and Lee, 2006). However, by the 1980s, industries relocating outside of the city center, and environmentalists and ultimately the community began calling for a restoration of Cheonggyecheon in the 1990s to remedy the highway's health risks, air pollution, and the unsanitary conditions underneath the highway (Hwang, 2004). In 2001, the Cheonggyecheon restoration project was announced. The demolition of a 6 kilometer-long, 10-lane concrete highway through Seoul's city center attracted skepticism on how a new river corridor could be developed in an area of great traffic and gridlock (Shin and Lee, 2006). However, the project was completed uncovering a stream accompanied by a sunken linear park, creating a green corridor in central post-industrial Seoul.

THE METHOD OF APPROACH

We examine the extent to which the Atlanta BeltLine will contribute and has already contributed to quality of life improvements among surrounding residents and whether completion of its implementation plan is likely to affect quality of life. Although it analyzes a single project, the lessons are partially transferrable to other urban trails including those discussed above to the extent that they share physical and user characteristics.

This study includes two kinds of analysis. The first entails two cross-sectional surveys that were conducted in 2011-12 and 2015 focusing specifically on the quality of life dimensions of physical activity and social capital (summarized in Table II). The second analysis uses spatial analysis to see whether the BeltLine will affect park and transit access. This analysis also addresses the distribution of benefits by race / ethnicity, age, and educational attainment allowing us to examine equity implications.

Name	Frame	Response Rate
2011 – Pre-survey	6,000 households within1/2 mile (0.804 km) of BeltLine Eastside Trail	25% (123 completed out of 501 requested)
2012 – Follow-up survey	Respondents to 2012 pre-survey	74% (91 completed out of 123 requested)
2015 – Intercept survey	Users of BeltLine Eastside Trail	Not reported (236 completed)

Table II: Survey Characteristics
Source: (Karner, 2015; Smith et al., 2012)

THE BIFURCATED ANALYSIS – SURVEYS ON BELTLINE USAGE

Comparing results from sequential cross-sectional surveys allows us to evaluate whether the Atlanta BeltLine has already impacted resident quality of life. This section includes analysis results from two surveys of BeltLine users, one conducted in 2011-12 (with a 2011 pre-survey and 2012 follow-up survey), and the other in 2015. Together they provide a sense of how the BeltLine is being used, how its use is changing physical activity and social connections, and how those trends vary between early opening and three years after opening of the Eastside trail, one of the busiest sections of the BeltLine. The 2011-12 survey was preceded by a pre-survey and follow-up components. The BeltLine Eastside trail was gravel and had been unpaved for several years before 2012. The 2011-12 survey contacted a random sample drawn from 6,000 residential households within one half mile (0.804 km) of the BeltLine Eastside trail. Ten percent of these households were randomly chosen, and after the data was cleaned 501 households received a request to participate in the online survey (Smith et al., 2012). After the gravel trail was paved, a follow-up survey was sent to evaluate changes in their social capital and physical activity.

The pre- and follow-up survey results indicate that respondents who used the trail (with a gravel surface in the pre-survey and paved in the follow-up survey) were significantly more physically active than those that did not use the trail. Four out of five survey respondents reported using the trail for exercise, health, or recreation, making these the largest trip purpose. However, the trail also facilitates shopping and eating out, with 32% of trail users (2012) and 44% (2015) reporting using the trail for these purposes, noted below (Smith et al., 2012).

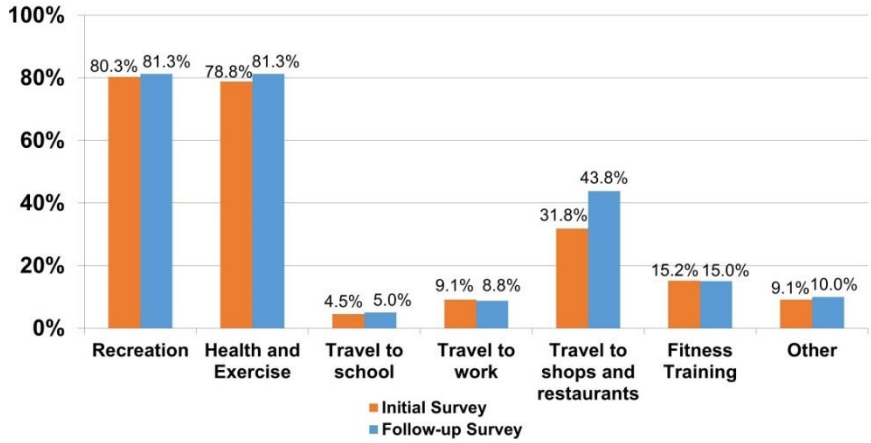


Figure 4: BeltLine Eastside Trail Responses to "What do you consider your use of the trail for?"
Source: (Smith et al., 2012)

In examining changes in commuting patterns, the pre- and follow-up survey results do not indicate significant change, except for a 2.6 % increase in walking, biking, and running to work (from 7.3% to 9.9%), shown in Figure 4 below (Smith et al., 2012). Active transportation commuting options grew, which indicates that the trail itself is potentially leading to more active commuting options in the area among all residents, rather than the subsection sampled, from the early stages of the BeltLine's existence. In terms of walking trips in general, just 20% of pre-survey trips were conducted for utilitarian purposes, such as errands, with the remainder between exercise and recreation. In the follow-up survey trips for utilitarian purposes increased to 28% of all trips (Smith et al., 2012), indicating that the use of the BeltLine is being expanded beyond recreational purposes to helping fulfill other trip purposes.

Quality of life benefits extend beyond economic and health considerations to span social interactions and feelings of belonging. These types of intangible benefits are difficult to measure and especially difficult to causally link with an urban trail. However, the Eastside trail surveys suggest that trail users feel greater social interaction and community belonging than non-users. Simultaneously, there is likely self-selection bias, which means results must be interpreted cautiously and tentatively. Those that have used the trail are inclined to have high social capital. If the trail does promote social capital, a possible causal mechanism is the trail's role as a venue for social and community interaction. In comparing BeltLine users and non-users in the follow-up survey in most areas, trail users report higher levels on measures of social connectedness, although these results include several ties and inconsistencies (where non-users score higher than users). However, there does appear to be a link between BeltLine use and neighborhood participation since questions 1 and 7, both dealing with social connectedness, skew heavily towards BeltLine users.

	Have been on trail	Never been on trail
Q1. **Do you know the names of your neighbors?**	**90%**	67%
Q2. **Would you say that people in this neighborhood generally know each other?**	79%	**80%**
Q3. **Do you and your neighbors ask each other for advice or do favors for one another?**	**65%**	60%
Q4. **Is this a close-knit neighborhood?**	60%	60%
Q5. **Can you count on other adults in the neighborhood to take action if they saw someone doing something wrong?**	86%	**87%**
Q6. **Is there someone in the neighborhood you could go to for help in an emergency?**	**90%**	87%
Q7. **In the past 12 months, have you participated in the activities of any community groups/organizations?**	**66%**	27%

Table III: BeltLine Eastside Trail Respondents' Feelings of Connectedness within Their Neighborhoods (Follow-up Survey)
Source: (Smith et al., 2012). Bolding indicates a higher number than for the opposite group.

In 2015, another survey was conducted along the BeltLine Eastside trail using an intercept survey approach interviewing trail users on a voluntary basis along the Atlanta BeltLine on both a weekday and weekend period. This survey was conducted by members of the Center for Quality Growth and Regional Development (CQGRD) at the Georgia Institute of Technology. The study team conducted in-person intercept interviews with 189 BeltLine users on a Saturday and 47 users on a Monday for a total of 236 completed surveys. Surveys were completed on the Eastside Trail, which is the busiest section and the same section studied in the 2011-12 surveys.

The 2015 survey confirmed similar usage characteristics to the 2011-12 survey. Trail users voluntarily surveyed were on the BeltLine for exercise, with eating comprising 10%, shopping 9%, and getting to work and multipurpose trips covering the remaining 4% of users. Unlike in the 2011-12 surveys, this survey did not include a recreational activity category. Walking was the most common mode to access the BeltLine, used by 60% of respondents, followed by private automobile (36%), biking (2%), transit (1%), and Uber (1%). These survey results omit the high numbers of cyclists observed on the trail, who are heavily under-sampled because of the difficulty in surveying them due to their speed. Transit usage is also low because the BeltLine does not connect to any of the rail stations in its current state.

BeltLine users report that many of their trips would not have occurred without the BeltLine. Roughly 50% of weekday and 34% of weekend trips would not have come to the area without the BeltLine, which helps us to understand the BeltLine's social interaction function. The plurality of users would not have made the trip without the BeltLine, but a smaller percentage would have either used an automobile, walked, or used transit. Many of the users who would not have made the trip were traveling for exercise or recreation, followed by eating out, and going shopping. The BeltLine appears to increase exercise and social activities.

SURVEY FINDINGS

Survey results from 2011-12 and 2015 both indicate that a large number of people benefit from increased recreational and exercise opportunities due to the BeltLine. The 2011-12 pre- surveys indicated increasing BeltLine usage over time, and show that over a short time period commuting habits changed towards more active transportation travel modes (walking, biking, and running), exceeding U.S. growth in active transportation. Additionally, BeltLine users reported feeling more social belonging and experiencing more social interaction than non-users, and the follow-up survey found that non-users who had started using the BeltLine reported higher levels of social interaction. Of course, the survey results are not intended to make causal assertions because of the multitude of confounding and uncontrolled factors. Rather, they explore the room that exists for enhancing a potential urban trail benefit based on correlations with quality of life improvements. Moreover, the 2015 survey does not use a random sample. In both the 2011-12 and 2015 surveys, non-response bias is possible, as is self-selection bias, particularly in the 2011-12 follow-up survey.

ANALYSIS - ACCESSIBILITY

The BeltLine includes linear green space with trails, but also a bundle of urban amenities spread around the city and forming an "emerald necklace" of parks and the foundational periphery of a light rail transit network (Alex Garvin & Associates, Inc., 2004). This section explores the results of a spatial analysis of the BeltLine's greenspace and transit accessibility changes to the Atlanta population, segmenting the population by race / ethnicity, age and education level to understand relative effects. The analysis is based on the 2010 Decennial Census population characteristics at the block group level, and both parks and transit are compared before the BeltLine (roughly 2006) and after full build-out (past 2030).

PARK ACCESS

The Atlanta BeltLine connects with a series of parks, many of which existed before the BeltLine was conceived, and some of which are being created simultaneously with the advent of the BeltLine. Parks vary in size and are spread around all the quadrants of the BeltLine, affecting neighborhoods with very different socioeconomic characteristics. The BeltLine forms a sort of linear park, with continuous greenspace and flat trails following universal design principles. Overall, the BeltLine adds 1,300 acres of greenspace and improves 700 park acres (Atlanta BeltLine, Inc., 2013), adding roughly 43% to the city's 3,000 park acres in 2016 (City of Atlanta, 2016).

The park accessibility analysis calculated the network distance from each block group centroid to the nearest park one acre or greater based on both the pre-BeltLine park system and planned park build-out as reflected in the BeltLine implementation plan, including the trails themselves as a linear park (Atlanta BeltLine, Inc., 2013). The authors modified a park shapefile from the Atlanta Regional Commission (2016), splitting it into two files and adding polygons for planned parks. Network distance was used rather than Euclidean distance to reflect the ways that people travel to parks on the road network. Since people may walk, bike, or drive to parks, the entire road network was used.

Figure 5 below shows how the BeltLine moderately increases park accessibility. Before the BeltLine, many block groups along its route had no parks within 1 or even 2 kms, which is prohibitively far for walking. In some cases, these are the southern and western quadrants, where fiscally imposed transit dependence is relatively common. The park plan improves park access along almost all of its length, although it of course has no effect on park accessibility on Atlanta's edge, especially in the northernmost and southwestern sections.

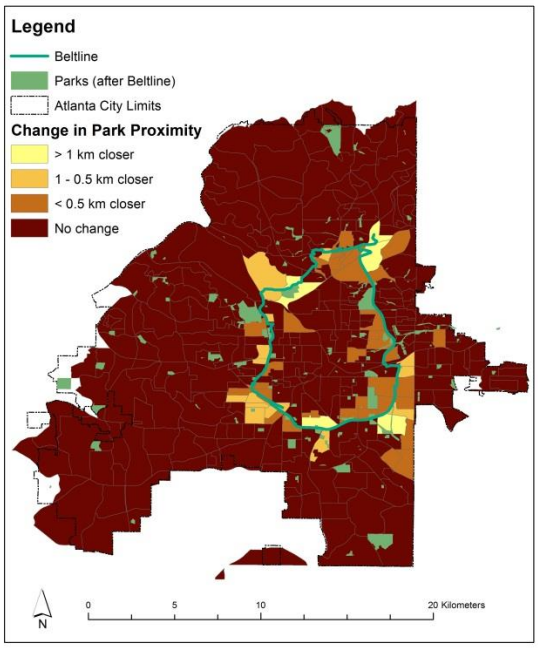


Figure 5: Change in Park Accessibility Before and After BeltLine and Associated Parks

There are seven racial groups included in the 2010 Decennial Census (black, white, Asian, other race, two or more races, American Indian, and native Hawaiian), and one ethnicity (Hispanic / Latino). Before the BeltLine, park access showed racial / ethnic inequities, with individuals categorized as white being on average closest to parks. 37% of white Atlanta residents resided within ½ a kilometer of a park, compared with 29% of Asian Atlanta residents, 26% of black Atlanta residents, and 25% of Hispanics. Among the larger population groups, black Atlanta residents are forecasted to receive the largest benefit in park accessibility, gaining a 6 percentage point increase in the number of black Atlanta residents within ½ km of a park. Individuals of two or more races see a 5 percentage point improvement, similar for American Indians and Native Hawaiians. Thus, Atlanta residents categorized by each racial group see similar increases in park accessibility, which is in all likelihood a function of the plan's ability to touch all quadrants.

We next grouped Atlanta residents into age categories below 18 years old, 18 to 64, and 65 years and above. Here, residents were found to have roughly equivalent rates of access regardless of age. After the trails are complete all groups will see increases in proximity, with adults between 18 and 64 benefitting slightly more than other groups. Consequently, park access is not significantly stratified either before or after the BeltLine plan by age.

Before the plan, the Atlanta residents with the highest educational attainment generally benefitted the most from park access. Approximately 43% of holders of a professional degree were within ½ km of a park, versus only 27% of those who did not graduate high school. This likely relates to higher purchasing power and park's influence in increasing land value. This trend of increasing education with increasing park access holds true for nearly all levels. The plan benefits Atlanta residents in inverse proportion to their education level. Assuming constant population arrangement (e.g., no displacement), the greatest beneficiaries by far are Atlanta residents without high school degrees. However, some of these gains may be erased as urban amenities attract wealthier and more educated residents, thus inducing residential displacement.

The plan tends to even out disparities in park access, especially by race and educational attainment, without eliminating them entirely. The plan's ecumenical nature and presence in all parts of the city improve access in those areas that currently have the least access.

TRANSIT ACCESS

Atlanta currently has a very uneven rail transit network, built primarily around an east-west and a north-south heavy rail line operated by the Metropolitan Atlanta Rapid Transit Authority (MARTA). These MARTA lines have recently been supplemented by a 4.3 km streetcar loop opened in 2015, the first phase of a much more ambitious streetcar plan that dovetails with the BeltLine. Since its earliest phases, the BeltLine has always included the goal of a peripheral rail transit line (Gravel, 1999), and this idea has been expanded with the city of Atlanta's streetcar plan, which joins the rail periphery with several cross-town lines (City of Atlanta, Invest Atlanta, Atlanta BeltLine, Inc., and

Atlanta Streetcar, 2015), and incorporates the recent streetcar system. Nearly half of the 80 km proposed rail network will be on the BeltLine trails, and the remainder will include spurs and cross-town connections (City of Atlanta et al., 2015). The streetcar plan will dramatically increase the number of neighborhoods served by rail transit.

Similar to the park accessibility analysis, we calculated the network distance from each Atlanta block group centroid to the nearest rail transit station before and after full BeltLine implementation. The before scenario was represented by a point shapefile of MARTA rail stations developed by the Atlanta Regional Commission (2016). For the after BeltLine, we supplemented MARTA stations with points representing the path of the streetcar system proposed in the Atlanta Streetcar System Plan (City of Atlanta et al., 2015). Stops were assumed to be frequent for the streetcars since stops have not yet been selected.

BeltLine-related transit greatly augments transit accessibility in Atlanta's core, but changes little on the outskirts. Currently most BeltLine neighborhoods have little or no MARTA rail access. Neighborhoods inside the BeltLine tended to have better MARTA rail access, but the transit density improves even more with the BeltLine.

Only 3% of all Atlanta residents are currently within ½ mile of a MARTA rail station, and this percentage is similar for all racial / ethnic groups. By contrast, more than 44% of Atlanta residents are more than 3 km from a MARTA rail station, although this ranges from 55% for "other races" and 24% for Asian Atlanta residents who, on average, live closer than the norm to MARTA stations. The transit expansion produces a dramatic increase in the percentage of Atlanta residents who live near transit rail, rising from 3% to 16% with all residents being within ½ km even as the percentage over 3 km away falls by 19 percentage points. Before BeltLine transit, Asian Atlanta residents lived on average closest to rail transit, and they experience the largest percentage point increase in rail transit accessibility (24 percentage point increase within ½ km), resulting in an even stronger position (29% within ½ km and 55% within 1 km). The resulting rate (29% within ½ km of rail transit) is significantly above the percentage of 19% for black and white Atlanta residents within the same distance. Atlanta residents categorized as "other races" will continue to have the least amount of rail transit access, with only 8% within a ½ km of rail transit and 12% within 1 km. Thus, the rail transit system appears to be less equitable than the park system in impacting all neighborhoods, which may derive from the transit system's much more concentrated pattern in the center of the city compared with parks.

Adult Atlanta residents between the ages of 18 and 64 have the greatest MARTA rail accessibility before the BeltLine, although it is still low (only 3% within ½ km). The transit expansion reinforces this pattern of unequal access, with 19% of adults between 18 and 64 years compared to 11% of children and 10% of seniors having access within ½ km of a transit rail station facility. The result is that the BeltLine transit produces greater benefit towards the working age population than for children and seniors, even though those are the two age categories where they are ineligible or less likely to be able to drive automobiles.

Unlike park access, rail transit access before the BeltLine is not closely correlated with educational achievement, except in the case of Atlanta residents who did not graduate high school, who have exceptionally low accessibility. BeltLine transit will increase rail access for Atlanta residents in all educational attainment groups by an average of 16 % (within ½ km), ranging from a high of 19 % for those without a high school degree to 15 %for professional degree holders. Thus, there is little variation by educational attainment and transit expansion works to even out variation.

ACCESSIBILITY FINDINGS

The Atlanta BeltLine greatly improves the average Atlantans' park and rail transit access. The gains are substantial for transit, but are also large for park access. Most of these gains are realized by Atlanta residents living in areas that move from moderate to higher levels of accessibility. Moreover, the BeltLine tends to equalize the inequities that exist in park access by race / ethnicity and especially educational attainment, where the results are most dramatic. This broad effect is not only a function of the BeltLine's geography, but also the presence of parks in all quadrants of the city.

In terms of transit access, the BeltLine is making even more significant improvements to a transit system that suffers from low first- and last-mile connectivity particularly in many of the areas immediately adjacent to it. However, the benefits are spread unevenly, and for race, ethnicity, and age they exacerbate some existing inequities. On age particularly, younger and older Atlanta residents who most need transit access will have greater improvements in accessibility than they do now, but it will be less than for working-age Atlanta residents. This is partially a result of the very concentrated nature of both Atlanta's current rail transit network and the improvements to it, which still leave rail coverage gaps to wide swaths of the city.

CONCLUSIONS

The Atlanta BeltLine is shown to generally increase nearby residents' quality of life along several dimensions, including physical activity, social interaction, greenspace accessibility, and urban access via transit. BeltLine users are more physically active than the general population, and they report greater belonging and social interaction than non-users. In terms of accessibility, the BeltLine's park and transit plans are expected to increase access by almost all population categories and to generally equalize inequities, except for transit race / ethnicity and age. However, none of these findings prove that the results are the result of the BeltLine. Exclusively. Survey results reveal correlations between survey responses and BeltLine usage without inferring causation. Moreover, the accessibility analysis assumes constant population distribution, which is unlikely to be true due to economic and demographic forces. However, these analyses do fortify the contention that urban trails and associated amenities do improve residents' quality of life and can be designed to promote more equitable urban amenity access.

As cities around the globe and in the United States explore the conversion of existing infrastructure into urban trails, the BeltLine along with other recent urban trail projects further the evidence that urban trails have created and contribute to higher quality of life improvements. The benefits to quality of life also come with certain challenges. In the Atlanta BeltLine area, there are concerns over displacement and affordability in the area of the trails. New rail transit as part of the plan will help to address many of these inequities. The results of this study also showed that there are enormous accessibility improvements to surrounding areas when expanding park, trail, and transit access. Those benefits, while not distributed evenly across age, educational attainment, and racial and ethnic populations, are generated across all populations. Improving access generates quality of life improvements that are demonstrated through the usage characteristics of trail users. This research underscores the fact that urban trail projects create enormous opportunities to build social capital and generate health improvements.

REFERENCES

Alex Garvin & Associates, Inc. (2004). The Beltline Emerald Necklace: Atlanta's New Public Realm. Retrieved from http://beltline.org/progress/planning/park-planning/

Ascher, K., & Uffer, S. (2015). The High Line Effect (CTBUH Research Paper). Retrieved from http://global.ctbuh.org/resources/papers/download/2463-the-high-line-effect.pdf

Atlanta Beltline, Inc. (2013). 2030 Strategic Implementation Plan - Final Report.

Atlanta BeltLine Inc. (2016). Funding. Retrieved May 23, 2016, from http://beltline.org/about/the-atlanta-Beltline-project/funding/

Atlanta Regional Commission. (2016). Greenspace. Retrieved May 9, 2016, from http://arc.garc.opendata.arcgis.com/datasets/090b68b1e926485fbb1840b5c2e710ac_94

Bhatia, R., Rivard, T., & Seto, E. (2006). Oak to Ninth Avenue Health Impact Assessment: Public Review Draft. UC Berkley Health Impact Group. May.

Centers for Disease Control and Prevention. (2006). Injury Statistics Query and Reporting System (WISQARS). U.S. Department of Health and Human Services. Retrieved from http://www.cdc.gov/injury/wisqars/index.html

City of Atlanta. (2016). Parks & Recreation. Retrieved May 9, 2016, from http://www.atlantaga.gov/index.aspx?page=1067

City of Atlanta, Invest Atlanta, Atlanta Beltline, Inc., & Atlanta Streetcar. (2015). Atlanta Streetcar System Plan (Final Report). Retrieved from http://beltline.org/about/resources/streetcar-system-plan/

Communidad de Madrid. (2009). El Anillo Verde Ciclista: La Vuelta a Madrid En 65 Kilómetros. Retrieved May 7, 2016, from http://www.madrid.es/UnidadesDescentralizadas/UDCMovilidadTransportes/EspecialInformativo/OficinaBici/02enBici/01itinerariosCiclistas/02anilloVerde/ficheros/FolletoAnilliVerde.pdf

Ewing, R. H., & Kreutzer, R. (2006). Understanding the Relationship Between Public Health and the Built Environment: A Report Prepared Fo the LEED-ND Core Committee (p. 136). Organisation for Economic Co-operation and Development. Retrieved from http://www.usgbc.org/resources/understanding-relationship-between-public-health-and-built-environment-report-prepared-lee

Federal Highway Administration. (2016). Road Diet Case Studies (No. FHWA-SA-15-052). Retrieved from http://safety.fhwa.dot.gov/road_diets/case_studies/

Friends of the High Line. (2016). About The Highline: Fostering a Strong Community and Neighborhoods. Retrieved May 3, 2016, from http://www.thehighline.org/about

Gravel, R. A. (1999). Belt line - Atlanta : design of infrastructure as a reflection of public policy (Thesis). Georgia Institute of Technology. Retrieved from https://smartech.gatech.edu/handle/1853/7400

Gregory, D., Johnston, R., Pratt, G., Watts, M., & Whatmore, S. (2011). The dictionary of human geography. John Wiley & Sons.

Haley, K. (2012). Indianapolis Cultural Trail (Environmental Practicum Course). Butler University. Retrieved from https://umbraco.butler.edu/media/2858941/ict_spring2012.pdf

Hill, T., Henderson, A., Lebkuecher, T., Moorhead, M., & Weekley, G. (2013). Madrid: Sustainability and Green Space Initiatives. Urban Sustainability Programs: Case Studies, 63.

Hwang, K. Y. (2004). Restoring Cheonggyecheon stream in the downtown Seoul. Seoul: Seoul Development Institute, 3. Retrieved from http://globalrestorationnetwork.org/uploads/files/LiteratureAttachments/270_restoring-cheonggyecheon-stream-in-the-downtown-seoul.pdf

Immergluck, D. (2009). Large redevelopment initiatives, housing values and gentrification: The case of the Atlanta Beltline. Urban Studies, 46(8), 1723–1745. http://doi.org/10.1177/0042098009105500

Indianapolis Cultural Trail Inc. (2013). Retrieved from http://indyculturaltrail.org.s3.amazonaws.com/wp-content/uploads/2013/04/Glick-Peace-Walk-large-group-use.jpg

Indianapolis Cultural Trail Inc. (2016). Indianapolis Cultural Trail.

Kaplan, G. A., Strawbridge, W. J., Cohen, R. D., & Hungerford, L. R. (1996). Natural history of leisure-time physical activity and its correlates: associations with mortality from all causes and cardiovascular disease over 28 years. American Journal of Epidemiology, 144(8), 793–797.

Karner, A. (2015). Survey-based Analysis of Beltline Users (CP 4310 - Urban Transportation and Planning). Georgia Institute of Technology.

Lilly, J. (2012). Rail-to-Trail Conversions: How Communities Are Railroading Their Way out of Recession towards Healthy Living. University of Baltimore Journal of Land and Development, 2, 167.

New York City Economic Development Corporation. (2016, March 30). The High Line. Retrieved from http://www.nycedc.com/project/high-line

Paffenbarger, R. S., Hyde, R. T., Wing, A. L., Lee, I.-M., Jung, D. L., & Kampert, J. B. (1993). The association of changes in physical-activity level and other lifestyle characteristics with mortality among men. New England Journal of Medicine, 328(8), 538–545.

Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. Simon and Schuster. Retrieved from http://books.google.com/books?hl=en&lr=&id=rd2ibodep7UC&oi=fnd&pg=PA13&dq=boWLING+alone&ots=G3Mgl_mnV2&sig=FowMkyD5FBVFVe4473rCK_9mDtM

Ross, C. L., Nie, K. L. de, Barringer, J., Hashas, M., Benjamin, S., Doyle, J. H., & Pierce, D. (2007). Atlanta BeltLine Health Impact Assessment. Center for Quality Growth and Regional Development.

Sherman, S. E., D'Agostino, R. B., Cobb, J. L., & Kannel, W. B. (1994). Physical activity and mortality in women in the Framingham Heart Study. American Heart Journal, 128(5), 879–884.

Shin, J.-H., & Lee, I.-K. (2006). Cheong Gye Cheon restoration in Seoul, Korea. In Proceedings of the Institution of Civil Engineers-Civil Engineering (Vol. 159, pp. 162–170). Thomas Telford Ltd. Retrieved from http://www.icevirtuallibrary.com/doi/abs/10.1680/cien.2006.159.4.162

Smith, S. M., Ross, C. L., Elliott, M., Frackelton, A., Harkness, A., & Rao, A. (2012). Atlanta BeltLine Eastside Trail: Population Comparison Measuring Changes in Behavior Related to Health. Center for Quality Growth and Regional Development.

Transportation Research Board. (2005). Does the Built Environment Influence Physical Activity?: Examining the Evidence. Transportation Research Board.

Warburton, D. E. R., Nicol, C. W., & Bredin, S. S. D. (2006). Health benefits of physical activity: the evidence. Canadian Medical Association Journal, 174(6), 801–809. http://doi.org/10.1503/cmaj.051351

DENSE SUBDIVISIONS BETWEEN URBAN RENEWAL AND INCOMPLETION (CASE STUDY FOR SUBDIVISION IN SETIF, ALGERIA)

Session T1.4 | June 2 | 16:00 – 17:30

Dhia Eddine Zakaria Lacheheb (1); Amor Ballout (2); Said Madani (3)
(1) PhD student in Architecture, Research group PUVIT (University of Farhat Abbas, Setif), ALGERIA.
Mail: zakaria.lacheheb@gmail.com
(2) PhD student in Architecture, Research group PUVIT, ALGERIA
(3) Doctor in architecture, Director of the Research group PUVIT, ALGERIA

ABSTRACT: The sustainable urban development aims to the preservation of the planet resources as a common duty, it is commonly asserted that the control of the urban sprawl by the promotion of a more compact and dense city returns us to the rationalization of land consumption as a non renewable resource, for the ecological, economic positive effect in terms of public costs of investment, functioning and social cost.

Today, the existing urban fabrics and frameworks are opportunities to be seized, and the modes of urban development management have to evolve profoundly by anticipation and reconsideration, to make a good use of the existing urban frameworks, towards a densification favorable to the raising of the urban quality through an ideal urban density on the scale of the individual housing estate.

The subdivision as an individual housing estate was adopted as an alternative development model to the collective housing to emerge as a quality model where the density plays an important role, but the image of eternal construction site inflicted to our cities explains the renewed interest for the application of the regulatory framework and the completion of the observed limited operations without global coherence, summed up in our case to a ground cut in plots of land, sold then built independently without being finished. This observation support the relevance of the essential question of the improvement of the outside aspect bound to the appearance which can be revealed as a so important factor for a better use and a better acceptance of its housing environment.

The urban renewal is supposed to make transfer existing urban frameworks to support a new dynamism in a district in lose speed, with operations of a global coherence in an optimal organization, without forgetting the main importance of the deadlines of construction and the finalization of the works, which should generate new evolutions of economic development and development of solidarity.

We studied two residential subdivisions, the private subdivision Sellam and the subdivision El Imane with a common situation, and different land surface, density and cutting, being occupied by various social classes, with different needs and different household average size, to demonstrate the impact of the completion of urban renewal actions through the impact of the completion degree on the subdivision dwellings, roads system and urban public utilities on the density or the densification and therefore on the urban quality.

KEYWORDS: urban renewal; densification; degree of completion; perceived quality

INTRODUCTION

Algeria knew series of several politics, different even opposite, experimented in a record period, in a total extremism from the quite planned after its independence in 1962, to the most liberal after 1990. In a context marked by the fluctuating political, economic and social conditions as well as by the changeable architectural trends, the individual housing and its environment became the most desired by the Algerian inhabitants even if it was not a product of an anticipated urban politics.

The public authorities' attention was diverted when according a particular importance to the subdivisions and their developments which in spite of being covered by a large outfit of instruments are still facing innumerable tensions.

We were interpellated by the poor maintenance of the old districts and neighborhoods, the speculations on the rents and grounds that leaded to an unfinished densification, besides the problems of the urban management and the unfinished aspect of the new houses where the quantity dominates on the quality, as shows the same deficit and the continuous transformations.

From now on, the concerns should be rather focused on the quality of density and the completion of the operations in progress and the upcoming ones, same as the illicit housing environment.

SUSTAINABLE CITY VS PROFITABLE CITY

Twenty years ago, the Algerian authorities started attempts at damping of the increasingly unverifiable urban sprawl, through a reconquest of the greyfields, waste lands, rundown neighborhoods and the promotion of individual dense habitat in subdivisions and cooperatives without examining both the physical condition of the buildings, and the social condition of the residents, increasing the urban density in existing cities carelessly of the transference of building rights that encourages the gentrification, neither of the achievement of the building and/or the transformation operations which made that prevailing tendency far from being a "win-win" scenario, since it ignores potential long-term physical and social implications.

It is therefore vital to understand the social complexity of urban renewal processes prior to any intervention in the existing fabric.

Today, the evolution of the households and the lifestyles implies a more flexible approach of the individual habitat, where the planning policies advocate for the Compact City or some sort of compaction process, as a strategy to obtain a more sustainable urban development in its broadest sense, social, economic and environmental, to answer variable needs and reduce the extended distances between urban functions to contrast with the car-oriented urban planning of our cities.

DENSIFICATION

The development of more compact and sustainable cities sends us back to the rationalization of land's consumption to control and manage the urban sprawl. It passes necessarily through a work on the existing urban frameworks, often depreciated and stigmatized by a bad quality of life which underlines social and economic problems.

Indeed, beyond the idea to make the compactness acceptable, the density is then wished not only for economic and ecological reasons, but also because it allows to invent new urban forms, capable of revitalizing the fabric of the city.

If we admit that the same residential density can be translated by diverse urban housing forms and environment forms, and vice versa, the same typology of housing environment can have very different densities. (Figure 1: Forms of density)

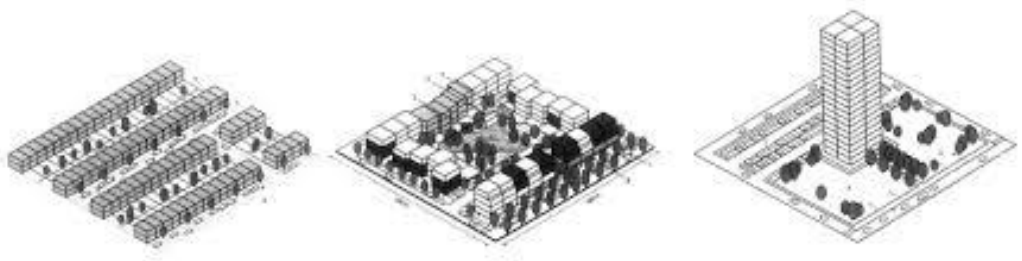


Figure 1: Forms of density
Source: V.Fouchier, 2014

To define a residential subdivision as a home, the promotion of its image subjected to the design and density, lead us straight ahead to its conceptualization as a system which implies an interaction between the physical environment of the subdivision and the suitability, the safety and the comfort of its inhabitants, where interact social, personal and physical factors.

Yet villas buildings as multifamily housing can be adapted to individual subdivisions urban fabrics thanks to a good insertion? It should be a question of wondering about the threshold of the density and the subdivision's quality that can be reached in a specific context (the subdivisions case study) (Figure 2: The dimensions of the urban quality)

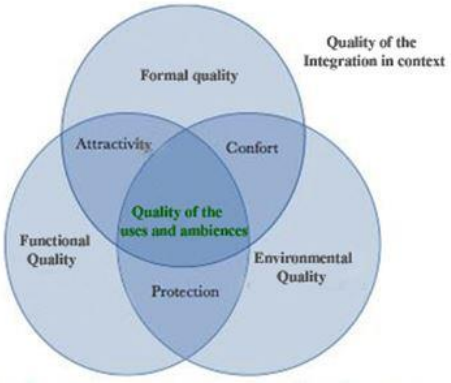


Figure 2: The dimensions of the urban quality
Source: Da Cunha, 2014

SOCIALLY VS ECONOMICALLY CONSCIOUS URBAN RENEWAL

We can identify two main components of urban renewal: an economic component and a social component. The economic logic behind urban renewal strategies currently prevailing in Algeria encourages urban renewal which is funded by the private sector. However, this economic logic does not take into account the social problems associated with compact city policy that possibly will have the same social impacts as urban renewal projects: The disadvantaged will suffer more from the resulting high land prices and social segregation will continue due to the higher price level in the urban districts with urban regeneration projects, and particularly the phenomenon of gentrification which results in exclusion of existing residents of neighbourhoods and the entry of new, more affluent tenants, in their place.

The study cases analysis will reveal the marginalisation of the residents in the upgrade process, supposed to be regarded primarily as a means to upgrade and improve the quality of public housing are neither informed of, nor aware of, the consequences and implications of the projects in which they are involved, and do not participate in decision making processes.

URBAN QUALITY RELEVANCE

The urban quality as a network would be simplistic and reductive to describe some physical features but appropriate to describe all the relationship, the dynamics, and the reticular relationship that exist between those physical features. Improving the urban quality is no longer a simple matter of bricks and mortar, but the human satisfaction with different urban and social attributes such as land use patterns, population and building densities…etc

This paper try to shed light on the urban quality and its perception that enhance the quality of life, ensure the sustainability of the neighborhood, and try to solve problems facing the developed urban subdivision areas and new developments. The study reminds the urban quality dimensions and focuses mainly on the physical, social and psychological and their interactions.

PROBLEMATIC

The urbanization of Algerian cities was often born from opportunity and not from the mastery, far from being very effective, where the arsenal of urban tools neither actualised nor complete barely slow down the phenomena of informal housing, the transformations of the external aspect and the incompletion of the construction, in spite of the efforts of the authorities.

The urban landscape was dominated by the residential individual housing; the local urban management was weighed-down, greatly influenced by an abusive irrational consumption of land, constructions without references and often unfinished.

Indeed, any construction stages to model the urban shape, its facade belongs to the public, visual or legal place, consequently the unachieved constructions and particularly the phenomenon of external aspect incompletion are not only involved in the ugliness of the subdivision but in the urban landscape, inflicting the aspect of eternal building sites causing deep imbalances that affect the urban quality into the residential subdivision and the whole city.

In a context of old centralized planning procedures, the inhabitants are claiming a participation in the conception process instead of undergoing a preconceived model, to become identified through customizations, modifications or transformations even through violations, infractions and a non compliance to the regulation. This form of adaptation or appropriation remains negative and careless of the residential sets homogeneity.

The outlined situation of the urbanization process in Algeria reveals the necessity of rehabilitation, regeneration and improvement of the existing built fabric and its external aspect through a participative large scale planning of the actions operated individually.

The perception of the inhabitants could be a guide for planners and designers?

Which actions is it necessary to regard as priorities?

HYPOTHESIS

The unfinished aspect of the densified individual housing would compromise the upgrade of the perceived urban quality.

METHODOLOGY OF APPROACH

To carry the subdivision towards a quality of sustainable development, our reflection builds itself around the application of the objectives the densification's approach and the upgrade of the external aspect through completion. For it we have chosen between the evaluation's methods of the design quality of subdivision and those related to the dwelling and houses, which usually proceed by the evaluation of the preferences and the user's requirements (Goodchild, 1997; Lawrence, 1984; Leung, 1993; Karn and Sheridan, 1997).

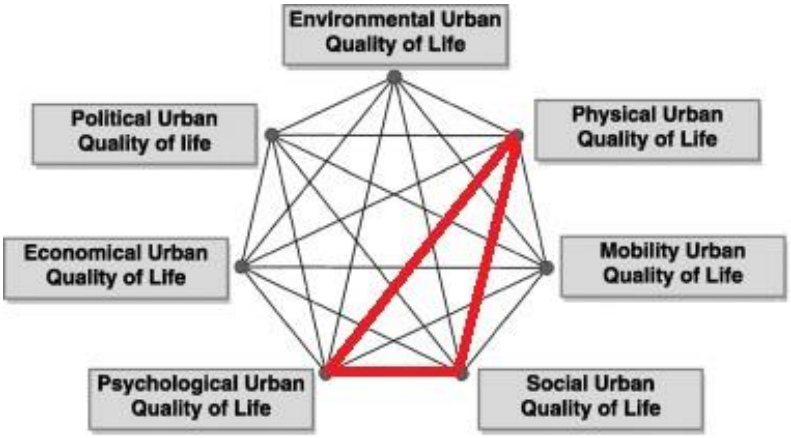


Figure 3: Urban quality dimensions and interactions – Heptagon Shape
(source: H B N R Center, cairo Egypt, modified by the author 2016

We have essentially considered choosing universal methods evaluation, in order to develop the production process of individual habitat in subdivision, to seize and analyze the relevant data of the environment, land market, housing and the essential needs. (Ground, climate, constraints, landscape, ground uses, existing frame).

1) Methods based on the user's direct participation in the design.
2) Those which are based on questionnaires and investigations.
3) The methods that are based on the behavior's analysis.

> *"If you want to find out something about has person, surely the best way is to ask him" (Lawrence 1984:180).*

The approach of this work is mainly based on the investigation of the households in order to distinguish the formal-aesthetic qualities of the external appearance (Dehan Ph, 1999) and the typo morphological analysis to reveal the differences of the degrees of completion in the built environment and to detect the conditions of a densification of quality, which would allow the application of new and extensive project management methods towards an upgraded urban quality to be for the diapason with contemporary urban stakes. (Figure 4: Complementarity of study steps)

Figure 4: Complementarity of study steps
Source: Established by the author

PRESENTATION OF THE STUDY CASE

The subdivisions study cases, are both located between 1000 and 1100 m of altitude in the North west side of the City of Setif, 300 Km to the East of Algiers the capital of Algeria, borded by a 750 collective dwellings from the east, the University UFAS from the south. (Figure 5: City of study case, Figure 6: Situation of study cases in the city)

Figure 5: City of study case
Source: The author

Figure 6: Situation of study cases in the city
Source: The author

MORPHOLOGY OF THE SITE

The subdivision are situated on in important incline (Gradually from East to west towards the South) and near avoidance RN 9. (Figure 7: Profiles of study case site)

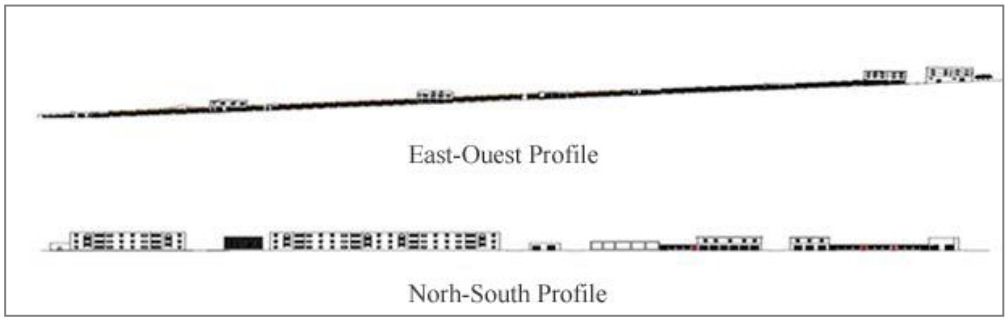


Figure 7: Profiles of study cases site
Source: The author

SIZE OF THE LOTS

NUMBER AND DISTRIBUTION OF ISLANDS

In spite of the number of islands in the two subdivisions, more or less equal, the land reserved to the subdivision is by far unequal, the Sellam subdivision (Subdivision 1) realized on an entire surface of 63810 m ², while the subdivision El Imane (Subdivision 2) rests on 23020.25 m ² (1/3 of the Subdivision 1).

This difference of land surface and many small islands for almost the same number of lots imposed an irregularity in the distribution amongst the lots in small islands (Figure 8: Comparison of the lots number/islands). Recording a maximum of 34 islands (small island E Subdivision 1) and 24 islands (small island J Subdivision 1). (Figure 8: Comparison of the lots number/ islands)

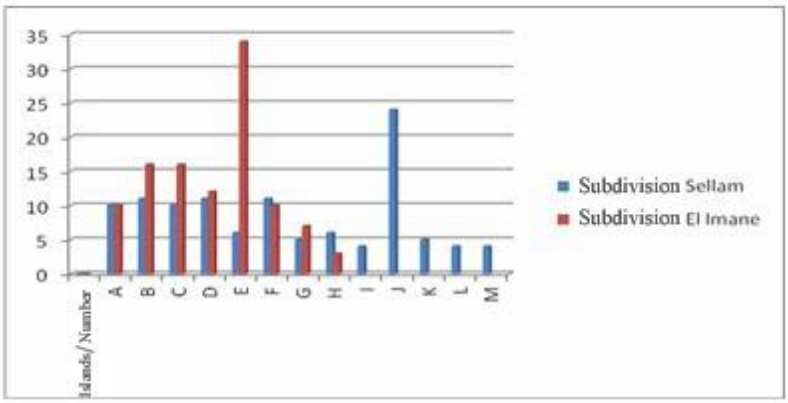


Figure 8: Comparison of the lots number/ islands
Source: Data of the survey established by the author

The differences mentioned above, engendered different densities (lots / island), from simple to double, 22 lots / hectare in the 1st subdivision, and 48 lots / hectare, 2nd subdivision, even differences of distributions of the density within the subdivision. (Figure 9: Distribution of the densities in islands lots / islands)

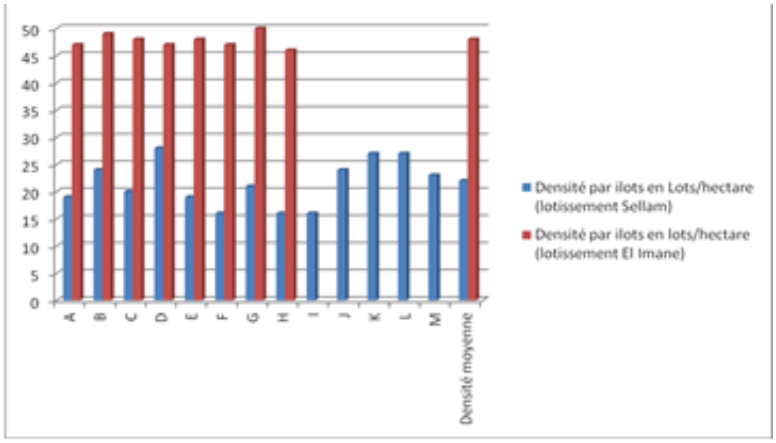


Figure 9: Distribution of the densities in islands lots / islands)
Source: data of the survey established by the author

ISLANDS SURFACE

The surfaces of islands are quite unbalanced, and unevenly distributed, this can be relevant about the cutting and street layout (Figure 10: Comparison of islands' surfaces)

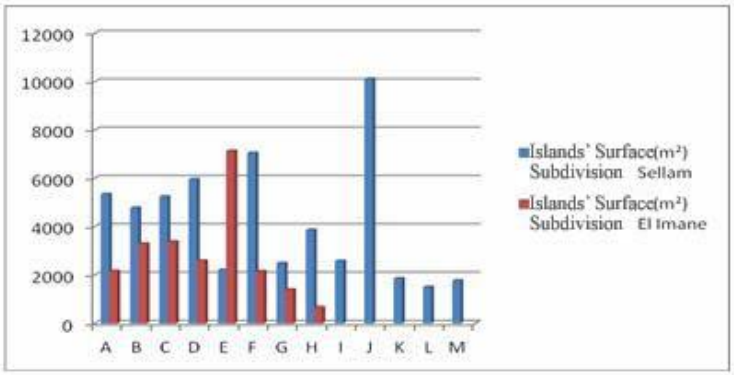


Figure 10: Comparison of islands' surfaces
Source: data of the survey established by the author

SETTING-UP THE BUILT AND REQUIREMENT SPECIFICATIONS

The majority of the lots in the (Subdivision 1) are of a very important surface. According to the requirements of the specifications, the coefficient footprint (C.E.S) should not exceed 50% of the entire surface of the construction of the lot, and the Order n° 1661 of the 5/5/1971, that is still applicable stipulates that the lots having a surface equal or higher than 300m² will have to comprise only 50% maximum of built surface.

The (Z.N.A) must have a withdrawal of 3 meter of construction compared to the road No construction can have a direct sight with the neighboring property with less 4 meters.

The observance of the regulation and the regulations of the specifications should make the enjoyment of a minimum of comfort and freedom possible to each resident of the subdivision.

HEIGHTS OF THE CONSTRUCTIONS

On another plan, the regulations of the specifications fix the height of constructions at 11 m, starting from the level of the way of the principal frontage, the equivalent Ground floor + 2.

The required objective is safeguard and homogeneity relatives to the general panorama of the site.. However, the established report emphasizes a diversity of a situation that varies from the waste ground, ground floor+1 until cases of ground floor+4 type, with intermediate situations type ground floor+2 and ground floor+3.

Houses shaped like buildings of superposed dwellings, dominated by an extension in height especially when it comes to inhabitants that made their ground floor a workplace.

Such diversity creates a mosaic of houses with forms and different jigs that emphasize the great contrast observed in the establishment's zone.. (Photo 1: Different heights (Subdivision 02) Photo 2: 03 Levels +height, subdivision02)

Photo 3: Different heights (Subdivision 02)
Source: The author (2014)

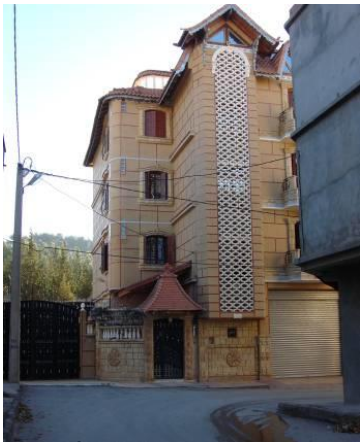


Photo 4: 03 Levels +height (subdivision02)
Source: The author (2014)

DEGREE OF COMPLETION OF HOUSES AND OUTER SPACES

According to the investigation that we carried out, the impact of the degree of completion on the appearance of the built and non built frame, on the perceived quality of dwelling in the subdivision is undeniable.

In the 2nd subdivision we recorded contrasts of dwellings, and paradoxes in the speeches and answers of the inhabitants, in particular of inhabitants of the unfinished dwellings, which estimate that their dwellings are completed, and thus do not plan to undertake work of completion. (Photo 3: Unfinished dwellings, subdivision 2, Photo 4: Achieved house, subdivision 2)

Photo 5: Unachieved houses, Subdivision 2
Source: The author (2014)

Photo 4: Achieved house, Subdivision 2
Source: The author (2014)

We note that the inhabitants of the 1st subdivision with a dominant typology, and low density carry out and plan to carry out works of completion of their even completed dwellings! (Perpetual search of quality through embellishment). The personalization with materials and colors explains the inhabitants' appropriation and appreciation, expressing their wish to entertain and remain (94% wish to remain there). The degree of completion proves to be determining in the perception of quality and the access to residential satisfaction.

FENCES

To constitute a screen of soundproofing, to isolate a residential subdivision from a way with great mechanical traffic and for safety reasons, the inhabitants resort to the heightening of the fences on the boulevard of Scipion (Photo 5: Extra height of fence (baffles and intimacy of the ground floor)

Photo 5: Extra height of fence (Screen)
Source: The author (2014)

In the residential subdivision, the type of fence is supposed to be defined in the specifications, with a height of 2 to 2.20m.

TRANSFORMATIONS OF THE EXTERNAL ASPECT

The transformations related to the appearance of the dwellings with the concerted designs (the totality of questioned in the two subdivision live concerted dwellings) point out the big gap between the conceived and the lived dwelling, accentuated because of a lack of confidence between the architect designer as a guide and the inhabitant user and receiver, who should emerge as an actor in a concerted design process. (6: Constructed garden, subdivision El Imane) (Photo 10: Same Villa under transformation since 2014)

Photo 10: Same Villa under transformation since 2014
Source: The author (2016)

NON-RESIDENTIAL ACTIVITIES

The tradition of creating commercial premises to the ground floor was anchored in the design of the dwelling into the subdivisions, in spite of financial means available to a majority of households, the creation of non residential activities within the subdivision continues.

To restore an order and a harmony, the control institutions could bring solutions to remedy the situation, returning the better life to a more and more demanding population of a quality which for the inhabitants of the subdivision, rhymes with the tranquility and quietude.

PRESENTATION OF THE SURVEY OF HOUSEHOLDS

> *"If the fact of respecting the taste of the inhabitant for the interior space of housing is justified, because it is it's field and a place which relates at the bottom only to itself, it is not true any more for external aesthetics qualities of the building, which interests not only all the users of the city, but also the future generations". (DEVILLERS, 1998)*

To claim with some replies we sorted samples, for their representativenesses, and the feasibility of the research topic. By the means of the method of the sociological elaborated investigation, to collect reliable data of evaluation of quality within the subdivision, to inventory the transformations even infractions, concerning the appearance and lawful aspects, and finally try to clear up the complex relations between the various factors and shed light on the aspirations to which the decision makers and persons in charge of the built framework, must answer.

The sociological investigation that we carried out, questions the inhabitants of the subdivisions study cases, and verifies several factors

PERCEIVED QUALITY

The subdivision residents and particularly the ancient inhabitants do not reject the density but the feeling of density evoking the quality, a notion which expresses a complex, inevitably multidimensional, evolutionary and subjective reality, those of the lot 1 or 2, have more positive answers relating to the appropriation and perception of the density and quality, with differences recorded according to the age, the sex (on the question of intimacy for example the men claim more intimacy in the two subdivisions and the women are more demanding as regards security in the 1st subdivision with low density, with the inanimate streets…, however the higher educational level in the 1st subdivision as well as the predominance of a liberal socio professional category that cares about its social status reflection, equipped with the necessary financial resources of their houses and constructions completion and consequently cares about the global image of the subdivision. (Table 1: Summary of some indicators of perceived quality).

Subdivision/ indicators	Subdivision 1 Sellam	Subdivision 2 El Imane
Seniority in the subdivision (years)	10	7
Educational level of the inhabitants	68 % universitarians	49 % universitarians
Functions	80 % Liberal	80% Public funcion
Monthly income	91% <50000	82 % <50000
Plurifamiliale dwelling	6%	46%
Fences	98%	6%
Non residential activities	8%	40%
External transformations	12%	18%
Vegetation	12%	6%
Lots number	111	110
(Size) Surface subdivision (m ²)	63810	23020,25
Average surface of the lot (m²)	492, 33	220,05
Density (lots/hectare)	22	48
Degree of completion%	96%	68%
Degree of conformity %	88%	82%
Intimacy %	66%	54%
Security %	72%	78%
Perceived quality %	92%	79%

Table 1: Summary of some indicators of the received quality
Source: Data of the survey established by the author

The academic level, and the monthly income or financial resources of the households, the density, the mode of occupation of the lots and the dwellings, its surface and configuration and its appearance completed or unfinished, transformed or not transformed, the intimacy and security of the dwelling with the ground floor particularly, as well as the presence of vegetation in and around the dwelling and the outdoor area… are factors influencing the perception of the quality and the density in the subdivision case of study (Figure 12: Quality perceived in the subdivisions and indicators (%))

CONCLUSION

The urbanization of the Algerian cities is stigmatized by the incompletion of their external aspect. The degree of completion and the aesthetic sustainability are determining factor for upgrading the urban quality that remains perceived differently and specific to each context and groups of people. It constitutes a unit experiment that we should not in any case generalize, just like it is impossible for us to generalize the components of urban quality. Only the identification of the priorities for a given situation would be possible.

In order to implement urban renewal; the singular operations should be planned collectively; derived from the social goals adding to economic feasibility, proposing adequate public buildings and public spaces; upgrading existing infrastructure; and prevention of excluding the existing population in favor of a more affluent population. Urban renewal ought to be part of a strategy of strengthening communities in general, disadvantaged communities in particular, providing practical solutions to be formulated after learning the needs of residents, and in partnership with them.

REFERENCES

BASSARD, Y. et VILLARD M. (2002). "les hauts plateaux sétifiens, leurs histoire des temps immémoriaux à 196, Sétif tome1 " Editions Ateliers des presses littéraires, Saint-Estève.

BOUTABA, H., (2001). Le lotissement légal entre la procédure officielle et la procédure parallèle, cas de la ville de Msila, thèse de magister.

CASTEX, J. & al, (1977). Formes urbaines de l'îlot à la barre, ED Bordas, Paris

CHALINE, C. (2001). "La dynamique urbaine", édition PUF, Paris, 1980."Régénération urbaine". Editions PUF Que sais-je, Paris.

DEHAN, P. (1999). "Qualités architecturales et innovation, Ministère De L'Équipement, Des Transports Et Du Logement.

FOUCHIER, V. (1998). Les densités urbaines et le développement durable ED SGVN, Paris.

JOLY, R. (1974). Les racines historiques du lotissement ED Corda Paris.

L'aménagement des lotissements, recommandations " Ministère de l'habitat de l'urbanisme et de la construction OPU 2005, 118 p

Zuchelli, A. (1984). "Introduction à l'urbanisme opérationnel et à la composition urbaine Vol 3&4 OPU.

THESES

KEHAL, K. (2006). Le Lotissement résidentiel : enjeux urbanistiques et développement urbain durable : Cas de Constantine (entre recherche de la qualité urbanistique et la consommation du foncier), mémoire de magistère.

LACHEHEB, D.Z. (2012). (Densités et qualités d'habitat individuel, entre dispositif réglementaire et aspect extérieur) mémoire de magistère,

LECHEHEB, A. (2007). La problématique des lotissements En tant que fait urbain Entre le dispositif réglementaire et la réalité. Cas de Constantine, mémoire de magistère,

NGUYEN LAN PHUONG, (2006). Densité et Qualité d'habitation au Vietnam, Le cas du quartier Bui Thi Xuan à Hanoi, Mémoire de maitrise en science de l'architecture, Université LAVAL Québec, Canada.

TRACK 02

GREEN AND SUSTAINABILITY: towards learning cities

Chair: José Manuel Simões, Universidade de Lisboa, Portugal

Scientific Committee: Chris Zuidema, University of Groningen, Netherlands
Cristina Castel Branco, Universidade de Lisboa, Portugal
Nicole Gurran, The University of Sidney, Australia
Peter B. Meyer, The E.P. Systems Group, USA

The sustainability paradigm has inspired the emergence of new urbanism movements and the renovation of old ones, where we can find “smart-cities”, smart growth, Eco cities, eco-neighbors, green urbanism; all integrated in a general movement of sustainable development.

These movements share some common principles, namely minimizing traffic delays generated by private auto use, promoting mixed uses and providing close-by services, recovering the neighborhood unit concepts to the present context of mobility and household’s demands. These movements are studied in systemic approaches that rationalize water and energy consumption and minimize CO2 emissions. In this context, urban policies have been gradually integrative, joining objectives to promote a compact urban form with a sustainable settlement and human occupation.

In this track we invite you to discuss these movements terms, but especially as applied, to different contexts (European, North America, South America, China and other), highlighting specific program designs in different urban and environmental policy contexts.

INTEGRATING CLIMATE CHANGE RISK INTO LOCAL GOVERNMENT PLANNING AND DECISION-MAKING: BARRIERS AND STRATEGIES

Session T2.1 | June 1 | 11:00 – 12:30

Hartmut Fünfgeld; Alianne Macarthur; Sophie Turner; Fiona Silke; Sarah Robertson
Centre for Urban Research, School of Global, Urban and Social Studies, RMIT University, AUSTRALIA
hartmut.fuenfgeld@rmit.edu.au

ABSTRACT: Climate change adaptation is a typical multi-level governance challenge that requires coordination and collaboration, vertically across all levels of government and horizontally across agencies. Land use planning is one of the central instruments that can help facilitate such coordination and pave the way for strategic adaptation. In this paper, we examine the extent to which strategic thinking with regard to climate change adaptation is impacting on land use decision making frameworks in flood-prone urban contexts in Victoria, Australia. We provide a detailed analysis of strategic and regulatory planning documents. The research shows that the regulatory planning system is resistant to strategic thinking on climate change adaptation, making it difficult for municipal planners and decision-makers to be proactive.

KEYWORDS: climate change adaptation; land use planning; multi-level governance; strategic urban planning; Australia.

INTRODUCTION

By the end of this century, anthropogenic climate change is projected to result in global mean surface temperature increases of between one and 3.7 degrees Celsius relative to the 1986 to 2005, unless the signatories of the Paris climate agreement commit to more stringent reductions in greenhouse gas emissions (IPCC 2014b: 60). Globally, sea levels have risen by 3.2mm per year between 1993 and 2005 (ibid: 42), and, while singular causal links to climate change are difficult to establish, it is likely that climate change is already resulting in more frequent and more intense extreme weather events around the globe. As the atmosphere continues to warm, climate change impacts will become more pronounced, increasingly affecting human settlements and natural habitats.

Human responses to such rapid changes to the Earth system will need to be targeted, effective and innovative, if harm is to be avoided. In the years to come, climate change adaptation will become critical to minimise social, economic and environmental risks resulting from climate change across socio-ecological systems. Here, the intersection of adaptation and urban and regional planning is paramount, if present-day decision-making is to take into account the likely future climate change impacts and avoid or minimise negative impacts on human and natural systems. Land use planning, in particular, can play a central role in determining the exposure of communities, assets, and infrastructure to the effects of climate change (Hurlimann & March, 2012; IPCC, 2014a) – in particular with regard to coastal climate change risk as a result of sea level rise, for which spatial boundaries can be defined, such coastal and estuary flooding and inundation, salinization of coastal land, and coastal erosion (Abel et al., 2011; Taylor, Harman, & Inman, 2013).

Land use planning provides a set of institutional controls to incorporate sea level rise projections into present day decision-making about future land use. Where land use planning takes climate change into account, it can avoid lock-in through sunken capital; facilitate gradual, early retreat from areas subject to inundation; and allow for landward expansion of coastal conservation zones to protect coastal habitat, for example (Hurlimann & March, 2012). Importantly, land use planning determines where new settlements are built and thus bears the potential to protect people and assets from costly and dangerous climate change impacts.

In this paper, we explore the potential and actual role of land use planning in coastal climate change adaptation at the local government scale. We focus on explaining the institutional context for enabling or constraining local government coastal adaptation, by drawing on empirical and desktop-based research from the state of Victoria. Australia is a case in point when it comes to the need for reducing risks resulting from sea level rise. The coast, and coastal lifestyles, feature prominently in Australian identity and are a source of national pride and identity. Yet much of that coastline is under threat from sea level rise and its localised impacts. In Australia, approximately 85 per cent of the population live within 50 kilometres from the coast (Australian Government 2009: 14). Using 2008 replacement values, a national assessment of financial risks to coastal assets and infrastructure found that between AU$41 and 63 billion worth of residential buildings were at risk from sea level rise, and up to 247,000 buildings were identified as potentially exposed to inundation using a sea-level rise scenario of 1.1 metres (Australian Government 2009: 71)

It has widely been argued that climate change adaptation needs to take place across a range of administrative and geographic scales (Adger, Arnell, & Tompkins, 2005), with the local scale playing a particular role, as this is where impacts will become evident and where customised, context-specific adaptation solutions need to be developed (Measham et al., 2011). In Australia as in many other OECD countries, local government has been leading efforts to assess the risks of, and adapt to, climate change. For almost a decade now, some local governments have invested in adaptation planning, by conducting climate change risk assessments, developing climate change adaptation strategies and plans, and devising decision-support tools to aide local government staff and residents to understand and act in response to identified climate change risks (Nicole Gurran, Norman, & Hamin, 2013; Mukheibir, Kuruppu, Gero, & Herriman, 2013; Webb, McKellar, & Kay, 2013).

While adaptation planning efforts and the organisational capacity to adapt differs significantly across the Australian local government sector, it could be expected that leading local governments would be using the full repertoire of institutional, technological and political mechanisms at their disposal to implement high-level adaptation strategies, e.g. in relation to coastal risk as a result from sea level rise. However, recent reviews of local government progress with adaptation found that much of their efforts remain limited to conducting risk assessments and developing adaptation plans, with actual implementation of adaptation actions only progressing slowly (N Gurran, Norman, Gilbert, & Hamin, 2011; Nicole Gurran et al., 2013).

CLIMATE CHANGE ADAPTATION CALLS FOR MULTI-LEVEL GOVERNANCE

Climate change adaptation as a policy issue cuts right across the functions of government departments and sectoral strategies (Rauken, Mydske, & Winsvold, 2014). Climate change risks, such as sea level rise or increased bushfire risk, not intersects with administrative boundaries, requiring horizontal coordination and collaboration across spatially bound institutions; they also call for vertical integration, across and within institutions (Fisher, 2013; Juhola & Westerhoff, 2011). Vertical and horizontal integration are critical to adaptation success within organisation delivering services as diverse as those of local governments – ranging from providing social services to small children and elderly, to building and maintain local roads and other critical infrastructure (Moloney & Fünfgeld, 2015). The same is true for cooperation across different tiers of government: while it may be most appropriate for adaptation measures to be devised and implemented by local government, such implementation is likely to require strategic direction, a legislative and fiscal framework, and underwriting against higher order financial risks by state/provincial and national governments in order to be effective (Adger et al., 2005).

Vertical integration of adaptation across multiple tiers of government can reduce the 'coordination' burden on local governments, where such coordination is mainly facilitated through voluntary exchange of practices among local government professionals or through external consultants. Ultimately, a lack of vertical integration and horizontal coordination runs the risk of maladaptive outcomes, e.g. situations where local solutions to reducing coastal climate change risks result in aggravated problems elsewhere (e.g. in neighbouring areas), increased greenhouse gas emissions, or disadvantaging of particular population sub-groups (Barnett & O'Neill, 2010; Juhola, Glaas, Linnér, & Neset, 2016).

Adaptation, therefore, constitutes a typical 'wicked problem' that cannot be tackled effectively using fragmented, specialised decision-making (Australian Government, 2007; Head, 2014). Adaptation involves continuously shifting goal posts, multiple stakeholders with often diverging interests, different degrees of scientific uncertainty, and, consequently, necessarily controversial solutions that need to be negotiated in the political realm. Effective and strategic adaptation can only be facilitated as part of a coherent multi-level governance framework (Corfee-Morlot et al., 2009; Hanssen, Mydske, & Dahle, 2013), where government institutions across different tiers of authority develop joint processes of decision-making that involve diverse stakeholders, from the local to the national scale; from individual residents to national peak bodies.

As there is no suitable precedent for how to organise adaptation planning across scales and across institutions, much of the adaptation effort is necessarily a form of 'governance experimentation' (Bos, Brown, & Farrelly, 2013; Castán Broto & Bulkeley, 2013), where new approaches are developed and tested; where formal and informal (social) forms of learning are engendered, and where preliminary 'solutions' are revised and adjusted as part of adaptive management practices that are based on experience and emerging knowledge (Maciver & Dallmeier, 2000). Beyond experimentation, risk management frameworks provide general approaches for responding to known risks that are increasingly applied to climate change risks (Renn & Klinke, 2013).

Within the local, regulatory context, land use planning constitutes a well-established, institutionalised form of spatial decision-making that can play a central role in facilitating coordinated responses to climate change impacts and risks. There is increasing evidence of the successful use of land use planning frameworks and mechanisms to achieve adaptation goals (Biesbroek, Swart, & Van Der Knaap, 2009; Hurlimann & March, 2012), as well as numerous calls for

improving land use planning to avoid future disasters, in particular with respect to developing countries (Birkmann, Garschagen, & Setiadi, 2014; Mitchell, Enemark, & van der Molen, 2015). Australia, as a high-income country with a highly established land use planning system, is well placed to integrate climate change risks into spatial planning regulations and practice.

CLIMATE CHANGE ADAPTATION PLANNING AND DECISION-MAKING IN AUSTRALIA

Parts of Australia, such as the Great Barrier Reef in Queensland and Southeastern Australia with its high risk of bushfires and drought, have been considered global climate change 'hot spots', requiring urgent attention if human, ecological and financial losses are to be avoided . Australia as a nation is highly exposed to the risk of climate change, with range from an increase in extreme weather events such as bushfires, flash floods and dust storms, to the loss of biodiversity through coral bleaching in the Great Barrier Reef and existential threats to farming communities in all mainland states as a result of prolonged drought and changing rainfall patterns.

Despite such significant exposure to climate change risks, Australia is well placed to tackle climate change in a proactive and coordinated manner. Its inherent adaptive capacity, i.e. the aggregate capability to plan for and respond to climate change impacts, is considered to be very high, with efficient institutions in place to coordinate adaptation planning and action.

Given the exposure of Australian socio-ecological systems to climate change, it is not surprising that adaptation has received significant political attention and, to varying degrees in recent years, bipartisan support from its national and state governments. Initial efforts to facilitate local government adaptation planning date back to 2006, when the Australian Government published a guide on climate change risk management for business and government (Australian Government & Australian Greenhouse Office, 2006), followed by a funded program called Local Adaptation Pathways, which enabled a total of 90 local governments to assess climate change risks and develop high-level adaptation responses at the local and regional scale (Kennedy, Stocker, & Burke, 2010). To counter a lack of knowledge on climate change impacts on different sectors, the Australian Government funded the National Climate Change Adaptation Research Facility (NCCARF) with AU$47 million in 2008 and AU$9 in 2014, a network of seven universities that aims at providing stakeholder-driven adaptation research across multiple disciplines and sectors (Australian Government, 2016; Burton & Mustelin, 2013). Some states followed suit and invested into their own research centres (e.g. the Victorian Centre for Climate Change Adaptation Research), clearinghouses for local government strategies and actions on adaptation (as in the case of Western Australia), or state-wide assessment of climate change risk and vulnerability (e.g. in South Australia).

By international comparison, Australian efforts to 'make sense' of climate change adaptation at the local scale to date can be considered among the leading examples of government action on adaptation – although many of these activities have come to an end or have been reframed and reduced in scope and magnitude in recent years, as governments and their priorities have changed. Despite these substantial investments, however, adaptation policy making has lagged behind. As a result, much innovative action in adaptation planning and implementation has had to take place in a policy and regulatory context where the division of responsibilities for adaptation across different tiers of government has been unresolved and local government adaptation subject to contestation and appeal. Efforts at national government level to provide a policy framework for adaptation have largely been limited to funding adaptation initiatives on a project-by-project basis, investing in climate science and other types of climate change research, and attempting to develop sector-based guidelines and auxiliary information for adaptation, e.g. a draft but never completed 'Adaptation Outlook', a proposed national adaptation assessment framework (Department of Industry, Innovation, Climate Change, Science, Tertiary Education, & DIICSERTI, 2013). In 2011, the Australian Government requested the Productivity Commission, the country's major watch dog of national economic prospects and constraints, to conduct a review of the barriers and enablers to climate change adaptation. The Productivity Commission concluded that the role for Australian governments in climate change adaptation was limited to specific areas, including designing more flexible land-use planning regulation and better aligning land-use planning with building regulation (Australian Government, 2012). Overall, the final report recommended that 'governments at all levels should embed consideration of climate change in their risk management practices' and assume its oversight role by 'ensure[ing] there is sufficient flexibility in regulatory and policy settings to allow households, businesses and communities to manage the risks of climate change' (ibid: 2).

URBAN LAND USE PLANNING CHANGES AND CLIMATE CHANGE ADAPTATION IN VICTORIA

Some state governments have been more proactive in setting adaptation policy. Victoria is Australia's most densely populated state and with a total of 6 million people its second most populous. Victoria faces significant climate change risks from sea level rise, changes to rainfall patterns and extreme weather events, in particular heatwaves and bushfires. Coastal inundation and erosion are key concerns along its coastline that spans 2,512 kilometres, especially

in the densely populated urban and suburban areas of Port Philipp Bay and in low-lying areas of significant natural or economic value, such as parts of Gippsland in the east of the state.

REGULATORY FRAMEWORK FOR CONSIDERING CLIMATE CHANGE

Like some other states, Victoria introduced coastal hazards guidelines in 2009, that determined that 80 centimetres of sea level rise by 2100 needed to be factored into all decision-making affecting the coastal zone; other states adopted similar guidelines. In 2010, Victoria also legislated a Climate Change Act (Victorian Government, 2010), which required the state government to develop and revise a state-wide adaptation plan every three years that was to guide adaptation efforts across Victoria.

Apart from the coastal hazard guideline, however, land use planning policy and processes in Victoria remained largely unaffected by the provisions of the Act. Most actual decisions regarding land use and development approvals are made at local government level with reference to local planning schemes, which set the detailed use and development assessment framework. While for the most part administered at local government level, the format and much of the content of these schemes is prescribed by the Victorian state government. The state government also retains a final right of veto over any localised content local government seeks to introduce to its scheme. The state-mandated planning scheme content includes a central repository of policy guidance, the State Planning Policy Framework (SPPF), which should be taken into account in all land-use decisions. It is through the SPPF that other statements of policy, such as the Victorian Coastal Strategy (State of Victoria, 2008, 2014), are to be drawn upon in planning decision-making.

In practice, then, the extent to which the SPPF both reflects the issue of climate change, and gives specific direction as to how to resolve it, is crucial to determining on-the-ground-outcomes. This structure therefore creates a complex interplay across levels of government. Local government must administer the scheme in day-to-day decision-making and are responsible for localised strategic planning. Yet that local strategic work must reflect a state level policy framework, and the state government must approve all local planning scheme content.

The Victorian planning system includes a further player in the form of the Victorian Civil and Administrative Tribunal (VCAT), a government-funded, independent dispute resolution tribunal established under the Victorian Civil and Administrative Tribunal Act 1998. This acts as a review body to hear disputes in relation to planning decisions from both permit applicants and objectors to proposals. In theory VCAT's role is purely related to case-by-case review; its decisions do not formally set policy, or have the precedential status of a common law court of record. In practice, however, it represents the usual endpoint of a planning dispute and its decisions therefore assume considerable persuasive value. In situations where there is either ambiguity over policy direction, or an absence of policy direction, VCAT decisions assume considerable importance in guiding decision-making. This has meant VCAT has played an important role in determining actual responses to issues of climate change-related coastal inundation.

LAND USE BASED ADAPTATION IN PRACTICE

The Victorian experience highlights the importance of resolving high-level policy statements into detailed guidance as to how to resolve policy dilemmas at the level of individual planning applications. The 2008 Victorian Coastal Strategy stated that it was policy to plan for sea level rise of not less than 0.8 metres by 2100, and that new development should be "located and designed so that it can be appropriately protected from climate change's risks" (State of Victoria, 2008). This was subsequently reflected in the SPPF (through amendment VC52 in December 2008) which incorporated this wording into the SPPF at clause 15.08-2 of all Victorian planning schemes. Yet neither the Strategy nor the SPPF were very clear how this should be done. The strategy noted that "it is important to provide clear consistent direction for planning and managing the use and development of coastal, marine and estuarine environments in a way that is environmentally sustainable," but the identified policy and actions related primarily to ensuring that the strategy was reflected in schemes, rather than providing any such "clear consistent direction" (State of Victoria, 2008). This created an element of circularity: the SPPF promptly reflected the Strategy, but having done so, the specific actions invoked did not progress far beyond creating that cross reference. Absent from the Strategy's guidance was a sense of what further detail the SPPF might need to add by way of resolved land-use planning strategy; and absent from the SPPF content was any guidance as to how local councils might then proceed to resolve issues in their local area. This failure to create the intended cascading of policy from high-level state policy (the Coastal Strategy), to resolved state-level planning land-use planning policy (the SPPF), to detailed local resolution (local provisions of planning schemes) meant considerable uncertainty developed around the practical application of the direction to plan for 0.8m sea-level rise.

The implications were relatively straightforward in the case of a large residential subdivision of low-lying land, where it was clear the initial assessment should involve a vulnerability assessment to determine whether the land was suitable for the development. However the approach that should be taken in other situations was much less clear. In particular,

concern quickly arose as to the appropriate approach to small-scale infill development and subdivision applications in established townships. During 2009 VCAT issued several decisions relating to smaller developments (notably Myers v South Gippsland SC [2009] VCAT 1022, Owen v Casey CC [2009] VCAT 1946, and Ronchi & Anor v Wellington SC [2009] VCAT 1206) that wrestled with whether the direction in Strategy should prevent individual developments from proceeding, and the extent to which a detailed coastal hazard vulnerability assessment was an excessively onerous requirement for individual landowners. In the absence of further detail in the SPPF these questions were largely left for VCAT to resolve, and in the abovementioned cases VCAT was not willing to approve small-scale development without vulnerability assessments being taken. This in turn shifted the burden of detailed resolution of the implications of the Strategy's direction about planning for 0.8m sea-level rise to individual landowners to undertake on a site-by-site basis. This approach raised concerns regarding fairness and equity, especially given a great deal of development could occur without planning permission, in which case no such assessment was required. However, of broader concern is the issue of the efficacy of this policy response. Is such site-by-site strategic assessment an adequate response to a global issue that has implications for strategic planning across entire regions?

The state government responded to this sequence of decisions by appointing an Advisory Committee to provide advice about the planning framework's response to climate change in coastal areas. The Committee's report was completed in December 2010 and made a series of recommendations, including: the creation of new planning tools specifically to address climate change; that state government support strategic work to review development capacity in settled areas and adjust settlement boundaries if needed; that vulnerability assessments not be required for small-scale infill development; and that planners adopt a staggered approach to sea-level rise in decision making (Wimbush et al. 2010: 150–5). The latter point responded to what the Committee considered the "biggest issue" in preparing a land-use planning response: the rate at which planning responses should occur, and the difficulty of making iterative planning decisions in responding to a planning dilemma characterised by progressive change over long time periods (Wimbush et al., 2010). The Committee noted that the approach of preventing development that might be affected by a 0.8m rise in sea levels would likely unreasonably constrain development; and yet simply allowing a "business as usual" approach would increase risk for development constructed in the interim and jeopardise a sound strategic planning response. The Committee therefore recommended that planning take into account a shifting benchmark of 0.2m by 2040, 0.5m by 2070, and the existing 0.8m by 2100. In light of more recently available, updated projections, the recommendation for 2100 is conservative, and applying an upper bound of 1.3 metres of sea level rise by 2100, as adopted in the Dutch Delta Programme, seems to be more appropriate (IPCC 2014a: 369).

The Committee's report was publicly released in June 2012 alongside a response from the state government (State of Victoria, 2012). This largely rejected calls for new planning tools, arguing that existing tools were sufficient to facilitate a response. It acknowledged the need for ongoing strategic work to investigate impacts climate change adaptation. The key change to state planning policy that was implemented, however, was a partial adoption of the staggered planning target recommended by the Committee. This was implemented in July 2012 by amendment VC94, which allowed adoption of the 0.2m by 2040 benchmark alongside the retention of the 0.8m by 2100 figure. The 0.5m by 2070 figure benchmark was not adopted, however. The use of only two of the three recommended benchmarks can be explained by the way they were deployed, with the 0.2m figure helping to resolve the issues that had been raised by VCAT. The revised SPPF now explains the application of these benchmarks at clause 13.01-1 of schemes as follows:

> *In planning for possible sea level rise, an increase of 0.2 metres over current 1 in 100 year flood levels by 2040 may be used for new development in close proximity to existing development (urban infill)… For new greenfield development outside of town boundaries, plan for not less than 0.8 metre sea level rise by 2100.*

In development applications this has meant that the infill developments that had previously troubled VCAT could instead be approved with relatively straightforward adaptation measures such as raised floor levels. These revised benchmarks were affirmed when the Victorian Coastal Strategy was refreshed in 2014 (State of Victoria, 2014) and remains in effect through the SPPF as of writing.

The 0.2m benchmark may have found favour over the medium-term 0.5m figure because it allowed for a relatively low impact response while avoiding any overt contradiction of the Advisory Committee's recommendations. The state government had changed in late 2010 from the centre-left Labor government that had appointed the Advisory Committee, to the conservative Liberal-National coalition. Planning Minister Matthew Guy emphasised the "business as usual" aspect of the proposed response in a media release at the time of release (Victorian Government, 2012). Headed 'Coastal planning that's common sense', it noted in part:

> *'The release of this report and my response to it will clear up much of the uncertainty associated with coastal planning across regional Victoria and reinstitute coastal planning policy that is based on common sense… Regional Victoria bore the brunt of much of the previous Labor government's*

costal planning paralysis with moratoriums and extreme controls which locked many towns out of being able to grow sensibly' (Victorian Government 2012: n.p.).

BARRIERS TO STRATEGIC ADAPTATION

While it is true that the Advisory Committee did not support the continuation of the approach of requiring individual vulnerability assessments in developed areas, the omission of the interim target mean that the state government strategic response could continue to forestall more detailed strategic work or more assertive planning intervention. These actions came in a context where the major parties in Australia (but especially the conservative parties) were reluctant to embrace the need for climate change responses. The same Liberal-National coalition government, for example, would later have most of an Advisory Committee resign after changes to a draft metropolitan strategy for Melbourne, which included removal of references to the planning challenges associated with climate change (Dow, 2013; Lucas, 2014).

Given that in most cases the 0.2m target can be accommodated by simple design changes, its use in planning decision-making may actually deflect the need for more profound long-term strategic decision-making. Certainly the pressure that built from VCAT decisions through 2009 has eased, partly reflecting increased policy certainty, but also that the response to the Coastal Strategy has been resolved in a way that does not require strong intervention in current development patterns. There are still some ambiguities leading to continued VCAT scrutiny, however. For example in Lake Park Holdings Pty Ltd v East Gippsland SC [2014] VCAT 1449 the Tribunal raised the issue of whether a 77 lot subdivision within a town boundary should respond to the 0.2m or 0.8m benchmark. The very existence of sites able to accommodate relatively large-scale subdivision on low-lying land within town boundaries highlights the need for more fundamental strategic planning work at a regional scale. The preoccupation with benchmarks for individual developments has distracted from these large-scale adaptation challenges. Despite their refresh in 2014, the Coastal Strategy and SPPF still do not provide any detailed guidance as to how state and local government should implement this more detailed spatial planning through planning schemes.

There has only been one amendment to a local planning scheme; which has tried to more specifically implement concern for the impacts of climate change on coastal flooding and sea level rise since the adoption of the state wide amendment VC94 in 2012. The Shire of South Gippsland, located on the Victorian coast to the east of Melbourne, recently introduced Amendment C81 in March 2016 which applies an overlay to planning scheme maps to indicate areas where flood risk might affect potential buildings. This overlay is based on mapping that takes into account a rise of 0.8 by 2100. Prior to its introduction there was nothing to identify areas at risk from rising sea levels and as a consequence the potential impact of rising sea levels due to climate change were not considered in planning permit applications and land could be bought and sold without identification of the risks (State of Victoria 2016: 3).

This is still likely to be the case in many other coastal areas. The state wide SPPF amendment instructs councils to consider sea level rise in making decisions, but without mapping and the application of an overlay to identify which land is vulnerable, this is not likely to be possible. The overlay now applied through the South Gippsland amendment is known as an LSIO – a Land Subject to Inundation Overlay – and what it effectively means is that a permit is now required to build in the area unless the proposed building is 3.4 metres above sea level. In other words, if the land is 2 metres above sea level a building must be 1.4 metres above the ground to avoid the necessity of seeking a planning permit. The LSIO doesn't actually ban buildings in the flood prone area, nor does it ban buildings that are too close to the ground within that area. The LSIO merely stipulates that a permit is required, which then requires council officers to consider the application with reference to the scheme. The LSIO leaves open the option for a proponent to make a case why their lower development might be appropriate and not in conflict with the requirement to consider sea level rises.

This local amendment, which is clearly implementing the state government policy expressed in the state-wide amendment to the SPPF, provides a good example of the final impact that climate change consideration, with regard to flooding and inundation, is currently having on land use planning in Victoria. It could be argued that while this is obviously an improvement the altered SPPF does not constitute the type of strong and strategic action required to avoid future costs and maladaptation. It doesn't prohibit building in areas that might be affected by sea level rise, it simply asks for them to be built further off the ground – which can be described as a classic case of maladaptation that turns the precautionary principle on its head, e.g. if climate change results in greater than expected sea level rise or coastal erosion rates accelerate.

DISCUSSION: WEAK CONSIDERATION OF CLIMATE CHANGE IN LAND USE PLANNING

There are two evident reasons why the described changes to the land use planning system in Victoria don't appear to be taking the threat of climate change impacts as seriously as they might. Firstly, the political acceptance of climate change has been late and begrudging in Australia, and in fact is still absent in some areas. For example, the current Deputy Prime Minister of Australia Mr Barnaby Joyce, leader of the National Party which traditionally represents rural people and areas, was quoted in the media in May 2016 as remarking that the current drought in his part of rural Australia was making him wonder if perhaps climate change might be real after all (Robson, 2016). Joyce has been a long term and proud sceptic who in 2012 called climate change "an indulgent and irrelevant debate because, even if climate change turns out to exist some day, we will have absolutely no impact on it whatsoever" (Robson 2016: 6).

His views mirrored those of the previous Prime Minister, Mr Tony Abbott, who has since been replaced by Mr Malcolm Turnbull. Turnbull previously indicated a commitment to climate change action but is now leader of the conservative coalition and somewhat constrained in what he can do. In the absence of political leadership at the national level, consideration of climate change continues to be regarded as optional rather than essential in many areas of public policy, even in geographic areas where local and state-level institutions are already confronted with the impacts of sea-level rise, more intense bushfires and prolonged droughts.

The second explanation for the rather weak response to climate change consideration within Victorian land use planning is that the system itself is not particularly strong or robust. Planning in Australia has been particularly affected by neoliberal thought and consequent system reform (Gleeson & Low, 2000; Ruming, Gurran, Maginn, & Goodman, 2014). It is characterised by the necessity to be flexible, and consideration of its role, at both national and state levels as being dominated by economic priorities and development facilitation (Australian Productivity Commission, 2010; Nicole Gurran & Ruming, 2015). The decision to simply require a permit, rather than ban, development likely to be eventually affected by flooding, is completely in keeping with a permissive and discretionary system which favours flexibility (Buxton & Goodman, 2014). Furthermore, the Victorian planning system, known as the Victoria Planning Provisions, are consistently worded in a language designed to be flexible and outcomes-orientated, rather than regulatory. As a consequence many developers find it hard to interpret and easy to ignore (Goodman, Buxton, Chhetri, Taylor, & Wood, 2010).

CONCLUSIONS

The case of land use planning in Victoria has highlighted a number of important challenges that can emerge when adjusting public policy to take climate change considerations into account.

Firstly, developing an institutional structure that is vertically integrated and coherent in direction takes time and is far from straightforward – even, or perhaps in particular, in well-established planning systems that form part of institutionally advanced governance arrangements. Where higher levels of government assume their power and responsibility to provide guidance, as in the case of considering sea level rise in development planning in Victoria, initial guidance tends to focus on establishing what needs to be done, rather than how it can be implemented in local contexts. For adaptation planning to become embedded as a coherent set of practices, however, it is imperative that guidance extends to how policy directions are to be applied and to increase consistency across administrative boundaries, to allow for strategic decision-making that assumes a long-term perspective. More concrete guidance on how to interpret planning frameworks at the local scale will necessarily need to remain flexible – and to some degree, this will always be a balancing act: how can state government, for example, provide guidance that reaches down to the application and implementation levels of decision-making, without risking of being too prescriptive and limiting with regard to the adaptation options that it allows for? Here, local government runs the risk of trading off its responsibility for long-terms strategic planning, handed down from state government, with 'flexible' decision-making that might favour short terms interests of investments into the local economy, e.g. in cases where individual strategic adaptation decisions about new developments are effectively left to planning officers who decide on granting approvals on a case-by-case basis, in the absence of coherent strategic guidance.

Secondly, and connected to the previous point, adaptation planning and decision-making is highly political, because, if considered appropriately and strategically, it challenges existing paradigms of permissive and discretionary decision-making with respect to land use planning. With regard to coastal development in the context of sea level rise and its impacts, robust adaptation planning inherently calls for restriction of land use, government intervention and precautionary decision-making – policy virtues that are diametrically opposed to a neoliberal agenda. Therefore, climate change adaptation highlights that seemingly high levels of adaptive capacity due to mature and well-established land use planning governance cannot be equated with an automatic translation into robust adaptation outcomes. Apart from the local political and administrative filters that influence any local land use planning decision, the planning system in Victoria itself acts as a systemic barrier to strategic, land-use based adaptation to sea level

rise, because it displays a strong reluctance to regulate and limit land use options, evidenced by, for example, the Victorian Planning Minister's 2012 media release.

Given that the likely range of global sea-level rise for 2046-65 is 0.17 to 0.32 metres under the most optimistic RCP2.6 low emissions scenario (modelling strong global action to reduce greenhouse gas emissions) and 0.22 to 0.38 metres under the highest emissions scenario RCP8.5 relative to the 1986-2005 period(IPCC 2014c: 60), the revised SPPF benchmark and newly introduced time horizon of 0.2 metres of sea level rise by 2040 is optimistic. This is concerning because, as a clear benchmark, it has indeed managed to reduce decision-making uncertainty and reduced the number of planning decisions going to VCAT; however, at the same time, it has made it quasi impossible for local government to be proactive and apply more conservative decision-making that adopts the upper envelope of projected sea level rise as a standard, e.g. 0.30 metres by 2040.

From a sustainability and strategic planning point of view, such nuances can have a profound impact in years to come: allowing houses to be built in areas that may get regularly inundated within two or three decades of being built places a significant risk onto immediate future generations, who will have to pay for the costs of poor political leadership and non-interventionist policy making. As the case study of the Victorian land use planning system has shown, land use planning is far from being used to facilitate strategic adaptation in the coastal zone – despite increasing bipartisan support for climate change adaption. Lack of political leadership and institutional inertia will continue to uphold a planning system that favours granting approvals for forms of land use that may prove to have been gross decision-making failures.

REFERENCES

Abel, N., Gorddard, R., Harman, B., Leitch, A., Langridge, J., Ryan, A., & Heyenga, S. (2011). Sea level rise, coastal development and planned retreat: analytical framework, governance principles and an Australian case study. Environmental Science & Policy, 14(3), 279–288. http://doi.org/10.1016/j.envsci.2010.12.002

Adger, N. W., Arnell, N. W., & Tompkins, E. L. (2005). Successful adaptation to climate change across scales. Global Environmental Change Part A, 15(2), 77–86. http://doi.org/10.1016/j.gloenvcha.2004.12.005

Australian Government. (2007). Tackling Wicked Problems: A Public Policy Perspective. (Australian Public Service Commission, Ed.). Canberra: Commonwealth of Australia.

Australian Government. (2009). Climate Change Risks to Australia's Coast: A First Pass National Assessment. Canberra: Department of Climate Change.

Australian Government. (2012). Barriers to Effective Climate Change Adaptation, Report No. 59, Final Inquiry Report. Canberra. Retrieved from http://www.pc.gov.au/__data/assets/pdf_file/0008/119663/climate-change-adaptation.pdf

Australian Government. (2016). National Climate Change Adaptation Research Facility. Retrieved May 30, 2016, from https://www.environment.gov.au/climate-change/adaptation/climate-change-adaptation-program/research-facility

Australian Government, & Australian Greenhouse Office. (2006). Climate change impacts and risk management: a guide for business and government. Canberra. Retrieved from http://www.climatechange.gov.au/what-you-can-do/local-government/~/media/publications/local-govt/risk-management.pdf

Australian Productivity Commission. (2010). Performance Benchmarking of Australian Business Regulation : Occupational Health & Safety Productivity Commission (Vol. 1). Canberra: Australian Government Productivity Commission. Retrieved from http://www.pc.gov.au/inquiries/completed/regulation-benchmarking-food-safety/report/food-safety-report.pdf

Barnett, J., & O'Neill, S. (2010). Maladaptation. Global Environmental Change, 20, 211–213.

Biesbroek, G. R., Swart, R. J., & Van Der Knaap, W. G. M. (2009). The mitigation–adaptation dichotomy and the role of spatial planning. Habitat International, 33(3), 230–237. http://doi.org/10.1016/j.habitatint.2008.10.001

Birkmann, J., Garschagen, M., & Setiadi, N. (2014). New challenges for adaptive urban governance in highly dynamic environments: Revisiting planning systems and tools for adaptive and strategic planning. Urban Climate, 7, 115–133. http://doi.org/10.1016/j.uclim.2014.01.006

Bos, J. J., Brown, R. R., & Farrelly, M. A. (2013). A design framework for creating social learning situations. Global Environmental Change, 23(2), 398–412. Retrieved from http://www.sciencedirect.com/science/article/pii/S0959378012001434

Burton, P., & Mustelin, J. (2013). Planning for Climate Change: Is Greater Public Participation the Key to Success? Urban Policy and Research, 31(4), 399–415. http://doi.org/10.1080/08111146.2013.778196

Buxton, M., & Goodman, R. (2014). The impact of planning "reform" on the Victorian land use planning system. Australian Planner, 51(2), 132–140. http://doi.org/10.1080/07293682.2014.892866

Castán Broto, V., & Bulkeley, H. (2013). A survey of urban climate change experiments in 100 cities. Global Environmental Change, 23(1), 92–102. Retrieved from http://www.sciencedirect.com/science/article/pii/S0959378012000891

Corfee-Morlot, J., Kamal-Chaoui, L., Donovan, M. G., Cochran, I., Robert, A., & Teasdale, P. J. (2009). Cities , Climate Change and Multilevel Governance (OECD Environmental Working Papers No. 14). OECD Environmental Working Papers. Paris. Retrieved from http://www.oecd.org/governance/regional-policy/44232263.pdf

Department of Industry, Innovation, Climate Change, Science, R. and, Tertiary Education, & DIICSERTI. (2013). Climate Adaptation Outlook: A Proposed National Adaptation Assessment Framework. Canberra. Retrieved from http://www.preventionweb.net/english/professional/publications/v.php?id=33806&a=email&utm_source=pw_email

Dow, A. (2013, December). State planning panel quits in protest. The Age.

Fisher, D. R. (2013). Understanding the relationship between subnational and national climate change politics in the United States: toward a theory of boomerang federalism. Environment and Planning C: Government and Policy, 31(5), 769–784. Retrieved from http://www.envplan.com/abstract.cgi?id=c11186

Gleeson, B., & Low, N. (2000). "Unfinished Business": Neoliberal Planning Reform in Australia. Urban Policy and Research, 18(1), 7–28. http://doi.org/10.1080/08111140008727821

Goodman, R., Buxton, M., Chhetri, P., Taylor, E., & Wood, G. (2010). Planning and the characteristics of housing supply in Melbourne. AHURI Final Report.

Gurran, N., Norman, B., Gilbert, C., & Hamin, E. (2011). Planning for climate change adaptation in Coastal Australia: State of practice. Design. Sydney. Retrieved from http://www.seachangetaskforce.org.au/Publications/Planning for climate change in coastal Australia State of Practice.pdf

Gurran, N., Norman, B., & Hamin, E. (2013). Climate change adaptation in coastal Australia: An audit of planning practice. Ocean & Coastal Management, 86, 100–109. Retrieved from http://www.sciencedirect.com/science/article/pii/S0964569112002955

Gurran, N., & Ruming, K. (2015). Less planning, more development? Housing and urban reform discourses in Australia. Journal of Economic Policy Reform, 1–19. http://doi.org/10.1080/17487870.2015.1065184

Hanssen, G. S., Mydske, P. K., & Dahle, E. (2013). Multi-level coordination of climate change adaptation: by national hierarchical steering or by regional network governance? Local Environment, 18(8), 869–887. http://doi.org/10.1080/13549839.2012.738657

Head, B. W. (2014). Evidence, uncertainty, and wicked problems in climate change decision making in Australia. Environment and Planning C: Government and Policy, 32(4), 663–679. http://doi.org/10.1068/c1240

Hurlimann, A. C., & March, A. P. (2012). The role of spatial planning in adapting to climate change. Wiley Interdisciplinary Reviews: Climate Change, 3(5), 477–488. Retrieved from http://dx.doi.org/10.1002/wcc.183

IPCC. (2014a). Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

IPCC. (2014b). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. Geneva: Intergovernmental Panel on Climate Change.

IPCC. (2014c). Summary for Policymakers. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team,

R.K. Pachauri and L.A. Meyer (eds.)]. Geneva: Intergovernmental Panel on Climate Change (IPCC). http://doi.org/10.1017/CBO9781107415324

Juhola, S., Glaas, E., Linnér, B.-O., & Neset, T.-S. (2016). Redefining maladaptation. Environmental Science & Policy, 55, 135–140. http://doi.org/10.1016/j.envsci.2015.09.014

Juhola, S., & Westerhoff, L. (2011). Challenges of adaptation to climate change across multiple scales: a case study of network governance in two European countries. Environmental Science & Policy, 14(3), 239–247. http://doi.org/10.1016/j.envsci.2010.12.006

Kennedy, D., Stocker, L., & Burke, G. (2010). Australian local government action on climate change adaptation: some critical reflections to assist decision-making. Local Environment: The International Journal of Justice and Sustainability, 15(9), 805–816. http://doi.org/10.1080/13549839.2010.514602

Lucas, C. (2014, November). 40-year plan for Melbourne watered down. The Age.

Maciver, D. C., & Dallmeier, F. (2000). Adaptation to Climate Change and Variability: Adaptive Management. Environmental Monitoring and Assessment, 61(1), 1–8. http://doi.org/10.1023/a:1006308512816

Measham, T. G., Preston, B. L., Smith, T. F., Brooke, C., Gorddard, R., Withycombe, G., & Morrison, C. (2011). Adapting to climate change through local municipal planning: barriers and challenges. Mitigation and Adaptation Strategies for Global Change, 16(8), 1–21. http://doi.org/10.1007/s11027-011-9301-2

Mitchell, D., Enemark, S., & van der Molen, P. (2015). Climate resilient urban development: Why responsible land governance is important. Land Use Policy, 48, 190–198. http://doi.org/10.1016/j.landusepol.2015.05.026

Moloney, S., & Fünfgeld, H. (2015). Emergent processes of adaptive capacity building: Local government climate change alliances and networks in Melbourne. Urban Climate, 14, 30–40. http://doi.org/10.1016/j.uclim.2015.06.009

Mukheibir, P., Kuruppu, N., Gero, A., & Herriman, J. (2013). Overcoming cross-scale challenges to climate change adaptation for local government: a focus on Australia. Climatic Change, 121(2), 271–283. http://doi.org/10.1007/s10584-013-0880-7

Rauken, T., Mydske, P. K., & Winsvold, M. (2014). Mainstreaming climate change adaptation at the local level. Local Environment, 1–16. http://doi.org/10.1080/13549839.2014.880412

Renn, O., & Klinke, A. (2013). A Framework of Adaptive Risk Governance for Urban Planning. Sustainability, 5(5), 2036–2059. http://doi.org/10.3390/su5052036

Robson, F. (2016, May 21). A Sceptic Faces the Reality of Climate Change. The Age. Melbourne.

Ruming, K. J., Gurran, N., Maginn, P. J., & Goodman, R. (2014). A national planning agenda? Unpacking the influence of federal urban policy on state planning reform. Australian Planner, 51(2), 108–121. http://doi.org/10.1080/07293682.2014.894105

State of Victoria. (2008). Victorian Coastal Strategy. Melbourne: State of Victoria / Victorian Coastal Council.

State of Victoria. (2012, June). Coastal Climate Change Advisory Committee: Response from the Minister for Planning. Melbourne: Victorian Government.

State of Victoria. (2014). Victorian Coastal Strategy 2014. Melbourne: State of Victoria / Victorian Coastal Council.

State of Victoria. (2016). South Gippsland Planning Scheme Amendment C81 Land Subject to Inundation Overlay. Melbourne: Planning Panels Victoria. Retrieved from http://dsewebapps.dse.vic.gov.au/Shared/ats.nsf/(attachmentopen)/7D98E5C7615FA9DCCA257FA20078C646/$File/South+Gippsland+C81+Panel+Report.pdf

Taylor, B. M., Harman, B. P., & Inman, M. (2013). Scaling-Up, Scaling-Down, and Scaling-Out: Local Planning Strategies for Sea-Level Rise in New South Wales, Australia. Geographical Research, 51(3), 292–303. http://doi.org/10.1111/1745-5871.12011

Victorian Government. (2010). Climate Change Act 2010. Change. Melbourne: Victorian Government. Retrieved from http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubLawToday.nsf/95c43dd4eac71a68ca256dde00056e7b/5c0e606e76b324c7ca25796d0014de79!OpenDocument

Victorian Government. (2012, June 5). Media Release: Coastal planning that's commonsense. Melbourne: Victorian Government. Retrieved from http://www.aeol.com.au/databases/news/vic_coastal_planning_thats_commonsense.htm?zoom_highlight=sustainable+communities+conferences

Webb, R. J., McKellar, R., & Kay, R. (2013). Climate change adaptation in Australia: experience, challenges and capability development. Australasian Journal of Environmental Management, 20(4), 320–337. http://doi.org/10.1080/14486563.2013.835285

Wimbush, N., Harty, C., Martin, H., & Wilson, C. (2010, December). Coastal Climate Change Advisory Committee: Final Report - Volume 1. Victorian Government.

ANALYSIS OF URBAN AGRICULTURE FOR LAND USE PLANNING IN ALMADA, PT

Session T2.3 | June 1 | 14:00 – 15:30

Caitlin E. Pohle
CULS and ULISBOA, PORTUGAL
caitlin.pohle@yahoo.com

ABSTRACT: The aim of this study is to develop and test a methodology for identifying, mapping and evaluating the extent of agricultural land use and forms of urban agriculture (UA) within a set urban boundary. The case study set in Almada, Portugal is part of a larger comparative study which seeks to define and analyze urban and peri-urban agriculture and its impacts. It incorporates semi-automated land use identification techniques with manual techniques using visual indicators in high resolution aerial imagery with ArcGIS to identify and measure agricultural land use including residential gardens, vacant lot gardens, horticultural parks/ allotment gardens, urban/ peri-urban farms, and in some cases rooftop or other "makeshift" gardens. Qualitative interview methods are used to gain a deeper understanding of the impacts and scale of the agriculture. Site visits and personal interviews with stakeholders identify trends in UA typologies, challenges and conflicts with land use, and contribute to the assessment of impacts on the local food chain, community wellness and the local economy. The resulting land use maps can be compared to zoning maps, demographic maps, soil data maps, and other maps containing relevant environmental and socio-economic data for the evaluation of impacts on the local environment and community.

The results of the Almada case study reveal over 521 agricultural sites covering 5.2 sq km, or approximately 7.4%, of land in the Almada municipality. Based on Almada municipal zoning, only 25% of the identified agricultural land use lies on land zoned for agriculture, and approximately 50% is on land zoned for metropolitan equipment and infrastructure. Additionally, conflicts of land tenure were revealed as none of the interviewed farmers had tenure agreements for the land they were using. The municipality confirmed that this is a common occurrence, as property remains vacant during an economic crisis. Documentation and management of this phenomenon is difficult however as there is no land cadastre system. The identification and analysis of agricultural land use; especially in areas such as Almada, is the first step to planning and managing UA for sustainable cities. Project outputs will increase awareness of UA and provide valuable information which can be used to improve land management practices, assist in municipal planning and influence zoning decisions.

KEYWORDS: land use planning; urban agriculture; methods of analysis; sustainable development.

INTRODUCTION

Cities have become globalized hubs of commerce, communication and cultural exchange; thriving hosts providing access to a diversity of goods, services, employment opportunities and housing, all within a dense commutable area. It is understandable that the world's population is increasingly flocking toward urbanized areas. Urban growth is partnered by urban sprawl which threatens the surrounding lands and natural areas. Urban development and expansion is at a rate twice as fast as the increase of urban populations (Seto et. al, 2014). According to the IPCC, there is robust evidence that "the expected increase in urban land cover during the first three decades of the 21st

century will be greater than the cumulative urban expansion in all of human history" (927). This influx however causes a chain reaction, resulting in increased development, changes in land use and increased pressure on local resources resulting in dependence on food imports and causing damage to the natural environmental systems, making most urban areas highly unsustainable. There is especially a threat to small and medium sized cities in developing countries where the majority of future growth is expected to take place; many of which already face conflicts of limited governance, technical, financial, and institutional capacities (Seto et. al, 2014).

Urban sprawl is defined by the spreading of the urban population and development into rural areas which results in the conversion of land from natural or agricultural to residential, industrial, infrastructural and in general urban land uses. Croplands are among the most threatened land cover, as a result of urban growth. Farmland conversion at the urban fringe (peri-urban area) according to the OECD (2009) is highly irreversible. Not only are existing croplands modified and sacrificed for urban and suburban development, but other ecologically rich natural areas, such as forests and wetlands are frequently converted to intensify agriculture as it is pushed away from the urban center (Briassoulis, 2000). As a result irreversible damage is inflicted on the natural resources, soils and ecosystems in the area.

Lack of urban planning and drastic population changes can lead to overcrowding, unemployment, formation of slums, loss of community networks, poor living conditions, poverty, crime and violence in cities. While urban areas tend to concentrate poverty which can result in slum conditions, they also offer the best opportunities for escaping poverty through social and political support. Hunger, food insecurity and poor nutrition is a threat to urban poor populations who depend heavily on purchased food and lack access to land and use of natural resources. For this reason UA is recognized by the UN, not only as a tool for sustainable development but as a method of providing the human rights of food and health to city dwellers.

Recent and projected expectations for urban population growth makes urban planning for sustainable development a necessity to aid the creation of urban environments which can support the population without damaging natural systems and depleting resources. Inter-governmental strategies have been developed to increase the sustainability of development through spatial planning and land use planning in urban environments. Integration of UPA into planning strategies will foster the protection and management of agricultural land in and around municipal boundaries; thus preventing the loss of valuable agricultural and natural lands and providing valuable ecosystem services to the urban population which in turn help reduce poverty, poor nutrition and food shortages among so many other potential benefits.

URBAN AGRICULTURE AS SUSTAINABLE DEVELOPMENT

The concept of sustainable development first emerged after the awareness and acknowledgement of depleting resources and unequal access to basic needs on a global level. The United Nations has been a driving force behind encouraging policy changes and initiatives for sustainability on an international level since 1972. The World Commission on Environment and Development (WCED) was formed in 1984, as an organization independent of the UN for environmental and developmental problems (United Nations, 2011). The WCED developed the most commonly used definition of sustainable development; it is defined as development which "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987; p.16). This is done by encouraging societal practices which protect the environment and use of technology to limit the use of environmental resources, while utilizing the natural abilities of the biosphere to absorb human impacts. The concept also confronts basic needs of the human population which should be globally accessible by creating political systems which aid the balancing of resource consumption during population growth to alleviate poverty, resource degradation, discrimination and the environmental, economic and social woes which follow (WCED, 1987).

Sustainable development is an elastic term. The agenda to reach this equilibrium of satisfying needs while sustaining recourses will continually change based on present circumstances and outlooks for the future. The UN's 1992 action plan for sustainable development, Agenda 21, set forth initiatives confronting global environmental and social issues and promotes international cooperation for developing strategies of sustainable development. "Promoting sustainable agriculture and rural development" is one of the priorities of these initiatives. Also addressed in more recent UN Millennium Development Goals and the European Model of Agriculture are the multifunctional benefits of urban agriculture (UA) related to food security, nutrition, health, social equality, urban greening, climate control, biodiversity and ecological stability.

UPA as a form of sustainable development has the potential to provide provisioning services to the local social and environmental system by increasing fresh food products within the local food network, providing a low cost food source to low income households, providing jobs and economic stimulus, encouraging social inclusion to minority and disadvantaged populations, increasing urban greening, nutrient and water cycling and reducing food transport emissions among many other socio-economic and environmental services. In order for the UA to be successful as a

form of sustainable development, it must be managed in order to prevent the risks such as soil contamination, water contamination, soil erosion and the spread of disease (FAO, 2007).

CHARACTERISTICS OF SUSTAINABILITY IN AGRICULTURE

Research shows that agricultural land uses in and around urban settings not only increases local food production, but can also provide a range of ecosystem services to the local community and economy. It is important however, to recognize that each location is unique during the planning process; for this reason, an interdisciplinary perspective should be considered during the analysis and planning of UA in each city to maximize benefits and avoid potential risks. Awareness of current land uses and analysis of existing UPA provides a foundation for land use planning and the integration of UPA into municipal plans for sustainable development.

Similar to sustainable development, sustainable agriculture focuses on the long term ability of meeting social and economic needs while preserving environmental health. WCED (1987) describes that sustainability in agriculture is economically viable, socially accepted way of providing enough food to support the nutrition needs of a population while preserving environmental resources for the present and future generations. Indicators of sustainable agriculture include “soil quality, water quality, agro-ecosystem biodiversity, climatic change, farm resource management, and production efficiency” (USDA, 1999).

> *"the term sustainable agriculture means an integrated system of plant and animal production practices having a site-specific application that will, over the long term: satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agricultural economy depends; make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole."* (USDA, 1999)

In analyzing sustainability of land uses, it is necessary to consider that the term ‘sustainable’ is multifaceted and that agricultural land is confronted with multiple challenges to remain sustainable. Aubry et al. (2012) consider this multi level or “duel sustainability of agriculture”.

- The first is “territorial (or external) sustainability” which depends on the viability of farm land to remain agricultural and resistant to land use change (LUC) when faced with urban sprawl, increased land prices, market competition and other driving forces of LUC.
- Then there is “Farm (or internal) sustainability” which depends on sustainability of farm practices based on the conditions of production and use of resources on the farm which make the land use sustainable in the political sense by maintaining the quality of the land and surrounding environment and community.

Territorial sustainability and farm sustainability are interrelated as territorial sustainability may lead to farm sustainability since farmers who have long term plans to maintain agricultural land use and/or have more secure land tenure are more likely to contribute investments into the sustainability of the farm. Farm sustainability unfortunately does not guarantee territorial sustainability however; this is where the role of urban planning is important. Governments and planners have the ability preserve agricultural land and offer farmers incentives to maintain farm sustainability and thus encouraging territorial stability of farm land.

RESEARCH AND ANALYSIS OF UPA FOR LAND USE PLANNING

The analysis of UPA is critical in order for it to be used as a tool in urban planning. Selecting the approach for analysis should be guided based on the study location. Consideration of the following questions is the first step of selecting analysis methods for planning purposes:

1. WHAT ARE THE GOALS OF THE RESEARCH?

In general, the purpose of this research is to find sustainable solutions for urban and peri-urban land use by integrating sustainable urban agriculture into municipal plans. It is focused on identifying ideal sites for UPA, protecting existing agricultural land and sustainable management of UPA sites in order for them to serve as multidimensional lands provisioning the local social and environmental systems. Since the concept of sustainability integrates social, economic and environmental health, it is necessary to take an inter-disciplinary approach to the analysis of UPA. The type of analysis and use of UPA may vary based on the specific needs found in the study area; therefore, planning strategies can focus more heavily on servicing specific socio-economic or environmental needs. The findings of UA analysis should shape the outcomes of the planning process, specific to the urban area in question.

2. WHAT IS THE EXISTING SITUATION?

After defining the study area and its boundaries (ie. specific municipality or urban region), it is important to understand the current socio-economic and environmental setting. Identifying the current and predicted conflicts will help to define potential uses for UA. A developed understanding of geographic and geological setting will help to identify the locations best suited for UPA. Situation analysis tools are used to identify the main UA systems and their characteristics within the study area, primary interests of stakeholders, and demographics of users; as well as explore current support systems in order to identify potential conflicts and needs related to agricultural land use in the area (see Figure 1).

CONSIDERATIONS FOR SITUATION ANALYSIS	
SOCIO-ECONOMIC	SPATIAL/ ENVIRONMENTAL
• Demographics of the study area • Demographics and motives of users/ farmers • Scale of production • Types of UPA • Current conflict, support and potential perceived by farmers, stakeholders and governing bodies • Economic impacts • Role in food system	• Size, locations and extent of existing UPA • Current land uses • Zoning of UPA lands • Institutional and legal context of UPA • Characteristics of land and soil in study area and UPA sites • Use of chemicals/ fertilizers • Land tenure of UPA sites • Vacant land/ availability of land and land access • Ecological stability of current UPA • History of LUC • Environmental impacts • Access to water

Table I- Important points of consideration during situation analysis on UPA; source adapted by the author using references (RUAF, 1999), (Drescher A. W., 2001), (Redwood, 2009)

3. WHAT IS THE POTENTIAL FOR CHANGE?

According to H. Briassoulis (2000), land use change analysis is based around two main questions “what are the driving forces/ causes of change” and “what are the (socio-economic and environmental) impacts of change” (12). Methods of research and analysis should help to identify the biophysical (weather and climate variations, landform, topography, and geomorphic processes, volcanic eruptions, plant succession, soil types and processes, drainage patterns, availability of natural resources) and socio-economic (population and population change, industrial structure and change, technology and technological change, the family, the market, various public sector bodies and the related policies and rules, values, community organization and norms, property regime)factors which impact land cover and land use change in the area (Briassoulis, 2000).

TOOLS AND STRATEGIES FOR ANALYSIS

The strategies of analysis for UPA will depend on the research objectives. Considering that planning for sustainable development is a multidimensional process; several tools of analysis should be applied by using an interdisciplinary approach. Regardless of the overall research goals, it is necessary to a. gather general information about the social, cultural, political, economic, environmental and spatial setting in the study area and b. gain an understanding of the current extent of UPA. By gaining this information, a great platform is created for further analysis. The first step of situation analysis is review of literature and government documents and data on land resources, present land use, present infrastructure, population, land tenure, social structure and traditional practices, government, legislation, non-government organizations, and commercial organizations in the area (FAO, 1993). Documentation of existing UPA within the study boundaries is required to discover where UPA is currently taking place; it may be in unexpected locations silently, spontaneously, and without public knowledge. Identifying the locations and of agricultural land use and its measurable extents opens a world of options for research and analysis. Identification of UPA sites then allows for gaining information on stakeholders, UPA the typologies, land characteristics and conflicts of use. It is virtually

impossible to perform analysis on UPA and understand its impacts without knowledge where it is taking place, particularly for planning purposes. More accurate knowledge of the extent of agricultural land use in city settings can provide information to guide city planners and non-government organizations in planning, regulating and protecting agricultural land in urban and peri-urban areas.

The proceeding methods of analysis can be divided in to two categories based on the understanding the current situation and the impacts of land use or impacts of land use change in the study area. Analysis is usually focused on environmental (natural resource use, land use, waste management, nutrient cycling, climate change, contamination of resources & pollution, biodiversity) and/or socio-economic (employment, income, nutrition, health, food supply/ food security, social equality) aspects of sustainability. Strategies for analysis can then be chosen based on the type and depth of information required as well as the skill sets of and resources available to the researcher (see Figure1). The goal of analysis for planning purposes aims to determine the internal and external sustainability of UPA in the study area; and furthermore, how to establish or maintain land use sustainability through policy driven tactics.

INTEGRATING UPA INTO URBAN LAND USE PLANNING

> *"Land use planning creates the prerequisites required to achieve a type of land use, which is sustainable, socially and environmentally compatible, socially desirable and economically sound. It sets in motion social processes of decision making and consensus building concerning the use and protection of private, communal or public areas." (Amler, 1999, p. 7)*

Integration of UA into land use planning is very site specific considering the political structure for land allocation, zoning, regulation and protection as well as social values. Recently, urban planning has been considered from two perspectives of "top-down" (policy from government) vs "bottom-up" (movements and initiative from community and non government organizations). In many cases, this might translate to actual and desired land uses vs. zoning and development. The downfall of top-down methods of planning is that they tend to be biased to political initiatives and lack real inside knowledge of the area, cultural values and human activities. On the other hand; bottom-up approaches tend to lack power and sustainability. Since UPA exists primarily in the informal sector it remains fairly unregulated and fails to reach its maximum potential for social empowerment and ecological stability. Poor planning and failure to combine top-down and bottom-up methods leads to land use conflicts, unsound urban areas, land abandonment, loss of natural and agricultural land, and damage to resources (Cengiz, 2013). Research and participatory planning approaches have the potential to bridge the gap between top-down and bottom-up planning, making for a synergy between government, community and environment for sustainable planning. Using an integrated multidisciplinary research approach to UA, strategies for regional planning can be based on an informed decision making process.

CASE STUDY: ALMADA, PORTUGAL

Agricultural land in Portugal has been decreasing since the 1950's and most rapidly after joining the European Union in 1986. It had the highest percentage of agricultural LUC among 24 European countries (9.8%) with significant decreases in the rural and agricultural population (Jones, et al., 2011). This LUC can be credited to multiple factors including migration to inner cities and urban expansion; changes in government support, subsidies and land use policy, as well as economic and demographic changes leading to abandonment of agricultural land. According to agricultural statistics reported by the 2009 Instituto Nacional de Estatística (INE), the active working population in Portugal's agricultural sector was reduced from 48% in 1950 to less than 5% in 2001 (Cancela, 2009).

The introduction of allotment gardens into Lisbon city planning was presented in 1997 by landscape architect Ribeiro Telles (Batista & Matos, 2013). His proposal of recreational and productive corridors has been implemented into the 2006 Plano Verde de Lisboa. Recent master plans in Lisbon include sustainability measures outlined in the Plano Verde including initiatives for urban allotment gardens, green structure areas, and water cycle improvements. In 2009 the Camara Municipal de Lisboa (CML) initiated a project which would reorder 16.19 ha of existing urban agriculture; the originally spontaneous and unmanaged agricultural sites are now legal and regulated by the Lisbon municipality. Despite this, urban allotment gardens in Lisbon have been reduced from 304 ha in 1987 to approximately 84 ha today (12 ha are organized municipal parcels). The Urban Allotment Parks Program (2011-2017) has set the goal of 20 additional allotment gardens in Lisbon by 2017 (Mata, 2014).

The Almada Municipality of Lisbon is approximately 72 sq km of land located on the south bank of the Tagus River; connected by bridge across from Lisbon's municipal center. The natural landscapes of Almada are influenced by the urban and industrial growth spreading from Lisbon's urban center. Once an agriculture dependent economy (pre-1960), Almada shifted to economic dependence on intense industrial and port activities through the 1990's and is now focused on tourism, services and public administration (Lopes, 2009). The geological profile of Almada is defined due to its proximity to the Atlantic Ocean and Tagus River. The western coast of Almada is 13 km of steep bluffs and

beaches making up the Costa de Caparica. The northern border of Almada is part of the Tagus River Estuary. The rich geological profile, climate and geomorphic characteristics in Almada make the area ecologically diverse with natural resources.

Rich soils, biological diversity and the Mediterranean coastal habitat are valuable ecological features which define Almada. The municipality enforces a strict ecological framework which is designed to protect the land and natural resources within the region. The Reserva Agrícola Nacional (RAN) and Reserva Ecológica Nacional (REN) are areas of land legally protected by the municipality as part of its Master Plan. The RAN is protected and preserved land restricting non-agricultural use (Decree-Law No. 73/2009 of 31 March). Protected areas are designated based on landscape characteristics (such as quality of soil, climate, morphology and social characteristics) which provide high potential for agricultural production. The objectives of the RAN are to protect soil and other natural resources, support development and sustainability of agriculture, and contribute to regional planning and the connectivity of the Fundamental Nature Conservation Network in Portugal (Entidade Nacional da Reserva Agricola Nacional). The REN covers areas of land which are of ecological importance, protecting water and soil resources and reducing the risk of landslides, flood, and erosion (coastal areas, riparian zones and sloping areas). 6% of the Almada territory is protected under the municipalities RAN designation and about 35% under REN (Câmara Municipal de Almada, 2007). Municipal laws protect the RAN and REN areas from further development and only allow land use changes after a procedure of votes and public hearings which offer municipal members, land owners and residents to have a say in the decision.

The Almada PDM is a tool for territorial planning and the regulation of development. “The PDM establishes the model of spatial organization of the municipal territory, based on soil classification and occupancy parameters, takes the form of the development and planning policy municipality strategy, which integrates the options provided in instruments of territorial management framework national and regional.” (Câmara Municipal de Almada, 2009). The 2008 Almada master plan has approximately 265 ha of land zoned for agriculture. Although the municipality has land designated for agricultural zoning and land reserved for agricultural protection in its PDM, there is minimal research available on the phenomenon of UA (including spontaneous and unplanned agriculture) and where it actually takes place. The real extent of agricultural land use and land use change in the Almada region is currently unknown. The case study seeks to fill the gaps in research on agricultural land use in the Almada municipality.

IDENTIFYING THE REAL EXTENT OF UPA

Identification of UPA sites and measurement of the real extent is a valuable tool of analysis for planning in order to determine the validity of the current municipal plan and identify valuable sites for zoning changes and management. Maps resulting from UPA site identification can then be used to gain deeper understanding of typologies and used in further deeper socio-economic and environmental assessments.

This study follows an identification method designed based on Taylor and Lovell (2012) which uses aerial satellite images from Google Earth to manually identify agricultural land use within the city. Close-up bird’s eye views of the land show visual indicators of agricultural land use [geometric field and road patterns on the landscape; traces produced by livestock and mechanical equipment; drainage and water control patterns; hedgerows separating plots; agricultural equipment; use of intensive horticulture structures (shade netting, tunnels, glass houses, nurseries); and structures for storage, processing and handling] which can easily be identified on land or artificial surfaces which are otherwise often hidden from public view. The identified sites are then confirmed through site visits, local knowledge and the use of Google “street view” (see Figure 3). The sites are then digitalized using ArcGIS. The resulting map layer can be compared with zoning maps or maps containing demographic data, soil data, or environmental information in further analysis.

Based on comparisons made by Castilla et al. (2008), manual visual interpretation done by an individual has advantages to computer automated (or semi-automated) image classification methods. Although remote sensing can be used to systematically identify land cover, it has disadvantages. Findings show that manual interpretation allows for a higher level of accuracy on a fine scale, as a human interpreter has the ability to consider multiple criteria, use additional knowledge and consult other sources for image confirmation.

Use of remote sensing data introduces another level to this study which be joined with manual methods of identification. Remotely sensed data can allow for semi-automated methods of land use identification to speed the process of identification using visual indicators. Human confirmation of land use identification and “ground-truthing” should still be used for accuracy. This may require purchase of data and software for analysis but can result in higher resolution images and reduce man-hours spent doing manual identification. This option should especially be considered for further methods of environmental analysis to evaluate quality of land and environmental impacts of land use and land use change.

RESULTS OF UPA MAPPING IN ALMADA

Over 521 agricultural sites covering 5.2 sq km of land in Almada were mapped using the site identification and confirmation methods. GIS analysis using these maps included a comparison of the identified agricultural land to the zoning of the Almada municipal master plan (see Figures 3 and 4) and local demographic information (Figures 7 and 8). The most prevalent findings can be seen in the results from the analysis of the municipal zoning maps. Only 25% of agricultural land use in Almada was identified on land which is zoned for agriculture. On the other hand; 63% of the land zoned for agriculture is in fact used for agricultural purposes. The majority of agricultural land use (86%) also lies on the National Ecological Reserve and 33% on the Natural Agricultural Reserve which are areas of land with use restrictions based on the quality of soil and land characteristics. This goes to show how valuable municipal regulations for land preservation in this area is, and also shows that the extent of agricultural land use in Almada may be greater than what the municipality is aware of.

National Agricultural Reserve	National Ecological Reserve
123 sites in RAN area	264 sites in REN area
33% of all identified UPA is on land reserved for agriculture by the Almada municipality	86% of all identified UPA is on land ecologically reserved land
41% of the RAN land is covered by agriculture	18% of the REN land is covered by agriculture

Table II- Summary of UPA sites on reserves land; source: by author using data acquired from the CMA expressed in figure 3

Although the demographic information doesn't assist in drawing such strong conclusions due to the limitations of the data used; it shows how this information can be used on a larger scale with different types of data. The demographic comparison in this case doesn't mean very much on its own, however; with information gained through stakeholder interviews it can be used in consideration of planning UA sites to meet socio-economic needs of certain populations.

Agricultural Site Information by Parish

Town/ Parish	Area (sq km)	Population	Unemployment	Agricultural Sites	Total UA area (sq km)
Chameca da Caparica	23.14	29763	10.83 %	51	0.104 (.4%)
Laranjeiro	3.88	20988	18.1 %	4	0.005 (.1%)
Caparica	11.01	20454	18.37 %	159	2.821 (25.6%)
Coca da Piedade	1.42	19904	13.41 %	6	.004 (.2%)
Feijo	3.94	18884	12.57 %	30	.106 (2.7%)
Almada	1.37	16584	14.91 %	2	0.018 (1.3%)
Sobreda	6.17	15166	12 %	132	0.547 (8.9%)
Costa da Caparica	10.18	13418	13.91 %	71	3.894 (38.3%)
Pragal	2.27	7156	15.8 %	45	0.329 (14.5%)
Cacilhas	1.09	6017	13.17 %	3	0.036 (3.3%)
Trafaria	5.73	5696	20.27 %	47	0.852 (1.5%)

Table III- Demographic information by town parish in Almada; source: by author

ALMADA STAKEHOLDER INTERVIEW RESULTS

On site semi-structured interviews were held in collaboration with the Argimet MOD project and Universidade de Lisboa, IGOT faculty members in Portuguese with fourteen farmers and a municipality member. These interviews provide information for a deeper understanding of the past and present situation of urban agriculture in Almada, help to create farmer profiles and to understand UA the typologies. It should be noted; however, that although the

information is valuable in understanding UPA in Almada, this is not a representative sample as it covers only 2% of the sites identified. The information gained through stakeholder interviews is highly insightful with comparison to the maps of agricultural land use. While analysis of the agricultural land use maps reveal the importance of zoning decisions, the stakeholder interviews show how the decisions of individual community members can have an impact on the land.

The most interesting findings from these interviews reveal land use conflicts similar to the results of the land use map analysis. The maps reveal that 75% of agricultural land use takes place spontaneously on urban and peri-urban lands zoned for purposes other than agricultural use. 100% of farmers interviewed confirmed that they are on occupied land without written contracts for use; two out of fourteen have verbal consent from the land owner and none of the farmers pay rent. Half of the farmers have been using the land for agriculture for up to ten years and five farmers for twenty-five years or more. Only one intends to leave the land in the next ten or twenty years and many say they plan to farm there for life. Tânia Camões (personal interview, September 5, 2014), Urban Management Division for the Municipality of Almada, confirmed that the municipality is aware of this type of spontaneous UA; but does not have an estimate of the real extent. Since the municipality does not have a land cadastre system there is no way to confirm land ownership. She says that times of economic crisis people lose expectation that the land will sell. Agricultural practices on the vacant property provide some economic impetus for the owners. Vacant lots are often requested for the use of urban gardens. At the time of the interview, Dr. Camões said that the municipality had received three requests per week since 2013 for the temporary access to water on vacant lots in Almada in order for them to be used for food gardens. The municipality is aware of and allows the illegal occupation of public land because she says there is nothing that can be done. She also says the municipality is interested in the use of land for agriculture because it is a healthy service which keeps the ground clean. She was unaware if there were any conflicts with the occupation of public land by gardeners, only that the occupation of large parcels of land by many different users is prohibited. Almada municipality has 26 planned horticultural parks; however, the conflict of acquiring the land without a cadastral system poses a challenge for the development of many of the sites.

Several of the interview questions aim to gain information about the scale of production on the farm and identifying the role of UA in the local food chain. 50% of the farmers identified use of UA for hobby as a primary objective. 36% of the farmers considered crop sale to be a primary objective; with 90%-100% of their produce sold to warehouses and intermediate buyers who sell to local markets and groceries. The others use the majority of produce for personal and family consumption or trade with other farmers. Half of the gardeners claimed to spend 35 or more hours working in the garden each week, the other half spend between 5-25 hours gardening per week. Most farmers are retired and farming for recreation and enjoyment along with food and income supplement. All farmers were between the ages of 50 and 78 except one farmer who is 38. All except three farmers live within a ten minute walk of the farm plot (two have onsite dwellings). Most of the farmers are retired or unemployed and three are employed as full time farmers.

CLASSIFICATION OF UA TYPOLOGIES IN ALMADA

Based on all of the information gathered through the situation analysis (literature review, site identification and interviews) three categories of UA became apparent in Almada defined by scale of production, market orientation, farmer objective and location. These typologies are identifiable in the maps based on visual indicators including size, shape and location of plot.

1. Residential & vacant lot gardens: Residential gardens (on lots with dwellings) and more commonly found, vacant lot gardens (on empty or abandoned property) are typically implemented one family, individual or household on private property. Vacant lot gardens are found specifically on empty lots zoned typically for residential use but without construction or abandoned construction. The gardens are implemented either by land owners who cannot afford to build on the property and would not benefit from selling it or by gardeners who are occupying the land (with or without consent of the owner). Production is typically for personal use and sometimes a small amount for sale and trade. Of all of the UA identified, 52% were classified as vacant lot gardens which occupy .656 sq km of land.
2. Horticultural parks/ allotment gardens: Planned horticultural parks and unplanned allotment gardens take place typically on public or occupy private property. They are found on the sides of roads, between buildings and on empty space around industrial and commercial lots. Multiple farmers from different backgrounds gather on one property which is divided amongst them. Farmers are typically unemployed or retired and participate in UA for enjoyment and food subsistence. Allotment gardens gradually expand into neighboring vacant land as word of mouth spreads the knowledge of the land use. Production is primarily for personal consumption and trade. 20% of the identified UA are considered horticultural parks organized by the government or allotment gardens organized by the community which cover .798 sq km of land in Almada.
3. Peri-urban Farms: Commercial farms consume larger areas of land with owned, occupied or inherited by individuals, families or businesses which produce goods for public sale, most frequently one or several staple

crops. Commercial farmers gain income from farming practices and are therefore more likely to make investments in farming structures and equipment. Covering the greatest expanse of land (7.126 sq km) peri urban farms make up 28% of all UA sites identified in Almada.

FURTHER RESEARCH

The key component to the study performed in Almada is the approach to situational analysis through identification of agricultural land using methods assisted by GIS and key informant interviews. Future research in the study area and in additional locations can be advanced using the strategies outlined in Figure 1. Methods of situation analysis can be followed through and analytical frameworks for impact analysis. Semi-automated methods of land use identification with remote sensing data using EVNI or other geospatial image analysis software has the potential to increase efficiency of land use identification and offers technical outlets for land use change mapping which can be used in various methods of land use planning and sustainability assessments. Use and analysis of remote sensing data has the ability to reveal information about the land, soil and vegetation which is unidentifiable through visual/ manual methods. While the identification and mapping of UA is a highly valuable tool which can be advanced using technical software, it will likely increase the budget and technical skill requirements of the project; and manual methods of identification will still be required for accuracy (Drescher, 2000). The same methods used to identify and analyze UPA can also be used to identify potential locations ideal for planning UPA and sites which require monitoring, management or regulation.

CONCLUSION

Development of a general framework for analysis of UPA to be used for sustainable land use planning is the overall goal of conducting a comparative study in multiple urban settings. Since UA is greatly an industry performed outside of municipal jurisdiction, the most valuable step of situation analysis is to identify and measure the locations of current land used for food production. Remotely sensed satellite data and GIS are highly valuable tools for identifying land use on such a small scale by allowing aerial views of the land and the ability to digitalize data for further use. Following the digitalization of GIS data, a wide range of strategies for socioeconomic and environmental analysis become available for the use of land use planning. Simple strategies of land use identification combined with socioeconomic and environmental information provides the grounds for understanding how UPA should be managed, implemented and protected for the greatest success of integration into municipal development to increase urban socioeconomic and environmental sustainability.

REFERENCES

Amler, B. B. (1999). Land Use Planning Methods, Strategies and Tools. Eschborn: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). Retrieved 20 2016, May, from https://www.mpl.ird.fr/crea/taller-colombia/FAO/AGLL/pdfdocs/gtz-lup.pdf

Aubry, C., Ramamonjisoa, J., Dabat, M., Rakotoarisoa, J., Rakotondraibe, J., & Rabeharisoa, L. (2012). Urban agriculture and land use in cities: An approach with the multi-functionality and sustainability concepts in the case of Antananarivo (Madagascar). Land Use Policy, 29(2), 429-439. doi:10.1016/j.landusepol.2011.08.009

Batista, D. S., & Matos, R. S. (2013). Urban Agriculture: The Allotment Gardens as Structures of Urban Sustainability. In D. M. Ozyavuz (Ed.), Advances in Landscape Architecture (pp. 457-512). Rijeka, Croatia: InTech. Retrieved July 1, 2014, from http://www.intechopen.com/books/advances-in-landscapearchitecture

Briassoulis, H. (2000). Analysis of Land Use Change: Theoretical and Modeling Approaches. West Virginia University, Regional Research Institute. Morgantown,WV: Web Book. Retrieved April 2016, 12, from http://www.rri.wvu.edu/WebBook/Briassoulis/contents.htm

Câmara Municipal de Almada. (2007). Estrutura Ecológica Municipal. Retrieved September 14, 2014, from Almada Informa: http://www.m-almada.pt/portal/page/portal/AMBIENTE

Câmara Municipal de Almada. (2009). Plano Director Municipal. Retrieved November 5, 2014, from Camara Municipal de Almada: http://www.m-almada.pt/

Camões, T. (2014, September 5). CMA, Divisão de Gestão e Administração Urbanística 3, Chefe de Divisão. (P. Abrantes, Interviewer, & E. Gomes, Translator) Almada, Portugal.

Cancela, J. (2009). Urban Agriculture in City Planning Process. Experiences from Portugal. Science (pp.1-9).

Castilla, G., Geoffrey, J., & Ruiz-gallardo, J. R. (2008). Size-constrained Region Merging (SCRM): An Automated Delineation Tool for Assisted Photointerpretation. Photogrammetric Engineering & Remote Sensing, 74(4), 409–419.

Cengiz, A. E. (2013). Impacts of Improper Land Uses in Cities on the Natural Environment. In M. Özyavuz (Ed.), Advances in Landscape Architecture (pp. 19-52). InTech. Retrieved September 14, 2014, from http://www.intechopen.com/books/advances-in-landscape-architecture

Drescher, A. (2001). The integration of Urban Agriculture into urban planning – An analysis of the current status and constraints. University of Freiburg. Wageningen: CTA. Retrieved July 23, 2014

Drescher, A. W. (2001). Technical Tools for Urban Land Use Planning. Freiburg University, Germany. UA Magazine.

FAO. (1993). Guidelines for Land-Use Planning (FAO Development Series 1 ed.). Rome, Italy: Information Division, Food and Agriculture Organization of the United Nations. Retrieved May 18, 2016, from Guidelines for Land-Use Planning: http://www.fao.org/docrep/t0715e/t0715e00.htm#Contents

FAO. (2007). Profitability and Sustainability of Urban and Peri-urban Agriculture. Agriculrural Management, Marketing and Finance Occasional Paper, 19, 1-83. Rome, Italy: Food and Agriculture Organization of the United Nations (FAO).

Instituto National de Estatistica (INE). (2014, June 16). Territorial Statistics. Retrieved 2015, from Instituto National de Estatisticas Statistics Portugal: http://www.ine.pt/

Jones, N., de Graaff, J., Rodrigo, I., & Duarte, F. (2011). Historical review of land use changes in Portugal (before and after EU integration in 1986) and their implications for land degradation and conservation, with a focus on Centro and Alentejo regions. Applied Geography, 31(3), 1036–1048.

Lopes, N. (2009). Energy and Environmental Introduction to Almada. City Council of Almada, Division of Studies and Environmental Management. Almada: Cama Municipal de Almada. Retrieved July 11, 2014

Martin, A., Oudwater, N. and Gundel, S. (2002) 'Methodologies for situation analysis in urban agriculture', Paper presented at the e-Conference on Appropriate Methodologies for Urban Agriculture: Research, Policy Development, Planning, Implementation and Evaluation, 4–16 February, ETC-Netherlands, Netherlands

Redwood, M. (2009). Agriculture in Urban Planning Generating Livelihoods and Food Security. (M. Redwood, Ed.) London, UK: IDRC.

RUAF. (1999). Situation analysis on urban agriculture. Retrieved April 20, 2016, from Distance Learning on Urban Agriculture (UA): http://moodle.ruaf.org/mod/lesson/view.php?id=160

Seto K.C., S. Dhakal, A. Bigio, H. Blanco, G.C. Delgado, D. Dewar, L. Huang, A. Inaba, A. Kansal, S. Lwasa, J.E. McMahon, D.B. Müller, J. Murakami, H. Nagendra, and A. Ramaswami, 2014: Human Settlements, Infrastructure and Spatial Planning. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

Taylor, J. R., & Lovell, S. T. (2012). Mapping public and private spaces of urban agriculture in Chicago through the analysis of high-resolution aerial images in Google Earth. Landscape and Urban Planning, pp. 57-70.

United Nations Conference on Environment and Development. (1992). Agenda 21, Rio Declaration, Conservation and Management of Resources for Development. New York: United Nations.

United Nations. (2011). The History of Sustainable Development in the United Nations. (U. Secretariat, Editor) Retrieved 2016, from Rio+20 United Nations Conference on Sustainable Development: http://www.uncsd2012.org/history.html

USDA. (1999). Sustainable Agriculture: Defenitions and Terms. (M. V. Gold, Ed.) Retrieved May 10, 2016, from Alternative Farming Systems Information Center: http://afsic.nal.usda.gov/sustainable-agriculture-definitions-and-terms-1#toc2.

WCED (UN World Commission on Environment and Development) (1987), Our Common Future: Report of the World Commission on Environment and Development, WCED, Switzerland.

OECD (2009), Farmland Conversion – The Spatial Implications of Agricultural and Land-use Policies, OECD, Paris.

SPONTANEOUS LARGE SCALE PRACTICE, URBAN PASTORALISM AS AN ENVIRONMENTAL TOOL FOR RECREATING AND MAINTENANCE OF ECOLOGICAL CORRIDORS

Session T2.3 | June 1 | 14:00 – 15:30

Roxana Maria Triboi
University of Architecture and Urbanism "Ion Mincu", Bucharest, ROMANIA
roxana.triboi@gmail.com

ABSTRACT: The pastoralism represents an important cultural legacy of our geographical area, a defining feature of Romanian identity.

The importance of this practice, marginalized all over the world due to harsh conditions and constrains, is to be found in all forms of artistic expression and others like a testimony of our past.

The evolution of urbanization has actually created a favourable context for this practice in the last decade.

Factors like chaotic fragmentation of the periphery, development and urban gaps or waste land, the abandonment of agricultural exploitation of arable land, the demand for dairy and meat products, European Union subventions increased the activity of urban pastoralism (inside but especially outside cities). The phenomenon can be observed also in neighbouring countries in the Balkans.

The ecosystem, social and economical services brought by Urban pastoralism entails an ecosystem, develops social and economic services that are multiple but are not given enough recognition by residents and authorities due to the general negative perception of these practices next to the urban residential areas. There are also other factors that put pressure on this fragile phenomenon.

The proper recognition and management of this socio-economic practice could transform it into a important tool for sustainable urbanism.

KEYWORDS: sustainable urbanism; urban pastoralism; environmental benefits; urban policy; ecological corridors.

INTRODUCTION

Pastoralism implies the grazing of domestic livestock in large 'unenclosed' areas dominated by semi-natural vegetation and a land use pattern involving the use of sparsely located resources through regular movement between locations.

The diverse pastoral practices over Europe reflects the climate, topographical conditions and cultural traditions that have shaped them.

Pastoralism has also historically been ignored in legal and policy frameworks. There is a obvious opposition between the urban policy of and the traditional lifestyles of pastoralism.

The pastoralism fulfills the multi-functional principles of the European Model of Agriculture: "a sustainable efficient farming sector that uses hygienic, environmentally friendly production methods and gives consumers the quality products that they desire; a farming sector that serves rural communities, reflecting their rich tradition and diversity, and whose role is not only to produce food but also to guarantee the survival of the countryside as a place to live and work, and as a environment in itself".

One of the most important aspect Romanian pastoralism is the small-scale structures that play an important role in maintaining the biodiversity "farmers own 70% of the national sheep flock and play a vital role in maintaining large tracts of valuable semi-natural habitats." (PASTORAL 2 2001).

Another significant factor is the upward trend of raising stock mainly for economical reasons. Romania has the third largest flock in EU, estimated at 11 million breeding ewes and also 10% of the sheep in the EU (Eurostat 2012)

Even if they are passionate about their activity and have a positive view of their work impact on the environment, local economy, the shepherds are pessimistic about the future and feel marginalized.

THEORETICAL FRAMEWORK

The current challenge in urban planning is to reconcile the opposition in urban-rural, nature-city, agriculture-urban activities... and therefore the necessity of integrating knowledge from urbanism, ecology, agronomy, landscaping for a global view. Many concepts were generated by this approach: resilience, urban ecology, edible landscape, urban agriculture, agricultural urbanism, green-blue grid, agricultural park, etc. We can no longer marginalize farming practice in the city and its periphery and ignore the economic, environmental and social benefits generated by it. Another evidence should be accepted: the landscape is edible, and the rural-urban interaction is an important factor that can generate short alimentary chains: fresh products, reduce transportation, refrigeration and storage costs.

In a increasing urban context, the agriculture practice has been marginalized both physically and culturally, and there is a need for urban transformation project and policies to integrate a steady and productive agricultural vision.

Urban parks could be linked to future agricultural parks for solving current problems: landscapes conservation, food security, biodiversity conservation.

Ecological corridors may be, in addition to biodiversity reservoirs, also platforms for leisure, cultural and gastronomic activities.

The integration of these corridors and their way of maintenance in urban planning documents as elements of a blue-green grid could be a tool for a sustainable management of the city and its territory.

The Eastern European context has an important potential for developing this kind of sustainable urbanism. In the last years, due to a combination of factors like chaotic fragmentation of the periphery, development and urban gaps or waste land, the abandonment of agricultural exploitation of arable land, pastures developed and prospered mostly in the green pockets of urban peripheries and therefore the urban pastoralism represents the most important expression of city-agriculture interaction in this geographical region.

Rather than seize the potential of this practice endangered and use it as a tool for sustainable urban management, local authorities tolerate at best regulate this practice without regulation vision. In the absence of coherent management, this practice exist mostly in its spontaneous form, fact that generates some negative consequences like: the persistence of conflict of interest issues, negative ecological effects caused by spontaneous grazing, negative perception of the urban population on this phenomenon and finally his extinction.

METHODS AND DATA SOURCES

The difficulty of quantifying this phenomenon is obvious since local municipalities ignores at best this activity and shepherds are accepting their marginal status by fear of extinction of their activity. I base my study on the observation and the interviews with shepherds around Bucharest and others city (a medium city like Targoviste and a small city like Campulung-Muscel). Also the Google map study of Bucharest's belt driveway in the pastoral seasons allows the observation of this practice in the interstitial spaces between inarticulate residential and service areas. The study of satellite plans permits an easy identification of shelters and path of herds.

The main source of official data is APIA (Agency for Payments and Intervention in Agriculture) that receives the European funding demands. We have to consider that the shepherd interviews determined that not all flock owners applied for subvention and that the demands are made only for flocks with a significant number of mature animals (25 female goats and 50 female sheep over one year old at least). Still for a general shows that until 2012 the number of goats and sheep had an upward trend (almost 45 000).

Also a census conducted by the Sanitary Veterinary Direction shows that in 2014 were 2000 heads of sheep and goats in Bucharest and almost 37,000 in its periphery. Again that numbers contradicts the local land use rules that restrict any animal raising on the city territory. So the data for local municipalities of livestock is 0.

A simple estimation of dairy products based on the numbers mention above leads us to a 1 million euro market of cheese in the capital only.

The economic potential of this form of agriculture near the city is that obvious.

LOCAL CONTEXT

The radical change of property form by "de-collectivization" at the beginning of the 90 and the uncontrolled expansion of the city over the rural and agricultural suburbs created a chaotic mix of urban areas. The last economic crisis slowed down the residential and service sectors taking over land and allowed the installation and development of herds of sheep and goats in the "residual spaces", while land remained uncultivated. Other factors participated at the increased of this phenomenon like: the natural flow of the transhumance, the proximity and the rural and agricultural specificity of the periphery, the lack of management of urban pockets or other open natural area, important surfaces of "no mans" land generated by the abandonment of grandious communist projects after the fall of teh regime in the '90.

Usually, the owners have flocks of a few hundred animals, mostly around 500 heads (the studied cases) that enables them to camp temporary with minimal costs for shelters and annexes. However, this also leads to poor conditions for processing and stocking of animal products.

The cultural and social impact on urban and local communities is significant. Locals are for example annoyed by the smell and they fear the shepherds' dogs. This attitude is reflected also in the media where most of the articles are ironic regarding fines application, even if the perception of the pastoralism in general is highly positive.

Changing public perception of this particular form of pastoralism is therefore important if we consider the benefits to the ecosystem brought by this activity.

Current and past land laws and policies undertaken by the government have often ignores or devalued this traditional ways of life. Farming in the city is forbidden especially in terms of livestock. Romanian legislation on the management of pastures is built on the European directive for the protection and conservation of grassland. Regulation for this agricultural areas are found in OUG 34/2013, but legal aspects of urban pastures status is subject to interpretation (with the tendency for transforming the land reserves for agricultural production in urbanization designated areas). On 15 December the first protest managed to withdraw the new Hunting Law that restricted the number of dogs admitted to a sheepfold and that between December 6 and 24 April the flocks can't go out to pasture.

FRENCH EXAMPLE

In France, urban pastoralism turns, from experiment in an ecological management of "free land".

Although grazing was devalued after the Second World War due to mechanical or chemical maintenance, now a significant number of local authorities, public and private structures are using herds for maintaining lawns, pastures, vacant land, river beds ...

But, the main utility of the urban pastoralism is the grazing without the cultural aspects that persist in the eastern European context, it is used mainly for the green spaces in urban areas in a institutionalized form and with proper management, that rules out "spontaneous" form and it is mostly a top-down at best an horizontal approach.

Reintroduction "eco"-pastoralism in the city fall into concepts and policies on sustainability and biodiversity such as Green-Blue Grid and the National Biodiversity Strategy (2010-2020), therefore the interest of local authorities and urban planners to integrate ecological grazing in urban policies or landscape ecological management.

For some the main interest of reinterpretation of this practice is not the social, ecological, economical or pedagogical but cultural: "cognitive and cultural rupture that represents the reintroduction of animals in the city ... Animals have now their place in the city, replacing mechanic. Coexistence is possible. " (François Léger, AgroParisTech).

In the lack of well-established precedents in modern cities, the approach of this practice are an work in progress because of the necessity of the technical expertise of managing a flock, at large or small scale.

In some cases the animals are loaned free of local authorities, businesses or associates. Host structure provides the fence / fencing and shelter and commits to check every day. Organizers are also often call for volunteers who are trained in the care and management of animals.

This green space maintenance costs drops dramatically, the popularity of municipal institution increase.

RESULTS

The possible benefits of this spontaneous practice in the peripheral urban areas are multiple like: establishing biological corridors, developing biodiversity in general, articulating unused green lots, providing a picturesque

landscape, preventing reforestation, supporting short supply circuits (milk, cheese, meat), ensuring the social dimension of green space and providing a pedagogical function on agriculture and food.

Reducing the environmental footprint for management public green spaces by green waste removal, natural fertilization of soils, eliminating the noise generated by mechanical equipment, and probably the decrease of management costs, especially in difficult accessible places could represents an important factor for encouraging the grazing inside the cities.

But mostly in local context the proper management strategy of this practice could save a cultural tradition that subsisted until today due to social and economical factors.

Because in Romania the management of green public spaces is badly managed by public authorities, the introduction of urban grazing as a regulated practice may allow higher benefits from the urban areas left un-used (commercial and industrial complexes on the outskirts, the roadsides, etc.).

The recognition of the use of "construction designated land" and private properties as pasture areas by urban planners and policy makers could represents a step forward. New types of zoning should include such forms of land utilization, temporary or permanent and the resulted ecological corridors should be identified and maintained through a better management by authorities together with herd owners.

The recognition of cultural and patrimonial value of this practice, the use of "construction designated land" and private and public properties as pasture areas by urban planners and policy makers by creating new types of zoning that includes such forms of temporary or permanent land use, the identification of the resulted and maintenance management of ecological corridors could transform urban pastoralism in an important tool for sustainable urbanism and for creating unity in a very fragmented and heterogenic landscape, because it values both the agricultural, social, economical and ecological dimension of urban lands.

The current attitude of ignoring or marginalizing this phenomenon can have negative consequences: the persistence of conflict of interests issues and negative ecological effects caused by spontaneous grazing that might lead to its extinction. Negative consequences like the persistence of conflict of interests issues, ecological effects caused by spontaneous grazing will lead to the diminution or the extinction of this ancient traditional practice and also at the elimination of a short food chain in the proximity of the city.

BIBLIOGRAPHY

Garric, A.(2013) ,Des moutons pour tondre en ville, vrai gain pour l'environnement, Le Monde, 12.04.2013.

Huband S., Mccracken D. I., Mertens A.(2010): Long and short-distance transhumant pastoralism in Romania: past and present drivers of change

Eurostats 2012: Sheep and goat numbers.

PASTORAL 2 (2001): The impact of scale and accession on biodiversity value. PASTORAL: the agricultural, ecological and socio-economic importance of extensive livestock systems. Report of the 2nd workshop of the PASTORAL project. Romania: Moieciu de Sus; 2001. October

Juler C.(2014), După coada oilor: long-distance transhumance and its survival in Romania . Pastoralism: Research, Policy and Practice 2014

http://www.fabriques-ap.net

http://www.faire-territoire.fr/2014/20140520_pastoralisme_urbain_espace_vert.php

http://www.ecopaturage.com

EXPANDING THE GREEN/BLUE INFRASTRUCTURE CONCEPT: ISKANDAR MALAYSIA AS A CASE OF STUDY

Session T2.4 | June 1 | 16:00 – 17:30

Agatino Rizzo
Lulea University of Technology, SWEDEN
agatino.rizzo@ltu.se

ABSTRACT: The green/blue Infrastructure rhetoric is constantly gaining traction in urban planning research. The study of green/blue infrastructures has promised a straightforward recipe for many urban issues (e.g., mitigation, resilience, health). However, green/blue infrastructure proponents while emphasizing the positive environmental, economic, and health aspects of these infrastructures often forgo important socio-political considerations that are important to understand the dramatic transformation of non-urbanized territories. Moreover, the study of green/blue areas is very much centred in the Global North, and urban researchers have failed to bring in a comparative perspective to relate this topic to current developments in the South. Based on our latest research on rapid urbanization and green and blue areas expropriation in South East Asia, in this paper we aim at problematizing the green/blue infrastructure concept and its intrinsic reductionism by considering its socio-political dimension/implications. The compelling case of the Iskandar Malaysia master plan, with its large modification and displacement of the green/blue territories in Johor, Malaysia, show the need for a better understanding of the biogeophysical and social shortcomings of green/blue infrastructure planning.

KEYWORDS: green/blue infrastructures; global south; Malaysia; displacement; megaprojects.

INTRODUCTION

Over the last decade, research and publications on green/blue infrastructures have surged (figure 1) while this topic has progressively colonized the agenda of practioners and policy makers mainly, but not only, in the West. Green/Blue infrastructures have been loosely defined as non-urbanized areas that can provide ecosystem services to cities which can support either healthier lifestyles (e.g., walkability, see: Tzoulas et al, 2007), more resilient spaces in the face of ever more frequent natural disasters (e.g., flooding, see: Gill et al, 2007), and the mitigation of climate change's impacts on cities (e.g., Urban Heat Islands, see: Young, 2011). However, the study of green and blue territories found in planning literature emphasizes mostly the environmental, and often economic, performances (i.e. the utility or the ecosystem service) of non-urbanized areas rather than considering a more holistic approach to include societal issues (Tzoulas et al, 2007; Niemelä, 2010; Schäffler & Swilling, 2013; Lovell & Taylor, 2013; Newell et al., 2013). In this field of inquiry, the underlying assumptions are that green and blue territories are mostly uninhabited, wild areas (non-urbanized) that can be appropriated by urban makers (planners, politicians, etc.) in the form of "infrastructures" to provide ecosystem services (functions) that can counterbalance the problems caused by urban living.

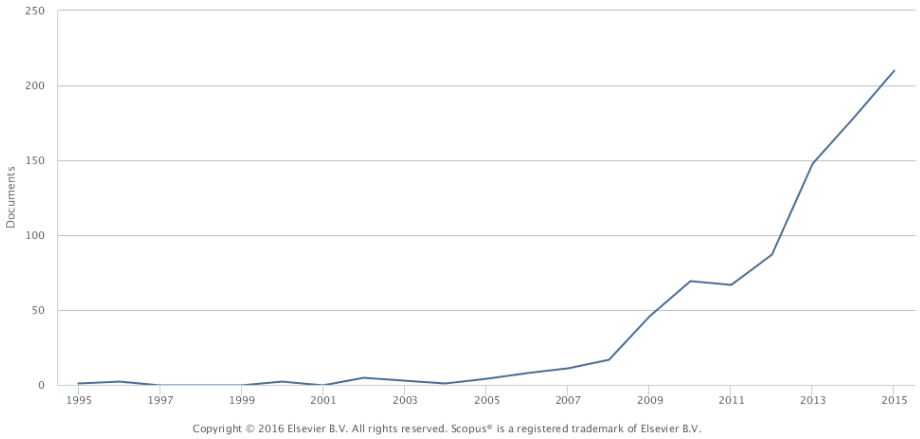


Figure 1. Scopus search of "Green Infrastructure" literature (source: Scopus)

Our hypothesis is that while green/blue territories might be non-urbanized, on the other hand, it does not mean they are uninhabited. Indeed, within these territories, a significant portion of non-urbanized or semi-urbanized communities live. This statement becomes clear when considering green and blue territories in emerging and developing countries in the global South. In these latter countries, blue and green territories are in many ways the space of exclusion for

communities that have never been embedded in mainstream, post-colonial societies (Rizzo & Khan, 2013). Today green/blue communities are under attack by local governments' neo-liberal agendas that aim at commodifying their home through the implementation of neo-liberal, urban megaprojects (Hall et al, 2011; Ginting & Pye, 2013). As the result of this trend, there is the need to look both at the political economy and social dimensions of blue/green infrastructures and thus expanding the meaning and scope of such a concept.

In this paper, we aim at problematizing the green/blue infrastructure concept by considering its often neglected socio-political dimension. To do so, we will consider the transformation of non-urbanized, green/blue territories in Asia. We will analyze the biogeophysical and social displacements of Malaysian indigenous communities affected by the implementation of one of the largest megaprojects in South East Asia: the Iskandar Malaysia master plan. Indeed, the green/blue infrastructure component in Iskandar Malaysia is only a part of a much wider and ambitious strategy to spur economic development and growth in Southern peninsula Malaysia (in the Johor State) by capitalizing on the proximity to Singapore, one of the most dynamic economic hub of Asia. However, with its large scope, Iskandar Malaysia is dramatically redesigning the blue and green territories of Johor Bahru, the capital of the Johor state, to serve the transformation of its metropolitan area into a global hub.

Our argumentations are based on the results of a research project carried out from 2010 at University Technology Malaysia in Johor Bahru. The project aimed at analyzing the impacts of both the rapid urbanization and urban political agenda in the Johor-Singapore transnational region. With a case-study approach, we carried out qualitative observations, interviews, and documents analysis aimed at mapping the biogeophysical and social displacements (Gellert and Lynch, 2003) in Johor. We have structured this paper as follow: in section two, we problematize the current definition/meaning and prescription of green/blue infrastructures by urban planners, while in section three, we contextualize our argumentations within the domain of rural transformation and land grabbing in South-East Asian countries. The Iskandar Malaysia case study is discussed in section four to crudely exemplify the biogeophysical and social displacements of large green/blue reclamation projects. A final discussion, conclusions, and suggestion for future studies are included in section five.

GREEN/BLUE INFRASTRUCTURES AS URBAN MEGAPROJECTS

Gellert and Lynch (2003) have discussed the biogeophysical and social displacements generated by rapid urban neoliberal interventions such as megaprojects (see table 1). The term megaprojects for them (Gellert & Lynch, 2003) include "extraction", "infrastructure", "production" and "consumption" interventions that generate significant landscape transformations (e.g., the digging of a mine pit, the construction of a dam, a new power plant, or the development of new town) and trigger: (a) the displacement of the resident communities, that are either absorbed by the city or forcedly moved into new peripheries; (b) the moving-in of temporary, often migrant, laborers - these latter charged with the development of the megaproject; (c) and the selling of the newly-developed areas to new, often affluent, residents. Biogeophysical and social displacements are thus at once an outcome of local neoliberal urban policies and a tool for forcibly urbanize resistant (to modernization/Westernization) rural communities (Goonewardena, 2014).

The biogeophysical and social disruption of large transformations in the green/blue territories is not a new topic in literature, neither it is peculiar to the global South alone. More than forty years ago, French urban theorist Henri Lefebvre advanced his famous hypothesis that the complete urbanization of society (or in Brenner's (2014) words "planetary urbanization") is the ultimate target of capitalism. With rapid and successive phases of urban unfolding into the countryside and rural back-folding into the city (Merrifield, 2011), Lefebvre suggested that under the conditions set by capitalism, cities swallow and transform vast portions of rural territories for their urban needs while discarding other areas that are less useful to the system. In the developed world, if we travel from the city cores to the interior, rural areas, we cannot fail to detect: (1) a first group of areas affected by a profound transformation of rural structures into urban ones (through the sub-urbanization of housing and consumption); (2) a second group of semi-rural areas that have mutated to serve the needs of the growing urban population either for touristic purposes (leisure) and/or for the production and consumption of valuable and sophisticated niche products (e.g., eco-agriculture, premium wineries, etc.); (3) and a final group of territories in sharp economic and demographic decline (see Rizzo's (2016a) tri-partition of Southern Italian rural areas in "slow-growth", "transition", and "declining" rural areas).

	Biogeophysical	Social
Primary (direct)	flooding of reservoir water diversion and other hydrological changes soil compaction and paving mountain top removal and stream filling (by tailings) reduction/depletion of particular minerals and species deforestation creation of barriers to species migration	planned eviction and resettlement labour camps loss of resource base in project area due to construction and/or flooding
Secondary (indirect)	landslides, floods, and earthquakes (from dams) water quality decline soil salinisation loss (or gain) of fish and wildlife populations ecosystem changes leading to pest problems or disease aquifer disruption causing problems downstream loss of fish species leads to loss of migratory bird species	loss of access to resources (and property) unemployment with project completion psychosocial stresses creation of new identities urbanisation as labour camps become permanent unsustainable agriculture in resettlement area leading to soil erosion ethnic conflict due to resettlement

Table 1. Dimensions of megaprojects' displacements (Source: Gellert & Lynch, 2003).

In green and blue infrastructure planning literature, the dimensions of infrastructure and network are intertwined (Tzoulas et al, 2007). A green/blue area is not only supposed to provide utility (i.e. the ecosystem service) but it needs to be connected with other areas in order to be easily accessible, encourage freedom of movement, and foster free association (Hauck & Czechowski, 2015). The green/blue infrastructure theory is in a sense a "marriage" between ecological and system theory. This latter, system theory, already introduced in planning in the 1960s by McLoughlin (1969), understands territories as complex systems that can be disarticulated in a discrete number of parts and then reconnected in a more efficient form. Ecological theory, on the other hand, stresses the importance of the biological relationships between the organisms of an ecological community and this latter degree of equilibrium (that in the long term becomes climax). However, the socio-political dimension that is embodied by categories such as power, gender, ethnicity, and politics is neglected in both theories. As such, in the green/blue infrastructure literature, we can find very limited reflections on the relationship between green/blue infrastructures and social segregation, exclusion, marginalization, etc. Green/blue infrastructures are seen merely from a functionalistic point of view, stripped from any problematic reference to social issues; they are prescribed as a positive target to achieve in order to enhance, on the one hand, urban livability (of a virtually apolitical society) and, on the other hand, manage the disasters caused by ever expanding urbanization.

Author	Geographic context	Theme	Research approach	Aspect of sustainability	Results
De Block, 2016		Ecological urbanism, risk society, landscape ecology, technonature, post-political	Qualitative, narrative research	Social and political	Debates about GI should move beyond the self-referential discourses to re-coupling the"common" with landscape architecture.
Baptiste et al, 2015	USA	Analysing factors influencing decisions to implement G.I. measures involving stormwater	Quantitative (closed-ended questions)	Environmental and social	No relationship observed between demographic variables, knowledge and interest in stormwater mgmt
Faehnle et al, 2014	FINLAND	Social and experience ecological, potential, policies and planning	Qualitative (by semi-structured interviews, also planning material)	Environmental, economic and social	Residents input is important to identify areas in need of improvement
Kabisch & Haase, 2014	GERMANY	Socio-environmental justice	Mixed Methods: GIS, dissimilarity index and cluster analysis approach, questionnaire surveys	Social	Immigrant population has less access to Green Infrastructures
Albert & von Haaren, 2014	GERMANY	Ecosystem services, planning, resilience Implementation of Green Spaces in City planning	Quantitative (Survey, GIS analysis incase study region)	Environmental and economic	Difficulty to transfer Green Infrastructure to practice. Methodology for identifying priority zones for GI development.
La Rosa & Privitera, 2013	ITALY	NUAs as green infrastructures	Quantitative, land-use suitability strategy, based on five different analytical phases	Environmental	Methodology to identify NonUrbanized Areas as Green Infrastructures.
Newell et al, 2013	USA	Implementation of green alleys in city planning	Qualitative	Environmental and economic	Lack of holistic approach (utilities are preferred over other issues)
Collier et al, 2013	EUROPE	Resilience	Qualitative	Environmental, economic and social	The importance of the bottom-up approach Vs. one-size-fits-all solutions.

Roberts, 2012	SOUTH AFRICA	Resilience, Adaptation	Qualitative, case Study	Environmental, economic and social	EBA can be cost-effective, adaptable and have multiple co- benefits across a range of scenarios and timelines.
Vandermeulen et el, 2011	BELGIUM	Economic valuation of green infrastructures	CBA(Cost-benefit analysis), etc..	Economic	Economic benefits of Green Infrastructure for health
Thomas & Littlewood, 2010	UK	Resilience, Adaptation	Qualitative, case study	Economic and enviromental	Green Infrastructures have replaced green belts in the face of the importnace of economic considerations
Amati & Taylor, 2010	CANADA. UK	Implementation of green corridors, sustainability and a response of cities growth	Qualitative, case studies	Environnment al and economic	GI presents opportunity to re-appraise the green belts concept
Schilling & Logan, 2008	USA	Regeneration, redevelopment, right-sizing, social, ecosystem	Mixed method (practitioner interviews, fieldwork, literature review, tables-summaries), case study	Environmental and economic	Green infrastructure strategy to manage urban shrinking and encourage neighborhood planning.
Tzoulas et el, 2007	EUROPE	Ecosystem services and human health	Mixed methods, quantitative research by an electric journal database	Environmental	Ecosystem services provide healthy environment, physical and psychological health benefits
Weber, 2006	USA	Ecosystem services assessment	Mixed methods. GIS to analyze GI and case study	Environmental	Assessment tool based on ecological importance and value
Chiesura, 2004	NETHERLAN DS	Urban regeneration	Mixed methods, case study	Environmental and economic	Citizens' participation helps urban communities to articulate commonly shared values.
Sandström, 2002	SWEDEN	Implementation of green spaces in city planning	Quantitative evaluation(survey)	Environmental and economic	Lack of integration of city structure, cultural identity, environmental quality, biological solutions to technical problems in Green Infrastructures

Table 2. Comparison of literature.

A survey of recently published papers on the green/blue infrastructure topic has brought interesting results[1]. First (see table 2), most of the urban literature on green infrastructures is based in the Global North and ignores, even in comparative terms, "greening" programs in the South. This Euro-American biased stance has been increasingly criticized by leading urban theorists including J. Robinson (2005), A. Roy (2009) and K. Ward (2010). Second, the green/blue infrastructure topic has attracted scholars from several disciplinary fields including landscape ecologists, economists, and spatial and regional planners. This has been facilitated by the growing popularity of the "Urban Age" paradigm (Burdett & Sudjic, 2008) in politics and the general public that has pushed more and more scholars into the "urban" domain to attract more interest and funding (Lovell & Taylor, 2013: 1449). This growing multi-disciplinary interest has facilitated the quick accumulation of knowledge and research on the green/blue infrastructure topic but interestingly on a few of the surveyed articles delved into the social impacts of green infrastructures (e.g., the conditions of displacement and disempowerment of the green/blue communities) preferring more "solid", hard, facts. This is perhaps part of a deeper crisis in planning thought as highlighted by Gleeson (2013): he argues that as neoliberal economic principles have progressively undermined urban theory scholarship, planners have progressively shifted their attention to more deterministic paradigms, those popular in the natural sciences, often neglecting the previous interest for advocacy and power studies. Kabisch and Haase's (2014) paper, on the other hand, is a welcomed exception in that they problematize the use of ethnic labels and the "we and them" rhetoric to study the impacts of green infrastructures on society. This is also the result of the limited geographic context analyzed (mainly Western, fully urbanized settings) by these scholars and the lack of a comparative understanding, although Newell and others' (2013) study of green alleys in the US problematize the emphasis on utilitarian values and advocate for a more holistic approach. Finally, in the mass of work we could not find any analysis of the politics and processes, the political economy, behind the implementation of green infrastructures (e.g., the role of the state and private stakeholders in the appropriation and commodification of such a space). According to Hauck & Czechowski (2015), the green infrastructure concept has been dominated by the functionalistic paradigm. However, they (Hauck and Czechowski, 2015: 24) argue that, although quantitative/functionalistic principles may be of importance in delivering a much-needed transparent process in assessing landscapes, understanding these latter solely in terms of ecosystem services ignores the importance of the historic and, we would add, socio-political "structures that gradually developed over the years". A better understanding of the consequences of such shifts will be discussed in the next sections, by considering rural transformations in South-East Asia.

TRANSFORMATION AND APPROPRIATION OF GREEN/BLUE TERRITORIES IN ASIA

The acceleration of economic growth and societal transformations occurred during the 1980s and 1990s in the South-East Asian peninsula has brought massive changes in terms of urbanization and urban-rural interface. The formation of mega-urban regions (Yeung, 2002) , extended urban regions (McGee, 1991), and transnational urban corridors (Wee, 1995) have redesigned the traditionally, post-colonial relationship between cities and rural outposts. Yeung (2002) observes that as the result of increased agricultural productivity and government investment in urban infrastructures (e.g., highways, power stations, etc.), rural activities have decreased in favor of urban ones and laborers have been displaced towards cities. For those left behind, life has changed towards "in-situ urbanization" (Yeung, 2002: 182) or peri-urbanization that has meant a reconfiguration of rural settlements int urban areas. This process has led to critically rediscuss the old dichotomy between urban and rural in post-colonial South-East Asia with the emergence of new lexicons such as McGee's (1991) "Desakota".

The restructuring of green and blue territories can be exemplified in the land grabbing phenomenon consisting in state- and corporate-led expropriation of land from rural communities for resource exploitation and redevelopment. This is the case of West Papuan rural communities (Ginting & Pye, 2013) that have lost their land to agribusiness and agrofuel conglomerates mainly from developed Asia (e.g., Japan and South Korea). In this case, the government has been instrumental in engineering regulation that would enable land take-overs by corporations for massive food production, timber logging, and pulp production as well as biofuels harvesting. Being a peripheral, military occupied land since the 1960s, West Papua's green/blue territories have also been affected by massive resettlement programs led by the government to repopulate the Christian dominated island with Muslim Javanese loyal to the Indonesian nation and their elite.

Rural restructuring and land grabbing are a global phenomenon, affecting green and blue territories both in the global North and South. Holt-Giménez and others (2011) have highlighted that as the result of the global financial crisis in 2008, resources from the busted financial markets in the West have moved into the more profitable market for commodities (raw materials, food, and related arable land) in the East in search for safer, higher profits. This has led to massive land acquisitions (some have estimated as big as the size of all arable land in France, see De Schutter,

[1] From the Scopus database, we have selected a sample of recently published (last ten years) articles in reputable urban journals, which were cited at least by thirty or more other papers. By using the keywords "green infrastructure" and "urban planning", we have finally selected twelve articles covering the following countries: UK, Germany, US, Finland, the Netherlands and Belgium, South Africa, and Italy.

2009) especially in the Global South (Africa, Asia, etc.). These acquisitions were never peaceful as a large number of rural communities have been permanently displaced for the benefits of either, for example, Western economies to harvest biofuels, Gulf countries' food security, or Chinese's hunger for commodities (Holt-Giménez et al, 2011). Also rural land in the global North has faced a similar fate, though in a much smaller scale, judging from, for example, the recent Bordeaux vineyards acquisitions by Chinese investors[1].

In post-colonial Malaysia, a national agreement between the main streams of the Malay, Chinese, and Indian communities has laid the foundation for a 50-year continuous rule of Barisan Nasional (in English "National Front"), the right-wing national coalition that has monopolized and infiltrated state bureaucracy, national corporations, and finance. Under this strong political setting but weak land ownership tenure, the state was forced either to buy-up or lean with major corporations to enable large development schemes. One such example is Putrajaya, the new administrative capital of Malaysia. Prior to 1996, the land on which Putrajaya is located today was owned by a large conglomerate and used for palm-oil plantation. A community of Malaysian-Indians brought into the area during British colonial rules inhabited the area of Perang Besar (today's Putrajaya). In the mid-1990s, the implementation of Putrajaya implied the end of the local palm-oil plantation economy and the displacement of its resident community (Bunnell, 2002). Putrajaya, like the many other megaprojects in Asia, is at once a nation-building project and instrument for the commodification of non-urbanized areas for global capital accumulation. Moser (2010), in facts, has noted that the Arabic architecture theme that is used to brand most public projects in other Asian Muslim-dominated countries (e.g., Indonesia and Pakistan) is an instrument "to construct, communicate, and normalize national identity to the citizenry" (2010: 295). Moser (2010: 295) has noted that Putrajaya has served as a template for many "little Putrajayas [that] are currently springing up around the country" and the rest of Asia.

The issue of land grabbing in formerly gree/blue territories is of extreme importance to begin to understand the degree of transformation of "green/blue" polities in South-East Asia. Very recently, Shatkin (2016) has suggested a useful framework to understand land monetization in Asia. Starting from the observation that the recent history of peri-urbanization in Asia embodies both neoliberal state practices, that aim at modernizing export-led national economies, and forced evictions and displacement of rural communities, for Shatkin (2016: 2) is the surge in real estate land values behind the dramatic processes of urban-rural transformation. As the result of long-stalled land reforms in developing countries, starting from the 1990s, widening "rent gaps" (Smith, 1979) have motivated Asian governments to invite foreign, or form national, conglomerates to monetize and develop such a valuable resource (land) and to integrate falling revenues from natural resources (e.g., oil). "These increases in land values have been realized through the dispossession of existing land users, the aggregation of land into large parcels, and the transfer of these parcels to private, parastatal, or public-private users for commercial development" (Shatkin, 2016: 5-6). Against this backdrop Shatkin suggests a model whereby both land state agencies' autonomy from non-state social actors and state control of land supply are the two key factors to drive either forcibly land evictions and privatization (e.g., Indonesia), re-distribution of land revenues to society (e.g., Singapore), or state-private cooperation (e.g., Philippines).

Figure 2. Nusajaya Aerial view in 2012 (Source: Google, DigitalGlobe, 2012).

[1] Telegraph, 2015, " Chinese now own 100 Bordeaux chateaux, as wine mania grows", accessed by http://www.telegraph.co.uk/news/worldnews/europe/france/11380807/Chinese-now-own-100-Bordeaux-chateaux-as-wine-mania-grows.html

Figure 3. Kampong Selantan in Nusajaya (Source: author's picture, 2010).

A CASE STUDY: ISKANDAR MALAYSIA, A GREEN/BLUE CORRIDOR IN SOUTHERN MALAYSIA

Separated by a 1km-wide sea strait, Singapore and Johor Bahru (JB) are at the centre of a transnational economic region which extends from Southern Malaysia, the state of Johor, to North Indonesia, the Riau Archipelago in Sumatra. A Singapore-centred economic system has been claimed since the beginning of the 1990s under the acronym of the Singapore-Johor-Riau (SIJORI) region later renamed SIJORI-Growth Triangle (GT), and then Indonesia-Malaysia-Singapore Growth Triangle (Douglass, 2002; Sparke et al., 2004). According to this model, because of the lack of space in the city-state, Singapore business has been forced to move to neighboring areas where land and labor costs are much lower. South Johor and the Riau islands are fertile soil for Singapore's businesses (e.g., manufacturing, construction, trade, etc.).

In this context, in 2006 the vision known as Iskandar Malaysia was set by the Federal Malaysian government to spin off a larger hub with increased benefits for the Malaysian economy. A twofold strategy underlies Iskandar Malaysia: competing with Singapore to attract industrial development and FDIs; attracting Singapore's business and citizens to accommodate the city-state's desire for space and lower labor costs (Rizzo & Glasson, 2011). Of the five planned hubs (e.g., JB CBD, Senai Airport, etc.) the most crucial development area is Nusajaya (see figure 2), a new- town for half a million inhabitants. In Nusajaya, strategically located at the border between Malaysia and Singapore and between the two bridges linking JB to Singapore, the government hopes to attract companies, institutions, and knowledge workers (ICT industries, R&D firms, universities, professionals, etc.) in order to transform Johor into a global hub. Nusajaya is envisioned by the Malaysian planners as the typical low-dense, gated development that characterizes much of Asia: a net of urban highways will attempt to bind together an expansive array of gated communities such as Horizon Hills, East Ledang, and Ledang Heights with attached prestigious golf with touristic harbors and integrated resorts, high-tech industrial areas, university clusters, including the new seat of the Johor government. Nusajaya is a grand experiment carried out directly and indirectly by the Malaysian government, which has committed important public resources for its completion. This case sits in many ways at odds with the Global City literature which posit a weakening of the nation state to international financial capital (Machimura, 1998). Martin and Schumann (1997: 143), in facts, have stated that the "Asian boom has little to do with the laissez-faire capitalism of most OECD countries". The growth of cities in emerging markets is the conscious projects of Asian nation states that want to visualize their countries to international audiences and potential investments funds (Chu, 2008). However, this presents a dilemma to national governments as they promote global market forces while also intervene in the market to ensure social equity. Governments strive to ensure the best economic conditions to global investors but in doing so they should not let down calls for social equity that are crucial to building cohesion and political consensus needed to be re-elected.

Nusajaya is a case in point as for centuries this area, along with the rest of the islands spreading between today's Indonesia and Malaysia, including Singapore, have been inhabited by indigenous communities sharing the same religious background, language, and lifestyle but never embedded in post-colonial societies. As a result of Portuguese, Dutch and British expansion policy in the Far East Asia these communities have been divided to exploit their resources more efficiently (Chou, 2006). After independence from European countries, indigenous communities of Malaysia, Singapore, and Indonesia have been affected by several waves of nation building policies that have progressively erased their shared cultural milieu to fit the newly superimposed national identity of their respective countries. Also, the successive globalization of the world economy lead by the integration of the world markets has had an impact on these tribes. Mowforth & Munt (2003: 16) note that the real "face" of globalization is that of "uneven and unequal development" rather than cultural homologation and erosion of the sovereignty of nation states. For them

(Mowforth & Munt, 2003: 21), globalization is an “interesting story” but a poor basis for analysis because, amongst other flaws, globalization “fails to acknowledge which places and peoples are included in this process and which are excluded” (Mowforth & Munt: 17). The term Globalization has been used by Western politicians, businesspeople, and scholars to impose the inevitability of westernization of the world rather than to explain the complexity and unevenness created by worldwide integration.

At one time, Nusajaya could be considered as a project aimed to rediscover national/cultural roots or, as Moser (2010) suggests, as an instrument to impose and standardize a sense of belonging in a country still racially divided. It is perhaps in this latter view that the Arabic architecture is deployed in Nusajaya, that is to underscore Malay-Muslim political dominance in the multicultural, post-colonial Malaysian society. However, Nusajaya could also be seen as an effort to strengthen Malaysian links with the wider global economic network, in Sigler’s (2013) words, Johor Bahru as a “relational city”, or, borrowing from Crot’s (2013) and Rizzo’s (2016b) research for Abu Dhabi and Doha, as a project sponsored by the establishment to strengthen its legitimacy. Moreover, because of its special location directly across the Straits of Johor, Nusajaya is an experiment of “transnational urbanism” (Smith, 2000). In this latter sense, cross-border, professional commuters could enjoy better living condition in Nusajaya while working in Singapore; Singapore’s IT start-ups could benefit from favorable tax breaks in Iskandar Malaysia; while Educity in Nusajaya could provide useful know-how to strengthen JB’s economy. However, Nusajaya can also be viewed as an exercise of power to violently expropriate green and blue territories from non-urbanized, indigenous communities (figure 3). Similarly to Putrajaya, in Nusajaya countryside villagers (orang kampong) and aboriginal fishermen communities (orang laut) are being relocated to the periphery of the region in order to facilitate the implementation of Iskandar Malaysia. As suggested by Shatkin (2006), the powerful, entrepreneurial Malaysian state has deployed its land state autonomy from non-state social actors and acquired the necessary land supply control to forcibly drive land evictions and privatization for the benefit of elite stakeholders.

CONCLUSIONS

In this paper, we have attempted to expand the meaning of the green/blue infrastructure concept by problematizing its bias toward Euro-American urban scholarship and environmental-economic studies. While acknowledging the importance of the environment in planning today’s cities, we have criticized the unquestioned prescription of green/blue infrastructures without considering the socio-political and historical dimensions of green/blue territories. By discussing the biogeophysical and social displacement caused by the many landscape transformations (land grabbing, commodification, displacement, and peri-urbanization) occurring in green/blue territories in Asia, we have reasserted the importance of understanding socio-political processes in the study of ecological corridors/infrastructures. This is in line with the proponents of the comparative turn in urban studies (see the work of Robinson, Ward, Roy, and others) who have shown the potentials of re-centering urban scholarship around more hybrid and socio-politically oriented concepts (Roy, 2009). In this sense, the socio-political-spatial analysis of the Iskandar Malaysia case study has been a useful example to analyze the impacts of rapid urbanization and state intervention in green/blue territories of Johor Bahru. The large biogeophysical and social displacements within green/blue areas, the result of neo-liberal urban megaprojects, are a useful reminder for researchers and practitioners engaging green/blue infrastructure planning of the driving forces at work in such projects’ type. Finally, more research is needed to further expand our understanding of the impacts of large infrastructure planning in order to empower non-urbanized and semi-urbanized communities in the management of their land rights.

REFERENCES

Brenner, N. (2014). Implosions/explosions: towards a study of planetary urbanization. Jovis, Berlin.

Bunnell, T. (2002). Cities for Nations? Examining the City–Nation-State Relation in Information Age Malaysia, International Journal of Urban and Regional Research, 26.2, pp. 284–98.

Burdett, R., & Sudjic, D. (2008). The endless city: an authoritative and visually rich survey of the contemporary city. Phaidon Press.

Chou, C. (2006). Borders and Multiple Realities: The Orang Suku Laut of Riau, Indonesia. In Horstmann, A. & Wadley R. L. (Eds) Centering The Margin: Agency And Narrative In Southeast Asian Borderlands. Berghahn Books.

Chu, Y-W. (2008). Deconstructing the Global City: Unravelling the Linkages that Underlie Hong Kong’s World City Status, Urban Studies, 45.8, pp. 1625-1646.

Douglass, M. (2002). From global intercity competition to cooperation for livable cities and economic resilience in Pacific Asia, Environment & Urbanization, 14.1, pp. 53-68.

Doraisami, A. (2012). Economic crisis and policy response in Malaysia: the role of the new economic policy, Asian-Pacific Economic Literature, 26.2, 41–53.

Florida, R. L. (2002). The rise of the creative class: and how it's transforming work, leisure, community and everyday life. Basic books.

Gellert, P. K., & Lynch, B. D. (2003). Mega- projects as displacements. International Social Science Journal, 55(175), 15-25.

Gill, S. E., Handley, J. F., Ennos, A. R., & Pauleit, S. (2007). Adapting cities for climate change: the role of the green infrastructure. Built Environment, 33(1), 115-133.

Ginting, L. & Pye, O. (2013). Resisting agribusiness development: The Merauke Integrated Food and Energy

Estate in West Papua, Indonesia. ASEAS - Austrian Journal of South-East Asian Studies, 6(1), 160-182.

Gleeson, B. (2013). What Role for Social Science in the 'Urban Age'?. International Journal of Urban and Regional Research, 37(5), 1839-1851.

Goonewardena, K. (2014). The country and the city in the urban revolution. In Brenner, N. (ed.), Implosions/Explosions: Towards a study of planetary urbanization. Jovis, Berlin.

Hall, D., Hirsch, P., & Li, T. M. (2011). Powers of Exclusion: Land Dilemmas in Southeast Asia, NUS Press, Singapore.

Hang, T. T. (2010). Iskandar Malaysia and Malaysia's Dualistic Economic Policy. In Carter, C. & Harding, A. (Eds.) Special Economic Zones in Asian Market Economies. Routledge: Routledge Studies in the Growth Economies of Asia.

Hauck, T., & Czechowski, D., (2015). Green Functionalism: A Brief Sketch of Its History and Ideas in the United States and Germany, in Czechowski, D., Hauck, T., Hausladen, G. (edited by), Revising Green Infrastructure: Concepts Between Nature and Design, CRC Press, Florida.

Holt-Giménez, E., Wang, Y., and Shattuck A. (2011). The Urban and Northern Face of Global Land Grabs. International Conference on Global Land Grabbing (6-8 April). University of Sussex: UK.

Kabisch, N., & Haase, D. (2014). Green justice or just green? Provision of urban green spaces in Berlin, Germany. Landscape and Urban Planning,122, 129-139.

Lovell, S.T., & Taylor, J.R. (2013). Supplying urban ecosystem services through multifunctional

green infrastructure in the United States, Landscape Ecology, 28:1447–1463.

Machimura, T. (1998). Symbolic Use of Globalization in Urban Politics in Tokyo, International Journal of Urban and Regional Research, 22.2, pp. 183-194.

Marsh, W.M. (2010). Landscape Planning: Environmental Applications (Fifth Edition). John Wiley & sons: USA.

McGee, T. G. (1991). The emergence of desakota regions in Asia: expanding a hypothesis. The extended metropolis: Settlement transition in Asia, 3-25.

McLoughlin, J. B. (1969). Urban & regional planning: a systems approach. Faber & Faber Ltd, Bristol.

Merrifield, A. (2011). The right to the city and beyond: notes on a Lefebvrian re-conceptualization. City, 15(3-4), 473-481.

Moser, M. (2010). Putrajaya: Malaysia's new federal administrative capital. Cities 27, 285–297.

Mowforth, M. & Munt, I. (2003). Tourism and Sustainability. New Tourism in the Third World. Taylor & Francis e-Library.

Newell, J. P., Seymour, M., Yee, T., Renteria, J., Longcore, T., Wolch, J. R., & Shishkovsky, A. (2013). Green Alley Programs: Planning for a sustainable urban infrastructure?. Cities, 31, 144-155.

Niemelä, J., Saarela, S. R., Söderman, T., Kopperoinen, L., Yli-Pelkonen, V., Väre, S., & Kotze, D. J. (2010). Using the ecosystem services approach for better planning and conservation of urban green spaces: a Finland case study.Biodiversity and Conservation, 19(11), 3225-3243.

Rizzo, A., & Glasson, J. (2011). Conceiving transit space in Singapore/Johor: a research agenda for the Strait Transnational Urban Region (STUR).International Journal of Urban Sustainable Development, 3(2), 156-167.

Rizzo, A., & Glasson, J. (2012). Iskandar Malaysia. Cities, 29(6), 417-427.

Rizzo, A., & Khan, S. (2013). Johor Bahru's response to transnational and national influences in the emerging Straits Mega-City Region. Habitat International, 40, 154-162.

Rizzo, A. (2016a). Declining, transition and slow rural territories in southern Italy Characterizing the intra-rural divides. European Planning Studies,24(2), 231-253.

Rizzo, A. (2016b). Sustainable urban development and green megaprojects in the Arab states of the Gulf Region: limitations, covert aims, and unintended outcomes in Doha, Qatar. International Planning Studies. DOI: 10.1080/13563475.2016.1182896

Robinson, J. (2005). Urban geography: world cities, or a world of cities. Progress in Human Geography,29(6), 757-765

Roy, A. (2009). The 21st-Century Metropolis: New Geographies of Theory. Regional Studies, 43(6), 819-830.

Sassen, S. (1994). Cities in a World Economy. Pine Forge Press

De Schutter, O. (2009). Large-scale land acquisitions and leases: A set of core principles and measures to address the human rights challenge. briefing note (Geneva: UN Office of the High Commissioner for Human Rights, 11 June 2009).

Schäffler, A., & Swilling, M. (2013). Valuing green infrastructure in an urban environment under pressure—The Johannesburg case. Ecological Economics, 86, 246-257.

Shatkin, G. (2016). The real estate turn in policy and planning: Land monetization and the political economy of periurbanization in Asia. Cities, 53, 141–149.

Sigler, T. J. (2013). Relational cities: Doha, Panama City, and Dubai as 21st century entrepôts. Urban Geography, 34(5), 612-633.

Smith, N. (1979). Toward a Theory of Gentrification: A Back to the City Movement by Capital, not People. Journal of the American Planning Association 45 (4), 538 - 548.

Smith, M.P. (2001) Transnational Urbanism: Locating Globalization. London: Wiley-Blackwell.

Sparke, M. et al. (2004). Triangulating the borderless world: geographies of power in the Indonesia–Malaysia–Singapore Growth Triangle. Royal Geographical Society (with The Institute of British Geographers). Oxford: Blackwell Publishing.

Steinitz, C. (2008). Landscape planning: A brief history of influential ideas, Journal of Landscape Architecture, 3:1, 68-74.

Tzoulas, K., Korpela, K., Venn, S., Yli-Pelkonen, V., Kaźmierczak, A., Niemela, J., & James, P. (2007). Promoting ecosystem and human health in urban areas using green infrastructure: a literature review. Landscape and urban planning, 81(3), 167-178.

Ward, K. (2010). Towards a relational comparative approach to the study of cities. Progress in human geography, 34(4), 471-487.

Wee, H.L. (1995). Redefining hinterland: the Singapore experience. Middle States Geographer 28, pp. 68-73.

Young, R. F. (2011). Planting the living city: Best practices in planning green infrastructure—Results from major us cities. Journal of the American Planning Association, 77(4), 368-381.

FROM SMART CITIES TO WISE CITIES: ECOLOGICAL WISDOM AS A NEW BASIS FOR SUSTAINABLE URBAN DEVELOPMENT

Session T2.4 | June 1 | 16:00 – 17:30

Robert Young
University of Texas at Austin, USA
ryoung@utexas.edu

ABSTRACT: A growing urbanized majority with increasing material and political demands characterize the Age of Cities. This epochal shift is occurring within a context of ecological decline, resource limits, overburdened infrastructure, fiscal inequities, and the disruptions of climate change. As such this global reconfiguration necessitates radically new responses from the field of city and regional planning. Researchers, corporate advocates, and policy makers have proposed Smart Cities as a response to these challenges. They describe Smart Cities as an evolutionary transformation in urban infrastructure and management systems combining proliferating IT systems with the capture and analysis of the real time data they generate to inform and optimize metropolitan planning and management decision-making (Cisco Systems 2015; Hodgkinson 2011; Hitachi, 2015). The Smart Cities approach is generating significant policy and funding support and is projected to represent an infrastructure investment market exceeding $42.72 trillion by 2030 with a compound annual growth rate of 16.6 percent between 2015-2019 (Digital Journal 2015; Smart City Project 2015).

In this paper I present a critical review of Smart Cities and explore ecological wisdom as a potentially alternative path for sustainable urban development. Researchers describe ecological wisdom as a revealed property of good design requiring minimal intervention, input, and maintenance from ecological and social systems (Xiang, 2014). While Smart Cities emphasize the centrality of new, digital technology networks, ecological wisdom draws upon historical social and ecological dynamics, emphasizing place-based, life-centered systems. I this article I critically contrast these two potentially competing visions for the future of city planning.

KEYWORDS: smart cities; ecological wisdom; sustainable urban planning; Patrick Geddes.

INTRODUCTION

Humanity has entered the Age of Cities. This epochal shift is marked not merely by the fact - now part of city-planning liturgy - that for the first time in history more than half the global human population lives in cities. Beyond this simple ratio are a series of demographic and resource transformations the scale of which are equally unprecedented.

The global human population now exceeds 7 billion, 54 percent of which live in cities. More important than this majority is its growth rate. While global population is currently increasing 1.14 percent/year, the urban population is expanding 1.84 percent/year (United Nations, 2014; WHO, 2015). The more rapid pace of urbanization is driving and driven by increased industrialization, in turn generating increased requirements for energy and material resources necessary to sustain industrial production and growing consumer demand (Smart City Project, 2015).

This rate of urbanization is not merely absolute but also relative. While metropolitan expansion is converting formerly agrarian societies and agricultural lands, the infrastructures in already urbanized nations are aging or becoming competitively obsolete necessitating their reconsideration and overhaul. In developed countries this latter consideration is pressing against declining birth rates, increasing median age, and downward pressure on taxes necessary to finance such changes (Japan Smart City Portal, 2015).

As a result, cities at all levels of development are facing issues regarding transportation, waste removal, energy generation and transmission, water supply, communications, and industrial and residential infrastructure. Cities are also facing an array of issues in mobilizing the capital deemed necessary to face these challenges. Global competition between cities to attract the social, financial, and physical resources necessary to maintain and increase economic growth and competitive advantage is intensifying these rising consumption, infrastructure, and capital demands (Campbell, 2012; IBM, 2015). Thus, the Age of Cities is defined, not simply by population numbers alone but by the dynamic centrality of cities in the success or decline not only of themselves, but also of their regions, nations, and the global economy as a whole.

While the role of cities has moved decisively to center stage it is doing so at a time when global ecosystems may be lowering the curtain. Pressure on water and energy resources, biodiversity, and arable land continue to increase, all within a context of climate change that may significantly undermine the ecosystems necessary to support urban populations. With humans currently appropriating over a quarter of evapotranspiration and over half of runoff globally the World Bank notes, “population and economic growth are pushing the limits of the world’s finite water resources”

(Postel et al., 1996; World Bank, 2015, 1). Approximately 15 percent of total global water withdrawals are used in the production of energy (second only to agriculture) and are expected to rise 20 percent by 2035 (International Energy Agency, 2015). Driven by the water/energy nexus and other demands, the United States Energy Information Center projected world energy consumption to increase 56 percent by 2040 (USEIA, 2013).

The planet's biodiversity loss has also sharply increased. Researchers estimate current rates of extinction to be 1,000 to 10,000 times above the background rate with 30 to 50 percent of the world's species becoming extinct by 2050 (Chivian and Bernstein, 2008; Thomas, et al., 2004). Land conversion, a fundamental factor of urbanization and the agricultural systems necessary to feed cities are a major contributor to biodiversity loss. Between 1961-1999, total land in cultivation expanded by 11 percent and while its productivity more than doubled, arable land per capita decreased 40 percent during this period (FAO, 2002). Each of these factors in turn may be aggravated by climate change casting the future of the urban project into question (Rosenzwieg et al., 2011).

The shift to the Age of Cities and the social and ecological context within which it is occurring necessitates radically new responses from the field of city and regional planning. Researchers, corporate advocates, and policy makers have proposed Smart Cities (SC) as a response to these challenges. They describe SC as an evolutionary transformation in urban infrastructure and management systems combining proliferating IT systems with the capture and analysis of the real time data they generate to inform and optimize metropolitan planning and management decision-making (Cisco Systems, 2015; Hodgkinson, 2011; Hitachi, 2015).

Other researchers have proposed a new concept, "ecological wisdom" (EW) as an alternative path for sustainable urban development. They describe ecological wisdom as an evidence-based property of good design requiring minimal intervention, input, and maintenance from ecological and social systems (Xiang, 2014). While Smart Cities emphasize the centrality of new, digital technology networks, ecological wisdom draws more deeply upon historical precedents emphasizing place-based, life-centered systems. In this article I critically contrast these two potentially competing visions for the future of city planning.

SMART CITIES

DEFINITION

Researchers, corporate representatives, government officials, and public intellectuals have given SC a variety of labels and definitions. As noted above, they frequently describe SC as an evolutionary transformation in urban infrastructure and management. This evolution, they posit, will leverage widespread adoption of computerized personal and industrial-scale information and control technologies encompassing "a combination of diverse technologies such as a smart home, smart grid, smart building, smart security, smart education, smart healthcare, and smart transportation" (Digital Journal, 2015). By accessing and analyzing data generated by these networks, SC planners and policy makers seek to optimize urban resource allocation and decision-making (Cisco Systems, 2015; Hodgkinson, 2011; Hitachi, 2015). They have referred to this phenomenon as the "smart," "intelligent," "digital," and "open programmable city" (Hodgkinson, 2011).

GOALS AND OBJECTIVES

SC supporters describe improving metropolitan quality of life as the goal of integrating these IT systems. This goal is supported by two predominant objectives: increasing efficient service delivery and reducing environmental impacts (Bowerman et al., 2000; Chourabi, 2012; Hitachi, 2015; Papa et al., 2013). These solutions seek to rationalize municipal services such as traffic flow, trash collection, energy and water distribution, public safety, communication, administrative services, and economic development (Harrison et al., 2010; Batty et al., 2012).

While SC advocates assume rationalizing municipal services will contribute to reducing environmental impacts through outcomes such as lessening vehicle and power plant emissions, some describe SC as promoting more proactive environmental protections as well. For example, SC information systems are touted as perfect platforms for integrating variable surges of renewable energy generation into the existing grid. As the Japan Smart Cities Portal notes, "the establishment of smart cities lies here: in their bid to adopt recyclable energy sources through the use of solar power and wind power, etc." (Japan Smart Cities Portal, 2015).

Other definitions see alternative energy as part of a broader, more ambitious SC environmental agenda: "The smart city is a self-sustainable unit relying more on renewable energy with integration of green spaces, residential and commercial areas, connected through a web of roads. There will be emphasis is also on minimizing waste by increasing energy efficiency and reducing water consumption" (Athrady, 2015). Some SC advocates have extended the theme of "saving, creating and storing energies" to encompass preserving regional natural and cultural attributes (Hitachi, 2015). Such improvements are not justified as ends in themselves but rather as part of "a quest to bring

innovation" whose "main aim should be to consider the lifestyles of the citizens, which in the end will determine the form the cities should take" (Japan Smart Cities Portal, 2015).

MEANS

SC advocates view two main civic strategies as carrying out its quest for innovations in urban living. The first is using integrated IT systems to empower existing management to better coordinate and execute service delivery (Batty, 2012). The second harnesses IT's social proliferation to enable citizens to participate in as well as oversee such services (Coe, 2001). A consulting firm's market report to a major SC technology provider states it succinctly: "We see two broad streams of digital enablers in cities. The first, digital-city strategies…which provide new ways for public authorities and developers to architect and build more efficient infrastructure and services." Augmenting this activity is a second set of "digital-society initiatives" which, SC advocates assert will "…stimulate self-help and co-production behaviors in the community, strengthen social capital, and engender digital inclusion. These complement public services, but also hold them to account" using "social network platforms…to form communities and mobilize local action" (Hodgkinson, 2011, 2).

The "digital cities" strategy is thus envisioned horizontally as well as vertically encompassing not only "…the centralized capture of the soundings produced by all of a city's connected devices and the application of advanced analytic techniques to the enormous volume of data that results" But also "collaboration across public agencies and with other social institutions such as universities, private enterprises, and the citizenry itself (Greenfield, 2013; Hitachi, 2015; IBM, 2015).

The digital society strategy extends this collaboration further into the grassroots. As the Japan Smart Cities Portal states: "Smart cities are not something that should be tackled by just governments and corporations and then presented to residents. The general public must also be actively involved in sharing their own ideas and helping to formulate the cities by throwing their own wisdom into the pot. That is what smart cities are all about" (Japan Smart Cities Portal, 2015).

At its furthest expression this community energy goes beyond helping to inform municipal operations to potentially supplanting them through independent, self-organized action. While the centralized management of digital information flows from myriad sensors, satellites, and video cameras (the "internet of things") aimed at optimizing efficiency defines one SC trajectory, the proliferation of personal electronic devices and their expanding portfolio of apps ("the internet of people") offers the potential for decentralized, proactive engagement with urban systems (Townshend, 2013, Greenfield, 2013).

CRITIQUE

The digital SC approach has gained considerable attention and legitimacy as the best means to meet the complex challenges of the new metropolis. This focus has prompted considerable investment in SC approaches and the IT companies marketing them (Mendonca and Alawadhi, 2015; Vilajosana, I., et al., 2013). As SC commentator, Adam Greenfield notes,

> *"Hundreds of billions of dollars, not an inconsiderable portion of the total available budgetary resources and, perhaps most importantly of all, an enormous amount of human attention and energy will be devoted to the effort to integrate networked information technology into the management of our cities over the next decade. And virtually all of this activity will take place under the banner of the smart city" (Greenfield 2013, 13x).*

However, significant enthusiasm and financial commitment for SC is shadowed by important questions about overreliance on its abilities to meet the needs of the Age of Cities. The considerable investment required to develop and oversee the complex information gathering infrastructure that is the heart of SC places a tremendous challenge to poorer cities and districts who may not have the resources or the institutional capacity to build and manage SC infrastructure. As a result, SC systems pose the possibility of creating a "big, rich city model that requires a well-funded tech staff and infrastructure" (Townsend, 2013, 243).

SC resource strains include not only cities' acquisition of new digital systems, supporting software, and consulting, but overhauling their grid as well to insure the quantity and consistency of electricity that is the lifeblood of SC systems (Townsend, 2013). With many neighborhoods, cities, and nations not in a position to redeploy their resources to universally provide such upgrades, SC may effectively create "a centrifuge…designed to stratify society" (Gelernter, 1991, 218).

The very “mass production” of smart systems meant to lower their cost and broaden their availability is based upon tailoring them, not for the unique social and ecological dynamics underpinning every city, but for replicable solutions abstracted from the particularities of place. As Lewis Mumford noted, ’The popular technology of our time devotes itself to contriving means to displace autonomous, organic forms with ingenious mechanical (controllable! profitable!) substitutes’” (Mumford, 1997, 527). Achieving these economies of scale (and their requisite profitability) prompts corporations promoting SC to correlate the complexity of cities with the more limited efficiency-oriented goals of business. That “the enterprises involved do in fact think of the urban environment primarily as an abstracted terrain for business operations can be inferred from the existence of proposals – apparently quite serious ones, originating with respected concerns – to deploy the exact same technical systems in places as different from one another in history, texture, and character as Rio de Janeiro, Barcelona, Mumbai, and Singapore” (Greenfield, 2013, XX).

In the face of these capital requirements some nations, such as India, are retrenching from their initial commitments to SC development (IANS, 2015; India Gazette, 2015, Vilajosana, I., et al., 2013). Others, having explored the commitment, are experiencing the less than promised results that come when a “one size fits all” approach is grafted onto the complexity of a really existing city. As noted in the Brookings Institute report, “Getting smarter about smart cities:” “Yet for the rapid rise in interest, smart city deployments have failed to meet both private sector firms’ adoption ambitions and the public sector's expectations for impact” (Puentes and Torner, 2015, 1).

Coupled with underperformance is the frequently uncritical nature of stated SC goals that often take the broad outlines of present metropolitan infrastructures as given. While increasing the efficiency of existing transportation, trash collection, energy, and other systems is the oft-stated SC Holy Grail, the logic underlying such systems remains fundamentally unquestioned. Should cities be seeking more efficient trash collection or to eliminate waste as a concept? Should cities invest in technologies to improve traffic volume efficiencies or in ways to bring production, consumption, and residential life into closer proximity? Absent reassessment of the roots of these issues, SC ironically brings a conservative rather than innovative approach to urban management.

Thus, despite significant financial and human resource commitments SC outcomes have, at times, been mundane, misleading, or added new, potential vulnerabilities to metropolitan infrastructures dependent upon SC systems. As SC consultant Anthony Townsend notes, “The pervasiveness of bugs in smart cities is disconcerting. We don’t yet have a clear grasp of where the biggest risks lie, when and how they will cause systems to fail, or what the chain-reaction consequences will be” (Townsend, 2013, 257).

Grassroots SC advocates posit a wired populace can amend some of these issues by applying the same bootstrapping methodology to SC development as it has for the Internet in general. However, bringing this promise to scale sufficient to meet growing metropolitan social and ecological demands is problematic. Many successfully touted “civic” SC apps seem merely to enable well-off young urban dwellers navigate the urban landscape more effectively to meet up at unexplored, boutique eateries for dinner and drinks. Finding SC applications enabling citizens to seriously deal with the challenges facing their cities has proven more elusive. As a result, “there’s a growing sense that a ‘civic tech’ movement is coalescing, but it has no clear shared aims” (Townsend, 2013, 166).

The persistent pressures of ever-increasing metropolitan demands, gaps in our understanding regarding potential risks and costs of technology-centered interventions, and lack of shared aims in grassroots experimentation has evoked a desire to augment SC and other forms of scientific rationalism with an added dimension. In addition to gathering and processing data and knowledge, there is growing discussion that wisdom is necessary to inform technological choices and decision-making. While academic institutions have traditionally divided science (knowledge production) from religion and philosophy (wisdom) there is a growing investigation of means to unite them (Latour, 1993; Fang, 2013). The concept of ecological wisdom is an important, emerging element of this discussion.

ECOLOGICAL WISDOM

DEFINITION

Like Smart Cities, ecological wisdom is a relatively new concept still in the process of being rigorously defined. Researchers have described EW as the simultaneous achievement of social and ecological sustainability through evidence-based planning interventions requiring minimal input and maintenance (Patten, 2014; Xaing, 2014). These interventions leverage ecological and cultural systems to create “real and permanent good for generations” based upon shared ethical norms embracing social and ecological co-evolution (Carnegie, 1889; Fang, 2013). Instantiated by interventions whose breadth and depth of innovation demonstrates the ability to remain socially and ecologically effective over time, researchers posit the strength of EW is rooted in historically proven, context-dependent “ideas, principals, strategies and even approaches that have led to the creation and sustained longevity of exemplary ecological projects and effective policy instruments” (Xiang, 2014, 10). Where SC’s central focus in on deploying new digital technology networks, ecological wisdom draws upon historically proven precedents and insights emphasizing place-based, life-centered systems.

GOALS AD OBJECTIVES

As noted above, while SC’s central focus in on deploying new, globally transferable, digital technology networks to achieve its goals and objectives, ecological wisdom draws upon the long-term dynamics of local and regional ecological and cultural systems to achieve its goals. As such, EW “consists of evidence-based knowledge, tacit and/or explicit, that originates and evolves from diverse philosophical, cultural, and disciplinary backgrounds and across generations” (Xaing, 2014, 67).

Three fundamental elements undergird the civics relevant to EW. The first is the recognition of nature as a subjective factor in project development and outputs. Researchers reference the Chinese philosophy of daofaziran as an embodiment of this approach indicated by the aphorism, “Deferring to nature who knows, and is, The Way” (Chan, 1963). In this manner, natural processes constitute social values making nature a vital guidepost to project consideration and development when weighing the outputs and impacts of a plan or undertaking (McHarg and Mumford, 1969).

The second is EW’s reliance upon insights from a broad, transdisciplinary community. Identifying EW requires both philosophical as well as practical knowledge applied over time. This necessitates a “social lifecycle” incorporating both scientific and community-based, time-tested knowledge which can emerge from a wide range of philosophies, cultures, and disciplines (Schwartz and Sharpe, 2010; Campbell, 2012). As a result, EW calls upon experience and acumen from diverse communities of theory and practice.

Finally, while EW recognizes present-day life and support systems as social actors, so too does it recognize the discerning genius of previous generations. Evidence provided by the passage of time allows contemporary thinkers and practitioners to identify past perception, methods, and practices still of value to the present. Just as the field of biomimicry examines ecological precedents of to inform design, EW adds examining social precedents as well. Combining these insights with current scientific capacities, EW advocates argue, will enable the present to benefit from a broader spectrum of past and present understanding.

MEANS

Researchers describe EW’s goal as the healthy co-evolution of social and ecological systems. To attain this goal, EW seeks planning and policy interventions capable of generating social and ecological benefits at minimal cost. Benefits, in this case, refer to concurrent enhancement of social and ecological communities and costs reference not only recognized financial costs but also social and ecological costs that may or may not be present in current social norms or methods of accounting (Xaing, 2014; Young, 2014).

EW applies this framework to all aspects of metropolitan infrastructure such as open space, land use, and water systems including local and regional ecosystem services that support both ecological viability and sustainable urban development. EW leverages a range of social and ecological actors to achieve these ends. As noted above, EW draws upon an intergenerational and interdisciplinary range of philosophical and technical approaches to inform its planning interventions. In keeping with its supposition that the dynamics of natural systems are the first source of knowledge to determining optimal action, EW also encompasses the concept of “no action” or minimal action as, at times, the best means of achieving it’s desired ends (Fukuoka, 1978; Chan, 1963).

EW does not constitute a distinct ideology in itself. Rather, it is a revealed property inclusive of a broad spectrum of social, ecological, historical, and philosophical sources. It encompasses both past and contemporary work

represented by a variety of approaches including, among others, biomimicry, green infrastructure, ecological restoration, historic preservation, and design for environment (Benyus, 1997; Park, 1998; Perrow and Davy, 2002; Young, 2011). Each of these fields strives to bring healthy social and ecological evolution into closer proximity. In doing so, they seek to unify the objectives of the present and needs of the future with knowledge of the past and the agency of nature.

The primacy of the experience provided by ecological systems is central. As the biomimicry and green infrastructure literatures emphasize, nature provides a laboratory whose "experiments" offer billions of years of testing from which ecological wisdom can be drawn. As Achal, Mukherjee, and Zhang note, ecology "inspires us by creating a large number of high-performance prototypes that we can reverse engineer to achieve sustainability. Anthills, coral reefs, silk cocoons and spider's web are some examples of natural habitats that are sustainable and at the same time highly efficient structures. Materials of biological origin such as corals, mollusks, diatoms, arthropods, and silk often surpass engineered materials in performance" (Achai, et al., 2014, 1).

The experience of historical and contemporary social systems also provide valuable framework. The results of several millennia of agricultural and urban interventions provides a storehouse of examples (both successful and detrimental) from which wisdom (both proactive and cautionary) can be deduced and assessed for their value in guiding local action (Bishop and Xaing, 2014; Kuei-Hsien and Tuan, 2014; Yan, et al., 2014). Such action may be focused on preserving long-functional systems within growing cities or informing responses to unprecedented conditions such as the potential impacts of climate change or natural disasters (Che, et al., 2014; Laconte, 2014; Song and Li, 2014).

CRITIQUE

Although, as an academic concept, EW is too new to have received many direct criticisms (yet) some can be anticipated. Wisdom requires time, patient observation, and the integration of knowledge from a diversity of sources and levels. As a result, the idea of wisdom may sound quaint to the present ear as many consider the engine of society as to rapid, moving into territory too unknown and unprecedented, generating problems too "wicked" for historically-based wisdom to maintain its relevance (Beck, 1992; Giddens, 1999; Riddel and Webber, 1973).

In addition to this initial critical framework, EW remains vulnerable to answering a series of fundamental questions such as: what are the criteria by which EW can be measured? Does it contain basic principals and can they be universally applied or is it rooted solely in the local? Furthermore, as an interdisciplinary venture, how does EW relate to other disciplines? What holes exist in the various literatures relevant to EW and can they be addressed? As a result, what types of new expertise are required to understand and pursue EW? Finally, (at least for now) is the question, how does EW add to concepts of ecology?

Perhaps these critical questions represent opportunities where elements of SC and EW conjoin. While academics are already exploring various literatures of potential relevance to EW, the stochastic, wired SC populace assists in addressing other issues. Francis Galton's famous analysis of real-time collective intelligence in estimating values supported statistical inquiries into central tendency and standard deviation later popularized as the "wisdom of crowds" (Galton, 1907; Surowiecki, 2005). In a similar fashion, democratized networks of smart city citizens may, under certain circumstances, be able to generate wise perspectives within compressed time. Crowdsourcing inquiries may become means of determining points of social and ecological importance in urban landscapes. They may also provide fine-grained information on disturbance regimes and cycles occurring at such locations. Though longer-term observation will remain important in locating EW, the breadth of real-time observation could make significant contributions as well.

These types of input in turn might help create and be supported by "situated software," developed to be highly responsive to localized context (Shirky, 2004). Although perhaps inherently limited in its scalability, such software could help enable homegrown development and proliferation of EW. This type of local monitoring and management of urban social and ecological systems could help offset SC's tendency toward centralized, uniform systems and contribute what Lewis Mumford felt "the administrator and bureaucrat, in the interest of economy or efficiency, are tempted to leave out: time, patience, loving care of detail, a watchful interrelation of past and future, an insistence upon human scale and the human purpose" (Mumford, 1950, 86; Zambonelli and Parunak, 2003).

The ability of SC technology to aggregate knowledge and compress the time necessary to gather diverse perspectives could be a boon to the development of wiser cities. Still, technology, even in the hands of a wider range of users, cannot deliver the historical, cultural, and ecological understanding truly wise cities also require. These latter, vital components are critical, not only to the emergence of EW but also to the success of any approach to ameliorating the challenges facing the Age of Cities. As Townsend, commenting on the SC movement notes, "If this new urban

science dismisses what have come before it, and fails to ground itself in what has already been discovered, it runs the risk of being at best wrong, and at worst…deeply misleading" (Townsend, 2013, 314).

EW exists as a counter–balance to this risk. Unearthing the ecological and cultural wisdom inherent in the experience of every metropolitan region can provide the contours of a shared sense of what Patrick Geddes called "eutopia," the unique, positive possibilities that are the inheritance of each particular city and region. While SC priority is to integrate cities with computers EW's predominant response to the metropolitan crisis is to integrating them with nature, their own history, and the potential these components offer.

ACTING WISELY

Beyond the acquisition of knowledge, this vital question of how to make EW actionable in different economies, cultures, and political structures presents itself. As wisdom describes when and how to act, EW is directly related to these fields of decision-making. Thus, the exploration of EW is not limited to technological applications. It also must concern itself with social questions such as: what forms of governance or power obstruct or support the application of EW?

Economic questions arise as well including whether past examples of EW can be adapted to contemporary capitalist or institutional conditions or need to be modified and if so, can they still be considered meeting the principals and properties of EW? If not, does EW require the public sphere or even an evolved mode of production to bring it to fruition?

As these and other questions reflect, EW offers the opportunity for researchers and practitioners to explore myriad avenues in its pursuit. The search offers exciting prospects for the advancement of knowledge integrating the broadest scope of history, culture, ecology, technology, and governance. It does however pose a challenge. To date, either consciously or unconsciously urban systems have been based upon a reductionist approach dividing this scope into atomized fragments, isolating knowledge, and subordinating non-rationalist realms. This approach, like the splitting of the atom, has generated great power but also considerable devastation. Those who seek to reweave these strands of knowledge, culture, and time do so in opposition to the dominant institutions of our epoch. Thus the pursuit and application of wisdom today, as it has been throughout history, is a complex undertaking. While it carries with it the hopeful prospects of integrating social and ecological communities, it holds challenges for those engaged in its pursuit. Surmounting those challenges will require drawing upon not only rigorous science but deep commitment and passion as well.

REFERENCES

Achal, Mukherjee, and Zhang 2014. "Nature inspired ecological engineering: Low energy biocement for sustainable cities." Conference paper SI-EW-1, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Athrady, A. 2015. States are selecting cities to be models for smart cities, Deccan Herald. Retrieved March 20, 2015 from http://www.deccanherald.com/content/462864/budget-pushes-smart-city-project.html

Batty, M., et al. 2012. "Smart cities of the future." European Physical Journal-Special Topics 214.1: 481.

Beck, U. 1992. Risk Society: Towards a New Modernity. New Delhi: Sage.

Benyus, J. 1997. Biomimicry. New York: William Morrow.

Bishop, I. and Xaing, W. 2014. "Six Dimensions of Ecological Intervention: finding and communicating wisdom." Conference paper SI-EW-6, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Bowerman, B., et al. "The vision of a smart city." 2nd International Life Extension Technology Workshop, Paris. 2000.

Campbell, T. 2012. Beyond smart cities. London: Earthscan.

Carnegie, A. 1889. Wealth, North American Review, 148(391) 653-655.

Chan, Wing-tsit. The way of Lao Tzu (Tao-te ching). Indianapolis: Bobbs-Merrill, 1963.

Che, Y., Liu, M., She, Q., and Xaing, W. 2014. "Building urban and regional resilience to protect the SHYRDUA region from impacts of sea-level rise: A nature inspired approach." Conference paper SI-EW-27, Ecological Wisdom for

Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Chivian, E. and A. Bernstein (eds.) 2008. Sustaining life: How human health depends on biodiversity. Center for Health and the Global Environment. Oxford University Press: New York.

Chourabi, H., et al. 2012. "Understanding smart cities: An integrative framework." System Science (HICSS), 2012 45th Hawaii International Conference on. IEEE.

Cisco Systems 2015. Smart and connected communities. Retrieved March 4th, 2015 from http://www.cisco.com/web/strategy/smart_connected_communities.html

Coe, A., Paquet, G., and Roy, J. 2001. "E-governance and smart communities a social learning challenge." Social Science Computer Review 19.1: 80-93.

Digital Journal, 2015. Global Smart Cities Market to Grow at a CAGR of 16.6% by 2019; Finds New Report. Retrieved March 4th, 2015 from http://www.digitaljournal.com/pr/2481679

Dobson, A., 1990. Green political thought: An introduction. London: Unwin Hyman.

Eckersley, R., 1992. Environmentalism and political theory: Toward an ecocentric approach. Albany: State University of New York Press.

Fang 2013. XXX Check cite.

Food and Agriculture Organization (FAO), 2002. World agriculture: Towards 2015/2030. An FAO perspective Retrieved March 8th from http://www.fao.org/docrep/005/y4252e/y4252e06a.htm

Fukuoka, M. 1978. One straw revolution. Emmaus, Pennsylvania: Rodale Press.

Galton, F. 1907. “Vox populi. Nature 7, 450-451.

Gelernter, D. 1991. Mirror worlds, or, The day software puts the universe in a shoebox--: how it will happen and what it will mean. New York: Oxford University Press.

Giddens, A., 1999. Risk and Responsibility" Modern Law Review 62(1): 1-10.

Greenfield, A. 2013. Against the smart city. New York: Do Projects.

Harrison, C., et al. 2010. "Foundations for smarter cities." IBM Journal of Research and Development 54.4 : 1-16.

Hitachi Corporation 2015. Smart cities case studies. Retrieved March 4th, 2015 from (http://www.hitachi.com/products/smartcity/)

Hodgkinson, S. 2011. Is your city smart enough? Digitally enabled cities and societies will enhance economic, social and environmental sustainability in the urban century. Retrieved March 4, 2015 from http://www.cisco.com/web/strategy/docs/Is_your_city_smart_enough-Ovum_Analyst_Insights.pdf

India Gazette, 2015. “Allocation to smart cities project lowered.” Retrieved April 24, 2015 from: http://www.indiagazette.com/index.php/sid/230664257

Indo-Asian News Service, 2015. “Union Budget 2015: Allocation to smart cities project lowered to Rs 143 crore.” Retrieved April 24, 2015 from: http://www.bgr.in/news/union-budget-2015-allocation-to-smart-cities-project-lowered-to-rs-143-crore/

International Business Machines 2015. Retrieved March 20, 2015 from http://www.ibm.com/smarterplanet/us/en/smarter_cities/overview/

International Energy Agency, 2015. World energy outlook: Water for energy. Retrieved March 9th, 2015 from http://www.worldenergyoutlook.org/resources/water-energynexus/

Japan Smart Cities Portal 2015. Retrieved March 20, 2015 from http://jscp.nepc.or.jp/article/jscpen/20120920/323732/

Kuei-Hsien and Tuan; 2014. “Urban living with floods: Learning from the ecological wisdom of flood adaptation in the Mekong River Delta, Vietnam.” Conference paper SI-EW-15, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Laconte, P. 2014. “Ecological wisdom and saving of resources: land for urban, agricultural and forestry use, water and energy - the case of the Louvain new university town, Belgium.” Conference paper SI-EW-43, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Latour, B. 1993. We have never been modern. Harvard University Press: Cambridge, Massachusetts

McHarg, I., and Mumford, L. Design with nature. New York: American Museum of Natural History, 1969.

Mendonca J. and Alawadhi, N. 2015. Budget 2015: “Digital India, smart cities projects catch the eye of IT companies,” ET Bureau. Retrieved March 20, 2015 from

http://economictimes.indiatimes.com/news/economy/infrastructure/budget-2015-digital-india-smart-cities-projects-catch-the-eye-of-it-companies/articleshow/46436787.cms

Mumford, L. 1950. “Mumford on Geddes,” The Architectural Review (108): 644, 86.

Mumford, L. 1997. The city in history: Its origins, its transformations, and its prospects. New York: MFJ Books.

Papa, R., Gargiulo, C.,and Galderisi, A. 2013. "Towards an urban planners’ perspective on smart city." TeMA Journal of Land Use, Mobility and Environment 6.01: 5-17.

Park, S. 1998. Sustainable design and historic preservation. CRM-WASHINGTON-, 21, 13-16.

Patten, D. 2014. “Ecological wisdom: Are there lessons from management of modified watersheds and rivers in western North America?” Conference paper SI-EW-56, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Perrow, M. and Davy, A. (Eds.) 2002. Handbook of ecological restoration: Restoration in practice (Vol. 2). Cambridge: Cambridge University Press.

Postel, S., G. Daliy, P. Ehrlich, 1996. Human appropriation of renewable fresh water, Science: 271: 5250 pp. 785-788.

Puentes, R. and Torner, A. 2014. “Getting smarter about smart cities.” SERIES: Smart cities number 8, Washington, D.C.: Brookings Institution.

Riddel, H. and Melvin Webber, 1973. Dilemmas in a general theory of planning. Policy Science 4: 155-169.

Rosenzweig, C., Solecki, W. D., Hammer, S. A., & Mehrotra, S. (Eds.) 2011. Climate change and cities: first assessment report of the Urban Climate Change Research Network. Cambridge: Cambridge University Press.

Schwartz, B. and Sharpe, K. 2010. Practical wisdom: The right way to do the right thing. New York: Riverhead Books..

Shirky, C. 2004. Situated software, Networks, economics, and culture. Retrieved April 29, 2015 from www.shirky.com/writing/situated_software.html.

Smart City Project, 2015. Retrieved March 4th, 2015 from http://www.smartcity-planning.co.jp/en/index.html

Song Y. and Li, C. 2014. “Ecological wisdom in disaster resilience: Evaluating the restoration process of Wenchuan Earthquake.” Conference paper SI-EW-42, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Surowiecki, J. 2005. The wisdom of crowds: Why the many are smarter than the few and how collective wisdom shapes business, economics, societies, and nations.

Thomas, C., A. Cameron, R. Green, M. Bakkenes, L. Beaumont, Y. Collingham, B. Erasmus, M. Ferreira de Siqueira, A. Grainger, L. Hannah, L. Hughes, B. Huntley, A. van Jaarsveld, G. Midgley, L. Miles, M. Ortega-Huerta, A. Townsend Peterson, O. Phillips, and S. Williams, 2004. Extinction risk from climate change. Nature 427: 145–148.

Townsend, A. 2013. Smart cities: Big data, civic hackers, and the quest for a new utopia. New York: W.W. Norton and Company.

United Nations Department of Economic and Social Affairs, Population Division, 2014. World urbanization prospects: The 2014 revision, highlights. New York: United Nations.

United States Energy Information Administration, 2013. International energy outlook 2013: With projections to 2040. USEIA, Office of Energy Analysis DOE/EIA-0484(2013), Washington, D.C.: Department of Energy.

Vilajosana, I., et al. 2013. “Bootstrapping smart cities through a self-sustainable model based on big data flows." Communications Magazine, IEEE 51.6: 128-134.

World Bank 2015. Water supply overview. Retrieved March 20, 2015 from www.worldbank.org/en/topic/watersupply/overview

World Health Organization, 2015. Global Health Observatory Data: Urban population growth. Retrieved March 8th from http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/

Xaing, W. 2014. Doing real and permanent good in landscape and urban planning: Ecological wisdom for urban sustainability. Landscape and Urban Planning, 121: 65-69.

Xaing, W. 2014. What is ecological wisdom, Unpublished powerpoint presentation.

Yan, S., Yang, H., Xu, L., Ren, T. 2014 “Ecological wisdom in the planning and design of ancient Chinese cities and its contemporary relevance.” Conference paper SI-EW-9, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Young, R. 2011. “Planting the living city: best practices in planning green infrastructure – results from major US cities” Journal of the American Planning Association vol. 77 no. 4: 368-381.

Young, R. 2014. “The ecological city and the quest for paradise.” Conference paper SI-EW-70, Ecological Wisdom for Urban Sustainability Symposium: Doing real and permanent good in landscape and urban planning, International Society of Ecological Wisdom.

Zambonelli, F., and Parunak, H. 2003. “Signs of a revolution in computer science and software engineering.” In Engineering Societies in the Agents World III (pp. 13-28). Springer Berlin Heidelberg.

SMART MOBILITY FOR URBAN SUSTAINABILITY

Session T2.5 | June 2 | 9:00 – 10:30

Jacek Malasek
Road and Bridge Research Institute, Warsaw, POLAND
jmalasek@ibdim.edu.pl

ABSTRACT: Eco-mobility in the cities, traffic automation and coordination of transport & spatial planning polices look to be the crucial elements of the sustainable urban development and CO2 emissions decrease. The biggest challenge of sustainable transport policy in urban areas is to decrease car use in densely populated areas where the highest traffic flows are observed. At present the modal split of transport in Europe is dominated by passenger cars accounting for 73.4% of passenger traffic compared to just 1.4% for tram and metro combined. According to the World Health Organization, some 40 million people in the 115 largest cities in the EU are exposed to air exceeding WHO air quality guideline values for at least one pollutant. Achieving a smart, green and integrated transport system is a key to sustaining and developing economic and social vitality of urban Europe (1).

Coordination of spatial & transport planning policy means: balance in the city core of three capacities: internal road network = external access roads = internal parking lots; parking zones (standards for maximum parking spaces per 1000 sq. m. of offices in the city center and minimum in the outskirts with law density) and a road charging; P+R system close to the PT terminals outside downtown area; bicycle routes network development and well facilitated

pedestrian areas. Transportation policy measures should include also: promotion of the car-sharing and Uber-like systems for the more effective car use; new environmental tax on registering a car older than 10 years; decreasing the number of company cars for private use; a license on exchanging an updated smart module free - for making automatic cars more attractive for buyers and better adjusted to the changing Smart City environment. Multifunctional and Intensive Land Use should be promoted to reduce travel needs or to make travel distances smaller (acceptable for walking or cycling). MILU will help also with urban sprawl and, what's not less important, higher density means people are not car dependent.

Smart Eco-travel Planner and its database can be used for implementing sustainable urban transport policy in more efficient way. The real novelty of my travel planner idea is: it will work on strictly personalized Internet portal, will cover environmental aspects (pollution counting), the participants will be awarded and the business model for cities implementing SEP makes it more economically viable. SEP will provide reliable advising for optimal travel planning, according to: actual traffic conditions, road accidents, road works, public transport problems in operation and air pollution observed - taking into account also personal circumstances. The main financial source for promotion of eco-friendly travel modes could be a transport policy rule: fuel prices can never go down – probably more effective measure than all Climate Summit 2015 results. Only during last 3 years changes in fuel price could result in Poland in gathering ca. 10bn € on the eco-fund for financing e.g. the new metro lines (2).

Traffic automation and ARTS (Autonomic Road Transport Support Systems as a new generation of ITS with artificial intelligence) - able to be self-healing, self-maintaining, self-adapting and self-optimizing - will allow the full automation of traffic management process, fighting congestion by the ramp-metering and better traffic distribution on the road network. SMART 2020 report found that Information and Communications Technologies (ICT) could safe 15% of global emissions in 2020. An autonomic traffic management system and automatic cars will change the street view: no need for traffic signals, traffic signs and the sign posts. Traffic automation will make vehicle platooning (vehicles densely packed while moving: bumper to bumper and side by side) possible, for better utility of a road space. Road painting will vanish. Narrower carriageway will form better traffic conditions for public transport (additional space for tram tracks or a busway), cyclists and pedestrians – also more space for greenery, coffee gardens, etc. Streets will be more livable.

KEYWORDS: smart mobility; urban development; sustainability; spatial and transport planning.

SUSTAINABLE URBAN TRANSPORT POLICY

The biggest challenge of sustainable transportation policy in urban areas is to decrease car use in densely populated areas where the highest traffic flows are observed. Although the idea of sustainability is well known since 80., it will be useful for this paper to explain how it is understood here. Implementing sustainable development is to support economical growth with minimal harm for environment and high living standards. In case of sustainable transport it means less energy and land consuming investments. As mobility is one of important living standards and big achievement of our civilization, we have to be sure that any restrictions for car use will not decrease an indispensable mobility. Keeping only indispensable mobility in mind means that policy measures should try to reduce need for car using by other solutions, like:

- Better communication,
- Attractive public transport,
- Modern land use, and last not lease
- Clever and sound transportation policy.

Good use of a better communication can substitute a lot of travels. Internet and other telecommunication services can substitute:

- personal meetings (you can call, fax or send e-mail)
- everyday work trips by tele-work (working at home)
- business trips (visiting bank, city administration, ect.)
- looking for goods in shops.

Attractive public transport means:

- quick travel by preferences in traffic (separated right-of-way for trams, bus lanes, priority at junctions, ect.)
- cheap (subsidized) tickets
- short, convenient and safe walking distance to mass transit stops

- short waiting time by small headways (smaller vehicles were needed) or reliable time tables and well organized interchanges
- call-and ride services mostly for handicapped.

Land-use planning in urban areas should follow such rules as:

- work close home (because of big achievements in making industry clean, no longer need to separate workplaces according to the Athen's Charter)
- shops close home (hypermarkets generate high volumes of car traffic)
- main trip generators (high-rise office buildings, shopping malls, sport arenas, ect.) close public transport interchanges
- in general: multifunctional and intensive land use should be promoted
- fighting urban sprawl (low density generate additional car traffic) using financial and administrative measures.

Coordination of spatial & transport planning policy means:

- balance in the CBD of three capacities: internal road network = external access roads = internal parking lots
- parking zones – standards for maximum parking spaces per 1000 sq.m. of offices in CBD and minimum in the outskirts with law density
- Park-and Ride system with parking reserves close to mass transit terminals outside downtown area
- bicycle routes network development
- well facilitated pedestrian areas.

Measures mentioned above do not include enforcement like parking and road pricing, limited access to specified areas, etc. Enforcement can help policy implementation and usually is quite effective, but the more elegant solution is to attract people to other transport modes than to forbid car use administratively.

In the cities, regions or even the countries facing really big transportation problems, soft measures mentioned above should be supported by the more painful administrative decisions. 10 measures or commandments, called the Decalogue for Sustainable Urban Transport Strategy (3), could be here very helpful.

I. PROMOTION OF PUBLIC TRANSPORT MODES

Better accessibility and higher attractiveness of public transport modes can be done by:

- Development of high quality public transport networks, even when it decrease the road capacity
- Preferences for public transport vehicles in traffic
- More convenient interchanges
- Convenient and environmental friendly public transport vehicles
- Good national passenger information system.

II. CAR RESTRICTIONS WITHIN THE CITIES

Can be done by high charging of using more cars in a household and limiting their number to 1 in case of households in parking charging zones.

III. FUEL PRICES CAN NEVER GO DOWN

Lowering fuel price makes people who choose public transport because of economical reasons going back to the car use. Profit gained when the market fuel price goes down should feed the city fund for public transport development.

IV. ECOLOGICAL TRANSPORT TAX

Each car ride is automatically taxed and the tax amount depends on the city district, journey length, emissions, the noise level and on the day time (the highest during pick-hours).

V. PROMOTION OF MORE ENVIRONMENTAL FRIENDLY VEHICLES

Buying the more expensive hybrid or electric car should be awarded with a couple of gains, connected with its purchase (lower VAT and registration fees) and use (entering limited access zones, lower parking fees, etc.).

VI. EQUAL ACCESS TO PT MODES

Can be done by arranging better conditions of functioning in the city environment for the handicapped and those who can not use private vehicles, and are fully depend on the city transport.

VII. CO-FINANCING OF TRANSPORT INVESTMENTS

All real estate owners should participate (by paying the higher tax) in financing all local investments which increase accessibility of their houses, flats and plots.

VIII. SUSTAINABLE SPATIAL PLANNING POLICY

Revitalization of urban areas with multifunctional and intensive land use, which makes that transportation needs are lower and more journeys can be covered by walking and cycling.

IX. BETTER TELECOMMUNICATION SERVICES

Access for everyone to high quality telecommunication and Internet networks, which can in many cases substitute travels and, what's probably the most important, makes tele-working possible.

X. BETTER GOODS TRANSPORT MANAGEMENT

Deliveries within the city should be served in smaller (instead of HGV) and more environmental friendly (using alternative fuels) vehicles or, if only possible, by train.

Obviously, final decision on implementation of all measures mentioned above should be done during public participation process attended by all main groups of the city stakeholders.

COORDINATION OF SPATIAL AND TRANSPORT PLANNING POLICES IN WARSAW

Coordination of spatial and transport planning policy looks to be the best tool for sustainable city growth management. It helps in organizing multifunctional and intensive land use which forms a good basis for development of environmental friendly and more attractive for people public transport rail modes. In compact city travel distances are shorter, what prefers cycling and walking instead of car using. The guidelines for "green" urban planning are shown here using Warsaw example.

Warsaw, the capital of Poland and the biggest city with population over 1.8 million elaborated the set of documents for the effective city management. Coordination of spatial and transport planning policies follows the guidelines prepared in three main city documents:

- Development strategy for the city of Warsaw (4),
- The study of Warsaw spatial development conditions and directions of development (5),
- The strategy for sustainable development of Warsaw transport system (6).

All documents listed above are concentrated on the issue of city sustainable development.

The present Warsaw development strategy is based on the previous one "Warsaw development strategy until the year 2010" (7) issued in 1999, where strategic objectives were established as follows:

- Improving residential living conditions and the city's attractiveness
- Developing and improving the city's transportation system and ensuring efficient communication links within Poland and abroad
- Creating conditions that would stimulate economic growth
- Creating a proper environment for international economic, scientific and cultural organizations and institutions
- Achieving harmonious development within the city as a whole, which will strengthen integration of the metropolitan area.

In the beginning of a new century situation in national economy has improved and Poland was entering the European Union. Because also some assumptions and actions suggested in strategy were no longer actual, it was decided to elaborate a new version of this document. The new strategy starts with two very proud and ambition political statements:

The mission of the local government of Warsaw, a city of rich tradition, is to achieve the highest possible level of satisfaction of resident's needs and to place Warsaw among the most important European metropolises.

The vision: Warsaw of 2020 is an attractive, modern, dynamically developing metropolis with a knowledge-based economy, the financial centre of Central Europe, a city of significant standing among the most important European capitals. It is an open and accessible community, a city with a high quality of life, an important centre of European culture, with well organized public spaces – a city with soul.

The work on the strategy proceeded in various directions. Two documents were drawn up: The report on the state of the city, i.e. a diagnosis, and the Development strategy. The plans were consulted with citizens. The work was carried out by employees of Warsaw City Hall, as well as external consultants and experts, mainly the scientists from universities and research institutes. The work on the strategy was conducted by seven sub-teams on: city policy, land development, public safety, transport and traffic engineering, technical infrastructure, social infrastructure and environmental protection. The most important findings of SWOT analysis are listed below.

STRENGTHS ✓ Status of capital city ✓ Governing system enabling to coordinate sustainable development and to implement comprehensive solutions for the whole city ✓ The strongest band largest scientific and academic centre in Poland ✓ Large economic potential and concentration of investments ✓ Largest labour market in Poland ✓ Landscape and architectural areas of unique value ✓ The main transport hub in Poland ✓ Largest IT infrastructure network in Poland ✓ Program of cooperation with non-governmental organizations.	WEAKNESSES ✓ Lack of inhabitants identification with the city and lack of the city trademark ✓ Weak connections between science and business ✓ Lack of big enough trade and exhibition centers ✓ Lack of clearly defined city centre and district centers ✓ Unclear state of land ownership ✓ Small number and low quality of local land development plans ✓ Lack of ring roads.
OPPORTUNITIES ✓ Change with respect to the legal aspects of metropolises management ✓ Potential of the city to reach 2.5-3 million inhabitants ✓ The largest science and technology centre in Poland ✓ Inflow of foreign investments ✓ Availability of the European Union structural funds ✓ Urban revitalization programs ✓ Keeping a high number of public transport users ✓ Development of cultural tourism. Keeping a high number of public transport users ✓ Development of cultural tourism	THREATS ✓ Poor cooperation between local governments within the Warsaw metropolis ✓ Migration of companies and wealthier inhabitants to suburban areas ✓ Low level of investment in research and development by the private sector ✓ Spatial disintegration through dispersed development ✓ Lack of the modernization program for housing estates ✓ Lack of an institution coordinating public transport at metropolitan level ✓ Small number of tourist class hotels.

On the basis of analysis five strategic objectives were formulated:

1. To improve the quality of life and safety of the residents of Warsaw
2. To consolidate the residents sense of identity by fostering tradition, developing culture and stimulating social activity
3. To develop metropolitan functions, strengthening Warsaw position on the regional, national and European level
4. To develop a modern economy, based on knowledge and scientific research
5. To achieve sustainable spatial order in Warsaw.

One of the strategic objectives of city development is the introduction of spatial order. Realizing this target makes it necessary for the local government authorities to manage spatial policy in line with the city needs and development potential. Spatial policy as conducted by the authorities of Warsaw concentrates on satisfying needs and rising the living standard in the city. The primary aim of these actions is a striving for Warsaw inhabitants to achieve satisfaction

as derived from good living conditions in metropolis with broadly developed cultural, educational and sport-recreational functions, as well as modern and convenient transport, social and service infrastructure. The capital is to become a city that is people friendly and guaranties prosperity for the whole society.

The basic task of architectural and spatial planning design is defining of streets and public space as common areas. Each area or district of the city should make it possible for the inhabitants to feel the character and climate of the place, while the intensity and selection of building functions should facilitate pedestrian access to adjacent public transport stations and stops, so these can become an attractive alternatives to the automobile. The development of a contemporary metropolis must take into account vehicular traffic while simultaneously respecting pedestrian needs.

The city should concentrate a broad spectrum of public and private functions in order to support the regional economy and satisfy the needs of inhabitants of various income groups. Public, administrative and commercial functions should be located within housing districts so that many daily activities can take place within range of pedestrian access.

Districts should be characterized by compact, multifunctional building tissue, the interconnected street network should be designed so as to foster walking and cycling in order to decrease the number and length of car trips, as well as save energy. Diverse green areas, ranging from playgrounds to playing fields and public gardens, should be provided by each city district.

The spatial policy of Warsaw follows all strategic objectives formulated in development strategy and is derived from "The study of Warsaw spatial development conditions and directions of development". The Study is a planning document defining spatial development for the borough, encompassing its entire area. It serves a coordination role in programming the development of the city as established in development strategy as well as in preparing multiyear investment plans and local spatial development plans, primarily in the implementation of public investment projects. It also serves as a formal document in preparing applications for approving of resources from the European funds. However the Study is not a provision of local law and therefore, cannot serve as a basis for making administrative decisions in connection with implementation of projects in the city.

The development of Warsaw as an European metropolis shall concentrate on guarantying of spatial conditions for balanced and sustainable economic and social development, the protection of cultural and natural heritage and the achievement of European living standards by its inhabitants.

The spatial policy objectives are:

1. Improvement in the spatial order of the city through actions such as the defining of principles for organizing and shaping elements forming the spatial structure of Warsaw
2. Protection of existing and creation of new elements of the city sustainable development
3. Defining principles of molding as well as the development of the system of protected areas with urban, culture and nature values
4. Improving the efficiency and development of transport system
5. Improving the functioning and the development of technical infrastructure.

The Study defines conditions for the achieving of efficient transportation links, the creation of new, multifunctional spatial structures, the molding and protection of natural and cultural values and improving the quality of public space.

In the area of shaping spatial structure and landscape of Warsaw it has been established that changes shall be aimed at urban quality and the protection of environment, while actions shall be mainly subordinated to changes in the cityscape that stress and underscore elements shaping a unique image of the city and defining the quality of municipal space.

Due to the presence of similarities in buildings quality and land development, the area of Warsaw has been divided into three basic functional zones:

- The downtown functional zone (including an identified city center area),
- The urban zone and
- The suburban zone, for which development guidelines and directions of change have been formulated.

Warsaw environmental protection program identifies objectives, priorities and tasks which implementation is served by legal instruments. Among these, spatial planning occupies a special place. Actions in the area of environmental protection have been founded in the directions of Warsaw spatial policy. The main aims of the city spatial development policy in the realm of protection of the environment and its resources include:

- Protection of environment, nature and landscape values,
- Improvement in the quality of surface waters and protection of water resources,
- Protection against noise caused by transportation and industry,
- The achievement of required standards in atmospheric air quality,
- Acting against threats to the environment as caused by industrial accidents as well as in the transportation of hazardous materials.

Transportation policy is a part of "The strategy of sustainable development of Warsaw transport system". The results of analyses presented in the city transport system diagnose formed the base for the SWOT analyze, which main findings are presented below.

STRENGTHS	WEAKNESSES
✓ Implemented since 1995 transport policy for Warsaw based on the principles of transport system sustainable development. ✓ Well developed public transport network of high density. ✓ Significant share of public transport in servicing internal journeys. ✓ Implemented program of tram routes modernization and development. ✓ Transparency of roads system – rectangular in the central zone and radial outside that area. During the recent years two bridges have been completed, which allowed improving the conditions of traffic across the Vistula river. ✓ Wide right-of ways within the existing built-up areas, also in the city center. ✓ Reserves of land for development of road infrastructure. ✓ Close vicinity of the international airport.	✓ Limited extent of the transport policy implementation. ✓ Low standard of collective transport services, particularly as a result of the applied vehicle filling standard (6 or even 8 passengers per 1 m^2 of standing space), frequency and quality of rolling stock. ✓ Absence of an institution managing and coordinating public transport at the level of agglomeration. ✓ Absence of efficient interchanges for various means of transport. ✓ Insufficient preferences in traffic for public transport in central area of the city and in the main access corridors. ✓ Insufficient development of bicycle routes network infrastructure, particularly in central area and on access to collective transport hubs. ✓ Poor road infrastructure maintenance causing alarming status of some roads and viaducts. ✓ Insufficient number of bridges across Vistula. ✓ Low level of traffic safety. ✓ Poorly developed Park & Ride system. ✓ Poor enforcement of parking regulations.
OPPORTUNITIES	**THREATS**
✓ Opportunity for coordinated implementation of spatial and transport polices. ✓ Possibility of co-funding of transport projects from the EU funds. ✓ High number of public transport users. ✓ Reserves of capacity and speed in tramway transport system. ✓ Public consent for public transport priority in traffic. ✓ Continuous interest of the public in improvement and development of transport system. ✓ Improvements in traffic organization and implementation of effective traffic management systems using modern technologies. ✓ Increasing potential of private carriers in collective transport. ✓ Increasing interest of city residents in using bicycles, including commuting to school and work.	✓ Gaps in law limiting the possibilities of efficient public transport management in the scale of the agglomeration. ✓ Prolongation of the investment process resulting with lengthy legal procedures of obtaining administrative decisions. ✓ Increasing costs of transport infrastructure construction. ✓ Spatial disintegration of the city and agglomeration what increase demand for transport services. ✓ Public expectations that the solution of transport difficulties can be achieved mainly by street network development. ✓ Frequent changes in long-term plans of modernization and development of the transport system. ✓ Absence of approved local plans clearly determining the concepts of physical and transport system development. ✓ Taking decisions concerning investment priorities without comprehensive comparative socioeconomic analysis.

In the process of creating the Strategy, numerous possible variants of transport policy for the Capital City of Warsaw were considered. As a consequence it was assumed that it is justified and necessary to assure balance between traveling by cars and collective transport with consideration for the important role of pedestrian and bicycle traffic. With the deficit of transportation space, poor environment quality and limited funds, control of access to selected city areas for car traffic is necessary. Those restrictions, however, should be compensated by good collective transport services, establishing the ring roads and creating favorable conditions for pedestrian and bicycle traffic.

The general goal of transport policy of Warsaw is such an improvement and development of transport system that would allow creating conditions for efficient and safe movement of people and goods while limiting the harmful influence on the natural environment and living conditions.

The most important is that all documents shaping conditions for Warsaw sustainable development are well correlated. The development strategy formed the general guidelines which were implemented in Warsaw spatial policy. Transportation policy, the city document prepared as the last one, forms main objectives following the spatial policy guidelines. The most important from spatial planning point of view specific objectives of transport policy are:

- Improvement of access to areas that are major travel destinations using other modes of transport than cars

Achievement of that objective is to lead to a significant decrease of dependence of Warsaw residents on travel by car by creating possibilities and increasing attractiveness of other modes of travel (by public transport, by bicycle, walking) much more efficient economically, much less harmful to the natural environment and assuring a higher level of road traffic safety.

- Rationalization of transport behaviors of residents

That objective is to be achieved through influencing behaviors leading to rationalization of: the number and mode of trips, choice of means of transport. The main task will be to prevent excessive use of individual cars for travel (shift to walking, cycling and travel by means of public transport) and better use of car capacity.

Achievement of that objective will have favorable effects for the status of the natural environment, improvement of travel conditions through the city and improvement of road traffic safety.

- Restoring the urban functions of streets

This objective is to be achieved by assuring appropriate proportions between the capacity of the streets system and the capacity of parking lots and the car traffic intensity and demand for parking spaces. This will be accompanied by the appropriate public transport offer and improvement in pedestrian and bicycle traffic conditions.

This will restore the traditional functions of the city streets, which in addition to servicing traffic of cars should fulfill social, cultural and aesthetic functions (this applies in particular to the system of streets in the central area of the city).

- Rationalization of physical development of the city

The policy concerning development of the physical structure of Warsaw will serve limiting the demand for travel – particularly by private car – and have a positive influence on the division of transport tasks among individual modes of transport. Without considering those premises the location decisions (e.g. concerning large trade and service facilities) or inconsistent with the zoning principles development of the system of streets or parking system (depending on the scale of capacity deficit of the system of streets and parking places), might lead to deterioration of transport system operational efficiency.

Additionally, activities concerning the transport system (increasing its attractiveness) will be coordinated with the spatial policy leading to intensification of development (location of office, commercial, service and housing facilities) in corridors serviced by collective transport. This will contribute to activation of areas, higher effectiveness of transport system, development of new local centers and concentration of traffic.

- Mitigating inequalities of public transport services between individual areas of the city

Achievement of that objective will lead to equaling the opportunities in access to the city center using public transport for all residents of the city.

That objective will be implemented on the assumption that the areas of lower urbanization can be serviced by connections requiring a change of the means of transport, e.g. from bus transport to rail transport or using the Park & Ride system.

- Landscape quality improvement

Construction of transport infrastructure facilities involves more or less extensive intervention in the landscape. In some cases we can talk about enrichment of the landscape in other cases (more often) that intervention has negative effects. The objective here will be considering the influence of planned investment projects on the urban landscape at the stage of planning and preparation of projects. Also in relation to the existing structures related to transport architectural solutions will be implemented to influence positively a given area.

- Urban space quality improvement

The objective will be achieved by creating areas that could form the showpiece of the city with people friendly public space. Those areas will be easily accessible mainly by public transport.

Such spaces could be represented by streets/squares, free from arduousness of car traffic (or with limited “calmed” traffic) with services extending to them, with facilities for pedestrian and bicycle traffic set in well-developed greenery. According to experiences of numerous European cities modernized corridors of tramway routes providing at the same time transport access will represent the elements giving the nobility to such urban spaces.

The specified measures for implementation of the transport policy will be applied to a diversified extent depending on the character of the area. In strongly urbanized areas of the city characterized by concentration of travel destinations, extensive public transport system, roads and parking capacity limitations awarding privileged position to public transport is projected. That privileged position will also be offered along the basic transport routes on which significant flows of passenger traffic are concentrated. In practical terms this will mean introduction of measures improving public transport functioning, first of all on the radial routes to the city center.

Other approach to transport organization will be applied in areas of more scattered development. The role of public transport in such areas is smaller, with the exception of the radial directions leading to the city center. In those areas good cooperation and coordination of various means of public transport, e.g. transport of passengers by buses to tramway stops and underground stations are necessary. There is also a possibility of better satisfaction of expectations of the motorized as concerns the possibilities of unrestricted use of private cars.

Practical implementation of the above principles will involve dividing the city into three zones differing in:

- restrictions to traffic of cars and heavy vehicles,
- requirements concerning the public spaces and conditions for pedestrian and bicycle traffic,
- level of privileges for public transport,
- requirements concerning the number of parking spaces,
- level of parking fees diversified also on the basis of parking time.

IN ZONE I – city center, including:

- sub-zone Ia – covering the area of very center of left and right bank of Vistula river with the areas of existing extensive development,
- sub-zone Ib - covering the area of very center of left and right bank allocated for transformation and intensification of existing development,
- sub-zone Ic – covering the remaining areas of city center,

The car traffic is restricted and in some areas and selected routes eliminated entirely. This is accompanied by, among others:

- priority treatment of public transport,
- restriction and in some cases ban on car traffic,
- limitation of the number of parking places,
- introduction of pedestrian traffic areas.

IN ZONE II – urban, that encompasses the remaining areas of compact development as well as district service centers, while priority for public transport is maintained, more freedom for use of private cars is offered. In the remaining areas with low intensity of development forming ZONE III – suburbs, the system of roads and supply of parking spaces are adjusted to the needs resulting from the level of motorization. In zones II and II particular attention will be paid to the quality of public transport connecting them with the center of Warsaw (zone I).

According to the accepted transport policy, in the area of Warsaw city center (zone I – city center), public transport will fulfill the basic role in servicing the area. The possibilities of access by cars will be limited and in selected areas, in justified cases, also eliminated. In particular, the restrictive activities will apply to transit traffic.

As concerns the limits for construction of new parking places detailed parking standards will be developed, effective in individual zones of the city. The indicators presented below form the base for determining the parking standards.

Parking indicators			
	for offices	for trade and services	for residents
Zone I			
sub-zone Ia	not more than 5 places / 1000 m^2 of usable area of office space	not more than 10 places / 1000 m^2 of usable area of trade and services space	1 place / 1 apartment or less
sub-zone Ib	not more than 10 places / 1000 m^2 of usable area of office space	not more than 15 places / 1000 m^2 of usable area of trade and services space	1 place / 1 apartment or less
sub-zone Ic	10-18 places / 1000 m^2 of usable area of office space	15-25 places / 1000 m^2 of usable area of trade and services space	1 place / 1 apartment
Zone II	18-30 places / 1000 m^2 of usable area of office space	25-38 places / 1000 m^2 of usable area of trade and services space	1 place / 1 apartment but not less than 1 place /60 m^2 of apartment usable area
Zone III	25-30 places / 1000 m^2 of usable area of office space	30-60 places / 1000 m^2 of usable area of trade and services space	minimum 1 place / 1 apartment but not less than 1 place /60 m^2 of apartment usable area

In the destination areas of bicycle travels (offices, trade and service facilities) minimum 5 places for bicycles should be provided per 1000 m2 of usable area.

CHANGING TRAVEL BEHAVIOURS

Looking for the new ways of changing travel behaviours into more sustainable I started to develop a new tool for Warsaw and other cities interested in. The Smart Eco-travel Planner (SEP) and its database could be used for implementing sustainable urban transport policy in more efficient way.

The real novelty of my SEP proposal is: it will work on strictly personalized Internet portal, will cover environmental aspects (pollution counting), the participants will be awarded and the business model for cities implementing SEP makes it more economically viable. SEP will provide reliable advising for optimal travel planning, according to: actual traffic conditions, road accidents, road works, public transport (PT) modes problems in operation and air pollution observed - taking into account also personal circumstances. The results of TrafficCheck.at (the project funded by the Austrian ministry responsible for traffic, innovation and technology) will be followed here. With their smartphones, TrafficCheck contributors can track their positions on OpenStreetMap while underway and select the signal-controlled intersections they wish to rate. They enter their transport mode to provide information on whether the rating comes from the perspective of a car driver, cyclist, pedestrian or public transport passenger. The crowdsourcing contributors will then report problems or enter the score, rating from 1 star for an intersection regarded as bad to 4 stars for one regarded as satisfactory. The score is based on factors such as waiting time ,visibility, conflicts between road users and system layout (13).

Personal needs, habits and limitations should be uploaded by each system participant to the Personalized Internet Portal (PIP) which will cover the following data: home and workplace locations; working hours; other obligatory trips (taking children to school, sport activities, church, etc.); PT season ticket (if any); using own bicycle or a city bike; accepted cycling and walking distance (depending on weather conditions); car type (for calculation emissions – or e-car); location of favorable P+R; membership of a carpool team or a car-sharing system; accepted travel time limit and accepted travel cost.

If something unusual happens (have to take a car because of a heavy luggage, etc.) PIP should be informed before. Before each travel (obligatory during pick-hours from home and work) suggestions on the most suitable travel mode , with detail route description (in case of PT – what time at what bus stop, where change for metro; also best route for cycling and walking) is available on ones PIP or a smart phone or navigation system. Those choosing car will get for their on-board navigation an optimal route, according to actual traffic constraints and air pollution in particular area. Using e-car or a car instrumented for eco-driving, and following suggested guidance will be awarded.

In each city several stakeholders should be involved in SEP implementation for fulfilling the following tasks:

- Individuals: To inform PIP on travel needs and try to follow social behavior principles
- Big companies (workplace providers): to promote tele-working, decrease capacity of parking lots, participate in PT season tickets cost, provide cycling infrastructure (a shower, etc.)

- PT Authority: to improve quality of operations, adjust capacity to demand and inform Traffic Management Center on-line on PT vehicles location
- Traffic Control Center: Avoiding traffic jams (alternative routes), informing on-line on traffic constraints, parking capacity and sectoral traffic speed
- Environmental Dpt.: to inform on-line on air pollution in particular areas
- STP operator within Traffic Management Center: to gather and proceed data, advice individuals, coordinate PT and road traffic
- Media: to promote idea of sustainable transport using celebrities and individuals with their success stories
- City Hall: to implement sustainable transport policy measures (including MILU) and calculate gains of changing drivers behavior.

The Business Model idea for SEP implementation looks like that. Financial Div. of the City Transport Dpt. calculates gains of the lower car use taking into account: lower costs of road construction and maintenance, new work places, shorter travel times, better city environment, better inhabitants health and a Green City image - minus costs of SEP implementation. I believe there will be some profit which should be used for: further improving of environmental friendly travel modes (PT, P+R, cycling, etc.); tax relief for participating companies and, what's crucial, for the incentives for individuals (everyone gathers points for each eco-friendly choice): free PT season tickets, access to the „rare goods": best kindergarten, star concert free ticket, etc.

Rules of competition for individuals (SEP users) are a part of the city Business Model:

- Each travel mode decision is calculated in PIP – comparing with using average (for the city) car emissions during pick-hour.
- Social cost (covers: emission, noise, other travelers time losses, risk of traffic accidents) of each travel is measured in Euro and changed on points.
- Using a car with higher emissions one receives minus points, when travel by e-car, a new car, on alternative fuels, etc. is awarded with plus points. Higher number of plus points you'll receive choosing PT modes, cycling or walking.
- Those with the highest points number are periodically awarded and presented by media.

This SEP system (as presented above for the year 2030) will cost more than quite popular today travel planners, but its efficiency in changing drivers behavior, decreasing pollution and improving traffic conditions will be higher. Each city have to decide what quality of TMC, PIP and SEP to choose – according to its budget surplus and expected gains. Cost/Benefit analysis should be here applied.

For checking local governments and the end-users interest in developing and using SEP two questionnaires are prepared.

SEP questionnaire for the City (City Hall departments for roads, environment, finances…., and for Public Transport Authority)

Are you interested in making your city more sustainable?- YES or NO

Are you interested in being a pilot city for the Smart Travel Planner implementation? – YES or NO

If the answer on one of this questions is YES, please be so kind and fill-in the questionnaire below, what will help us to orient our self on the city problems, on a chance of successful implementation of Business Model and on the possibility of BM idea further improvements.

Questions concerning the city

1. Area (sq. kms)
2. Population
3. Average salary
4. Unemployment rate (%)
5. People tele-working (%)
6. Modal split with its 10 years trends
7. Car ownership index (personal cars/1000 inhabit.)
8. What's the percentage of hybrid and e-cars?
9. Do carpool or car-sharing services exist?
10. Do call-a-ride services exist?
11. Environmental data on emissions (CO, CO2, NOX, NO2, PM10, SO2)

12. Noise level data
13. Does the sustainable urban transport policy/strategy document exist?

On public transport (PT)

1. What's the PT management structure?
2. Routes (streets with bus, tram…. services) length
3. Fleet numbers
4. Travel speed data
5. Single ticket price
6. 1 month network ticket price
7. What kind of preferences in traffic for PT modes are used?
8. Location (on the PT routes network) and P+R lots capacity
9. Investment in PT system during last 10 years (€)

On roads

1. Road system characteristics (maps with road categories, pedestrian areas, traffic flows in p.c.u. during pick hour….)
2. Parking/road charging system (location, tariffs….)
3. Car speed data during pick hour
4. What kind of traffic problems (and where) should be solved?
5. What kind of ITS services are used?
6. What are the Traffic Management Center functions?
7. What kind of software (and for what) is used?
8. Bicycle routes network with B+R facilities
9. Does a City Bike system exist?
10. Investment in the road system during last 10 years (€)

On Business Model

1. Do any travel planner services (on a webpage, on PT stops, on-board PT vehicles, mobile services) exist?
2. Do big companies have mobility plans (any promotion of eco-friendly travel behavior)?
3. What kind of the environmental monitoring system is in use?
4. What sustainable transport policy goal (no traffic jams, preferences for PT modes, decreasing pollution, cycling increase…) is your priority?
5. Does the City Hall cooperate with media and NGOs on changing drivers behavior promotion?
6. What kind of incentives for the Smart Travel Planner users you're ready to offer?
7. Is presented Business Model economically viable?
8. What changes would you suggest?

Please find below the next questionnaire dedicated for the Smart Eco-travel Planner users. Please try to distribute it – our suggestion is: using NGOs on sustainable growth or environmental issues you cooperate with.

Questionnaire for Smart Eco-travel Planner users

SEP should provide reliable advising for optimal travel planning, according to actual traffic conditions, road accidents, road works, PT strikes and any other problems and air pollution, taking into account also personal circumstances. Personal needs, habits and limitations should be uploaded by each system participant to the Personalized Internet Portal (PIP) which will cover the following data:

- Home and workplace locations
- Working hours
- Other obligatory trips (taking children to school, sport activities, church, etc.)
- PT season ticket, if any
- Using own bicycle or a city bike
- Accepted cycling and walking distance, depending on weather conditions
- Car type (for calculation emissions – or e-car)
- Location of favorable P+R
- Member of a carpool team?
- User of car-sharing system?

- Accepted travel time limit
- Accepted travel cost (for taxi or call-a-ride service).

Are you interested in improving traffic conditions in your city?- YES or NO

Are you interested in being the Smart Eco-travel Planner user? – YES or NO

If the answer on one of this questions is YES, please be so kind and fill-in the questionnaire below, what will help us to orient our self on your preferences and on the possibility of SEP idea further improvements.

Personal data

1. Sex
2. Age
3. Education level
4. Are you a pupil, student, employed, self-employed, retired?
5. What's your average salary?
6. Are you a car/motorcycle owner?

On your travel habits

1. Do you use a car?
2. What kind of car you use (petrol/diesel HP/engine capacity cub.cms., hybrid, e-car)?
3. Are you a member of a carpool team?
4. Do you use car-sharing services?
5. What's your annual car millage (or in kms)?
6. How often you use taxi a month?
7. Do you use a bicycle and how often a week?
8. What is your acceptable walking distance within the city?
9. What travel mode you use for obligatory trips (to school, workplace) within the city?
10. Do you use a season public transport ticket?
11. What's a distance from home to school/work?
12. How much time consuming is it (one way in minutes)?
13. Do you use a travel planner services?
14. Do you have a smart phone?
15. How much money could you safe a month not using a car within the city?
16. Are you interested in environmental issues?

Your opinion on traffic problems in your city

1. Are traffic jams a big problem?
2. What in your opinion should be done to solve this problem?
3. Any problems with public transport services (too expensive, low frequency, poor travel comfort, poor accessibility, low speed….)?
4. What should be done you'll use public transport more often?
5. Any problems with bicycle infrastructure (no bicycle routes, no parking facilities, pilferage, no shower at a workplace)?
6. Do you fill safe cycling within the city?
7. What should be done you'll use bicycle in purpose trips more often?
8. Do you like walking?
9. Any problems with pedestrian infrastructure (sidewalks are too narrow, aesthetic/uninteresting design, long red lights, a lot of under-/overpasses, drivers attitude to pedestrians)?

Concerning Smart Travel Planner

1. Would you accept Personalized Internet Portal rules?
2. If not, on what conditions you could?
3. Would you need any incentives to be a Smart Travel Planner user?
4. What kind of incentives you're interested in?
5. What should be done to improve the Smart Travel Planner idea?

All readers are kindly asked to disseminate the questionnaire in their cities, helping this way in checking acceptance of my Smart Eco-travel Planner idea. Smart urban transport system is what we need in Anthropocene – Age of Man (8), a new geologic epoch as Antonio Stoppani defined it by our massive impact on the planet. Remember: all what will remain after Age of Man, despite of our wealthy societies, our megapolises and innovative technology will probably be only our CO2 footprint to be found in geological structures.

CONCLUSIONS

1. The biggest challenge of sustainable transportation policy in urban areas is to decrease car use in densely populated areas where the highest traffic flows are observed.
2. Sustainable transport means energy savings and less land consuming investments.
3. Transportation policy measures should at first attract people to other transport modes, not using enforcement connected with car restrictions.
4. Transportation policy measures should try to reduce car using needs by better communication, attractive public transport, multifunctional and intensive land use.
5. Coordination of spatial and transport planning policy looks to be the best tool for sustainable city growth management.
6. In the cities, regions or even the countries facing really big transportation problems the Decalogue for Sustainable Urban Transport Strategy can be here very helpful.
7. The most important achievement of Polish urban planning practice is that all documents shaping conditions for Warsaw sustainable development are well correlated. The development strategy formed the general guidelines which were implemented in Warsaw spatial policy. Transportation policy, the city document prepared as the last one, forms main objectives following the spatial policy guidelines.
8. The Smart Eco-travel Planner (SEP) and its database could be used for implementing sustainable urban transport policy in more efficient way. Its real novelty is: it will work on strictly personalized Internet portal, will cover environmental aspects (pollution counting), the participants will be awarded and the business model for cities implementing SEP makes it more economically viable.
9. All readers are kindly asked to disseminate the SEP questionnaire in their cities, helping this way in checking public acceptance for my Smart Eco-travel Planner idea.

REFERENCES

MyWay, 2015. Multi-modal journey planning made easy to encourage the use of sustainable modes of transport, www.myway-project.eu

Malasek J, 2016. A set of tools for making urban transport more sustainable. In: Conference Papers, 6th Transport Research Arena, Warsaw

Malasek J., Jaździk-Osmolska A., 2012. Decalogue for Sustainable Urban Transport strategy. In: Conference Papers, Urban Transport 2012, A Coruna

"Strategia rozwoju m. st. Warszawy do roku 2020" (Development strategy for the city of Warsaw until 2020), Warsaw City Hall, 2005

"Studium uwarunkowań kierunków zagospodarowania przestrzennego m. st. Warszawy" (The study of Warsaw spatial development conditions and directions of development), Warsaw city Hall, 2006

"Strategia zrównoważonego rozwoju systemu transportowego Warszawy do roku 2015 i na lata kolejne" (The strategy for sustainable development of Warsaw transport system by 2015 and subsequent years), Warsaw City Hall, 2009

"Strategia rozwoju m. st. Warszawy do roku 2010" (Development strategy for the city of Warsaw until 2010), Warsaw City Hall, 1999

Kolbert E. 2011, Enter the Anthropocene – Age of Man, National Geographic, No12/2011

URBAN REVITALIZATION: CHANGING ATLANTA'S LAND USE INTENSITIES

Session T2.7 | June 2 | 16:00 – 17:30

Peter Hylton; Catherine Ross; Elliot Sperling; Alex Karner
Center for Quality Growth and Regional Development
School of City and Regional Planning
Georgia Institute of Technology, Atlanta, GA 30308, USA
peter.hylton@gatech.edu; catherine.ross@coa.gatech.edu; esperling@gatech.edu;
alex.karner@coa.gatech.edu

ABSTRACT: The Atlanta BeltLine is a 35-kilometer collection of parks, trails, and eventually rail transit that replaces an abandoned rail line. This article explores the Atlanta Beltline's effect on local development and the extent to which it is succeeding in attracting development towards the infill site. We specifically examine development activity, through an examination of population, housing, and economic dimensions, and compare the growth occurring along the BeltLine trail with that occurring along trails in comparable areas. Despite anecdotal evidence of the BeltLine attracting development, the data through 2014 do not show areas with operating BeltLine segments outpacing growth in areas with planned segments. Therefore, the development picture appears more complex than the BeltLine alone, encompassing other factors that obscure a BeltLine effect including pre-opening speculative development.

KEYWORDS: urban sustainability; sustainable redevelopment; city revitalization; sustainability and green infrastructure; green urbanism.

INTRODUCTION

Late last year representatives from 195 countries met in Paris for the United Nations Climate Change Conference, where they produced an agreement to lower greenhouse gas emissions. Even aspirational consensus among so many countries stems from the widespread recognition that the planet's environmental challenges are large and will require changes in our daily lives. Cities will dictate our success in meeting the Paris Climate Agreement since cities consume approximately 75% of energy produced each year (UN-Habitat, 2012). This calls for a multi-front mobilization including the built environment and urban form, but also technology, policy, economic incentives, and education.

Reconstructing the built environment means embracing lower-energy urban forms, sustainable practices, emerging technologies, and taking advantage of the opportunities still present in our historic urban cores. Several cities have launched initiatives to attract businesses and residents back to their urban cores, whose accessibility, transit networks, and density promote lower-energy, lower-carbon lifestyles. Atlanta is among these committing to the redevelopment of the Atlanta Beltline. The Atlanta BeltLine, a roughly 35-kilometer set of trails connecting with new and existing parks, spurring streetscape improvements while preserving room for the construction of transit. Now is a good time to take the pulse of the project and examine its success to date in spurring infill development along a number of dimensions. The first BeltLine trail segments opened eight years ago, but 16 years remain in the trail, transit, and park implementation plan.

This paper examines the geography of development in and around the city of Atlanta since the opening of the first BeltLine trails to see if development is affected by the presence of the trails. Development is analyzed by examining demographic, housing, and economic characteristics. If the BeltLine is shown to increase local development, it will be a success for sustainability effects because of the lower energy use and carbon output of the neighborhoods surrounding the BeltLine compared with the urban periphery.

The paper is organized into six different sections. The first is introductory, and the second section traces the Beltline's origins in the railroad shaping the city and illustrates how the BeltLine reinvents what had become an economic and social burden as an asset. The third section reviews a selection of key literature to frame the BeltLine in contemporary discussions on urban regeneration and sustainable development. The fourth section presents the data and methods used to understand development around the BeltLine since the opening of the first trails. The fifth section explains results related to development in different quadrants of the Beltline, and the sixth and final section outlines conclusions.

BELTLINE HISTORY

Atlanta was founded in 1837 at the end of the last rail line leading from the Atlantic Ocean inland (Ambrose, 2004). As the railroads grew and spread, so did the city. Even after the city's destruction in the American Civil War, the railroads remained at its physical and economic core, orienting the downtown street grid even to this day. Over time, railroad companies constructed spurs off the main line that formed a perimeter around the still small city, completing most segments by the early 1900s (Gravel, 1999). By the early 1900s, railroads remained a key industry in the fast growing city, but commerce was beginning to displace it (Ambrose, 2004), and industry such as steel smelting was developing in town near rail lines (Garrett, 2011) Since railroads were the leading technology, the rail perimeter was a natural place for rail customers to locate and grow.

Changes by the mid-20th century began to displace the railroad's role in shaping Atlanta's physical form and economic configuration. Nationwide, turnpikes and airports were spreading, shifting passengers from the train to other modes and freight followed similar trends. In 1956, Congress passed a law creating the National Defense Interstate Highway System (Rose, 1979) and President Eisenhower signed the bill. The construction of the Interstate Highway System made long-distance movement of freight by truck tenable. Simultaneously, the rise of alternate modes and macroeconomics were changing Atlanta's economic geography. Businesses that had used the railroads either closed, moved away, or began using other modes of freight transportation, causing a progressive decline in use of the rail perimeter. By the 1990s or earlier, most lines were abandoned or barely used (Gravel, 1999). In an era of shrinking cities, a wide ring of blight surrounded the oldest and densest part of the city, which is also the area that should be developed to maximize urban sustainability.

The BeltLine idea went public in 1999 when Ryan Gravel, an architecture and planning masters student at the nearby Georgia Institute of Technology, proposed repurposing the rail perimeter in line with the urban in-migration that was already being observed (Gravel, 1999). Grassroots mobilization culminated in the formation of Atlanta BeltLine, Inc. (ABI) in 2006 (Atlanta BeltLine, Inc., 2016d). The BeltLine reuses the rail right of way approximately 35 kilometers of pedestrian trails linking some 45 neighborhoods, with a comprehensive plan to improve surrounding street quality, expand and improve greenspace, and eventually create a light rail transit system. The first trails (West End, Northside, and Eastside) opened between 2008 and 2012 (Sesay, 2012). As trails opened, an adjacent ring of parks was also planned, with the largest to date opening as the Historic Fourth Ward Park in 2011 (Atlanta BeltLine, Inc., 2016c), and more are planned. The BeltLine vision is really a bundle of amenities. As visible in Figure 6, the Atlanta BeltLine improves access to surrounding developments with wide and flat paved trails. The planners are leaving room in the right-of-way for a bidirectional light rail line, which forms the core of the city's 85 kilometer non-binding streetcar plan (City of Atlanta, Invest Atlanta, Atlanta BeltLine, Inc., and Atlanta Streetcar, 2015).

Figure 6: Atlanta BeltLine Eastside Trail Before (left) and after (right) Rail-to-Trail Conversion
Source: Atlanta BeltLine, Inc. (2016a)

To date, the BeltLine includes 18 kilometers of trails in three segments. The remaining trail segments will be opened progressively through 2024 when the last trails are programmed. Construction of the light rail transit system will depend on federal grants and local funding.

The Beltline's ecumenical nature produces part of its appeal. All quadrants of the city are touched more or less equally by its physical presence and development potential (Ross et al., 2007), which is attractive to city officials given the persistent divide between the richer north and east, and the poorer south and west. Moreover, it bolsters in-town and in-fill development that stands in stark contrast to Atlanta's habitual fragmentation. Regionally, the BeltLine

portends denser urban infill development in areas with above average access to transit and pedestrian and bicycling infrastructure, two keys to more sustainable urban development.

A REVIEW OF THE LITERATURE

URBAN REGENERATION

There is a long history of urban revitalization efforts. Mid-century urban revitalization focused on slum clearance, often entailing the wholesale demolition of blighted neighborhoods and their replacement with road infrastructure, housing projects, or grandiose civic centers (Jackson, 2008). Obvious failures and public backlash engendered a reversal, resulting in movement towards post-modernism embracing difference, context, community participation, and bottom-up transformation (Allmendinger, 2001). The BeltLine includes features of this postmodern approach in its design, physical decentralization, and use of amenities to encourage development rather than orchestrating it wholesale. It is one of a series of trail projects undertaken for various regions including spurring development and improving quality of life from urban to rural areas all over the world (Al-hagla, 2010; McMahon and Benedict, 2000; Schasberger et al., 2009; Wakefield, 2007). Tax increment financing (TIF) provides the plurality of the BeltLine infrastructure funding (33%) (Atlanta BeltLine, Inc., 2013). In general, TIF finances infrastructure to improve the attractiveness and therefore property value of blighted neighborhoods where little or no property value increase is expected without the intervention. A baseline property tax income is set, bonds are issued to fund the infrastructure, and the bonds are paid with the property tax revenue that surpasses the baseline (Byrne, 2006).

Tax increment financing has been found to have disparate influences on development depending on neighborhood characteristics. TIF has been more effective at spurring property value increases in neighborhoods that are more severely blighted, are larger, are lower-density, are near the central business district (CBD), are largely Caucasian, and focus on attracting industrial development (Byrne, 2006). Byrne's (2009) later work again demonstrated that industrial-focused TIFs may be more likely to attract new employment whereas retail-focused TIFs, which actually depress municipal-level employment, simply redistribute retail within the region. This suggests that there are positive returns to scale in TIFs, and that TIFs may capture development which naturally flows towards lower density, less developed areas. It also suggests that racial discrimination may continue to influence development patterns. The Beltline's proximity to the CBD and its large size imply a greater effectiveness in promoting growth, while sectoral focus and density suggest less effectiveness. In fact, mixed-use property, which much of the BeltLine includes, was shown to be most resistant to positive TIF effects (Byrne, 2006).

Development measures are foundational for analysis. Average wealth and economic opportunities (Leigh, 1994) may be used, including such measures as the number of firms (Leigh and Hoelzel, 2012). Byrne (2009) argues for supplementing property value with employment growth.

The few years that have passed since the opening of the first BeltLine trails mean that we are able to analyze its effects only recently. However, the potential of the BeltLine already appears to have influenced pre-recession property prices, in some cases over a decade before that potential will be converted into concrete. Immergluck (2009) found that homes within one half mile (approximately 0.8 km) of the Beltline's southern quadrant received a speculative bonus on sale prices in the years immediately after the Beltline's announcement. Even at final submission in mid-2008, Immergluck (2009) spoke of gentrification, but also "substantial speculation."

SUSTAINABLE URBAN DEVELOPMENT

Sustainable development is closely tied with urban form, and the location of urban development, as well economic, technological, and social factors (Bugliarello, 2006). Although environmental concerns regarding pollution and resource preservation are among the original drivers of sustainability, this has grown to incorporate the requirement for a reasonable quality of life for all residents (Jepson, 2001; McDonough and Braungart, 2002).

He prevailing development patterns in Atlanta as for many Sunbelt cities have been sprawl, low density, fragmentation, and low accessibility, all of which induce high resource use. Sprawling cities consume resources unsustainably in ways beyond transportation. Larger detached suburban homes, laws requiring irrigation, and utilities serving decentralized development also require more resources compared with dense development. Sprawl contrasts sharply with compact development, which minimizes the cost of infrastructure (Ewing, 1997), as well as transportation and energy requirements (Bürer, Goldstein, and Holtzclaw, 2004; Ewing et al., 2002; Handy, 2005). Compact urban redevelopment benefits from high road and transit connectivity, mixed use, and moderate residential density (Ewing, 1997). In the Beltline's case, its proximity to the CBD (as little as 4 km away) and its denser urban form translate to lower energy usage and carbon dioxide production. BeltLine-area ZIP codes are estimated to have 8% lower carbon dioxide production per capita and 16% lower vehicle miles traveled per capita than more peripheral parts of the region, as depicted in Figure 7. Therefore, diverting development from more peripheral areas into the BeltLine or the

limited number of even more central neighborhoods should reduce energy use and carbon emissions per capita well below the regional average.

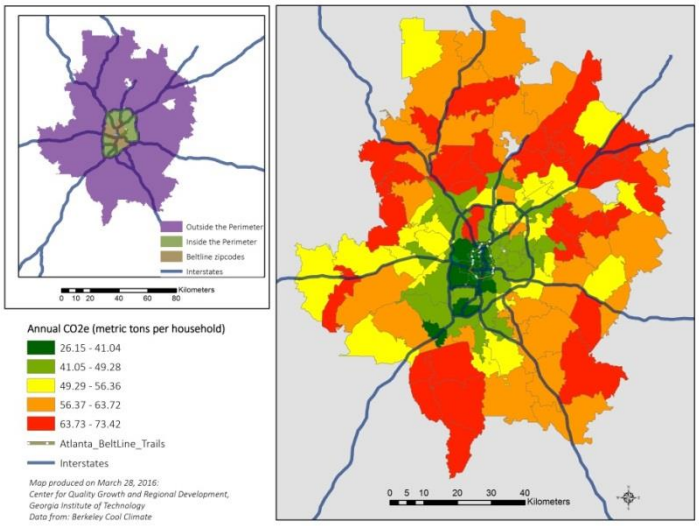


Figure 7: Estimated CO2-Equivalent Emissions per Household in Metro Atlanta
Source: Created by authors with data from the University of California Berkeley's Cool Climate Lab

APPROACH

This paper combines two primary and multiple secondary datasets to examine the BeltLine's effectiveness in promoting development after project implementation, and it uses paired t-tests to compare growth rates along multiple dimensions between 2010, signifying the approximate opening of the first BeltLine trails in 2014. It focuses primarily on growth measures associated with population, population density, housing units, vacancy rates, average rents, and retail employment. The study compares eight zones derived from the overlay district near the BeltLine conducive to pedestrian development. Three zones where trails are currently operating ('Eastside,' 'West End,' and 'Northside'), and three sections where trails are planned but not yet implemented ('South Planned,' 'West Planned,' and 'North Planned'), another zone fully surrounded by the BeltLine overlay district that includes the CBD ('Inside'), and a final zone outside the other zones and up to 7 km from the BeltLine ('Outside'). These segments roughly correspond with the 0.8 kilometer buffer in which Immergluck (2009) noted a speculative effect of the BeltLine on housing prices. By comparing growth along different metrics between the zones with trails and the quadrants without trails, we can assess the trails' role in stimulating development. Moreover, this approach controls for the great diversity of characteristics over which segments differ, which include wealth, surrounding racial makeup, existing levels of development, other amenity and infrastructure access, and jobs access. Figure 8 depicts the quadrants and the overlapping block groups used in analysis.

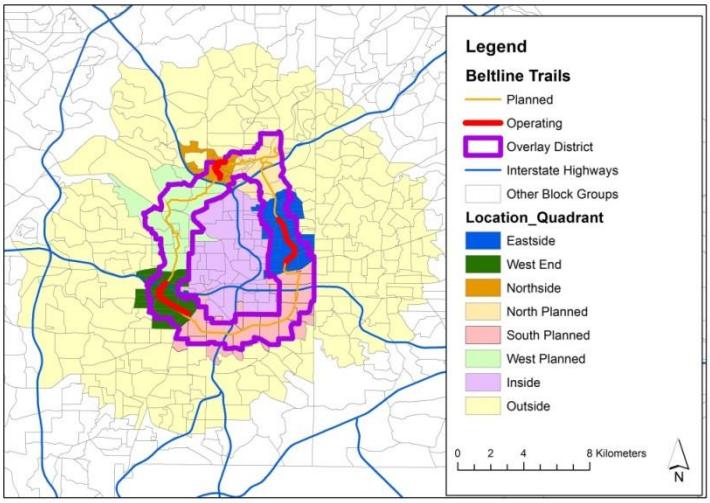


Figure 8: Study Zones

The 5-year American Community Survey (ACS) for 2010 and 2014 provide population and housing data at the block group level representing the pre- and post-trail opening periods respectively. The block group level provides the minimum amount of spatial precision needed to study BeltLine-induced development. A challenge with the 5-year ACS is that they represent data taken over multiple years, and thus data released in a given year really represents estimates formed over several previous years. Therefore, ACS was used for both before and after datasets instead of using 2010 Decennial Census, which would have compressed the analysis period. Retail employment in each of the eight zones is obtained from the Longitudinal Employer-Household Dynamics (LEHD) dataset from the U.S. Census Bureau for years between 2002 and 2014 inclusive, the American Community Survey (2014) and the County Business Patterns (2010 and 2013). These primary datasets are supplemented by several spatial datasets that are used to derive the analysis zones, as shown in Table IV.

Dataset	Description	Source	Years
5-year American Community Survey	Demographic and economic variables at block group	Social Explorer	2010, 2014
Longitudinal Employer-Household Dynamics (LEHD)	Retail employment	OnTheMap, U.S. Census Bureau	2002 - 2014 (inclusive)
TIGER/Line	Block Group Shapefiles	U.S. Census Bureau	2010, 2014
Department of Planning and Community Development GIS	Atlanta BeltLine Overlay District Shapefile	Atlanta Department of Planning and Community Development	2015

Table IV: Data Sources

2010 was selected as the start year because it corresponds closely with the actual trail opening dates. Moreover, block groups were reconfigured between 2009 and 2010, so the previous years' data is inconsistent. Analyzing development between 2010 will omit speculative appreciation or development (Immergluck, 2009), although this project attempts to assess the impact of the physical trails rather than their announcement. Moreover, the 2008 recession greatly affected Atlanta development, so we do not expect substantial development to have occurred between 2008 and 2010.

Urban revitalization is operationalized by a series of population, housing, and economic variables that capture different aspects of the Beltline's expected impact on neighborhood development, as shown in

Table V. These variables expand upon those defined by Byrne (2006, 2009) and Immergluck (2009), opting for a broad definition of development. These characteristics are aggregated for each zone by summing absolute numbers and averaging rates among the block groups that most precisely match zone boundaries. Block groups with at least 10% of their area inside the BeltLine overlay district are included in zones associated with the overlay district, whereas block groups with less than 10% of their area inside the overlay district were included instead in the 'Inside' or 'Outside' zones.

Variable	Source Dataset
Population	5-year ACS
Population Density	5-year ACS
Housing Units	5-year ACS
Vacancy Rate	5-year ACS
Per Capita Income	5-year ACS
Median Rent	5-year ACS
Retail Employment	LEHD

Table V: Variables used to Operationalize Development

The methodological approach has several limitations. A type II error is likely because of the small number of years being studied (which make overall changes small) and the small number of block groups in many zones (which lowers degrees of freedom). Thus, this analysis is conservative. Secondly, statistics cannot control for all of the other trends beyond the Beltline's creation, which include economic cycles and other developments. Although excluded as much as possible, the 2010 5-year estimates do include times during and preceding the 2008 recession. Finally, this methodology does not attempt to distinguish between development attracted to the region and that shifted among sub regional areas. Any new development in the BeltLine overlay district is treated as a success even though it might have been captured from neighboring areas, thus adding nothing to regional growth.

ANALYSIS

ECONOMIC DEVELOPMENT

The BeltLine itself is very diverse, with a cluster of characteristics correlating with greater resources clustering on the east and north sides. As visible in Figure 9, property values are highest in the north and eastern quadrants. Per capita income in the north, the wealthiest segment, is nearly five times higher than in the west, the poorest segment (Ross et al., 2007). The eastside has nearly as high income as the north, while the south is nearly as low as the west, and poverty rates follow accordingly. Transportation resources also vary, with only 12% of northern households lacking an automobile and nearly 40% of western households lacking a car (Ross et al., 2007). As an equitable economic development tool, part of the Beltline's purpose is to spread development to the south and west by adding amenities and increasing their connectivity to more developed areas.

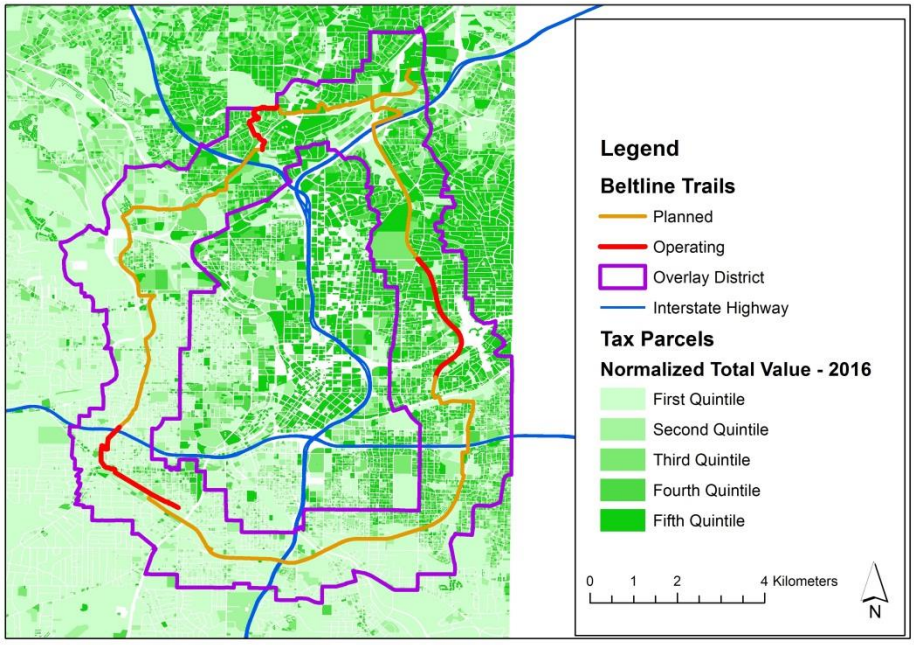


Figure 9: Normalized Assessed Taxable Property Values – 2016
Source: Created by the authors from data available from the Fulton County Government (2016)

RESIDENCES

Paired t-tests were performed to assess change between 2010 and 2014 in the development indicators. The block groups were formed into several overlapping groups, assessing all block groups within 7 km of the BeltLine ('All block groups'), block groups in the overlay district with operating trails ('Operating'), block groups in the overlay district with planned trails ('Planned'), block groups completely surrounded by the overlay district ('Inside'), and block groups on the exterior of the overlay district compared with the city center ('Outside'). The smaller zones tend to lack statistically significant results. Table VI shows the p-values associated with each t-test, and in the case of variables with p values at or below 0.05, the direction of the relationship is shown in parentheses.

	N	% Δ, Population	% Δ, Population Density	% Δ, Per Capita Income	% Δ, Housing Units	Δ, Vacancy Rate (Percentage Points)	Δ, Median Year Built	% Δ, Average Rent
All block groups	356	**.015 (+)**	.380	**.003 (-)**	.802	.932	.172	**.000 (+)**
Operating	41	**.005 (+)**	**.035 (+)**	**.008 (-)**	.755	.075	.357	.246
Planned	47	.309	.471	**.031 (-)**	.313	.518	.271	**.005 (+)**
Eastside	18	.090	.338	.078	.808	.121	**.049 (+)**	.485
West End	17	.102	.079	.530	.663	.292	.280	.338
Northside	6	.193	.491	**.001 (-)**	.882	.814	.585	.425
North Planned	11	.371	.874	.254	.391	.502	.059	.170
South Planned	22	.054	.125	**.013 (-)**	.893	.923	.104	.068
West Planned	14	.992	.446	.961	.586	.420	.369	.135
Inside	44	.136	.501	.104	.086	.563	.140	.380
Outside	224	.397	.422	.390	**.041 (-)**	.399	**.001 (+)**	**.006 (+)**

Table VI: p-values from Paired t-tests, assessing change from 2010 - 2014
'Operating' includes 'Eastside,' 'West End,' and 'Northside'
'Planned' includes 'North Planned,' 'South Planned,' and 'West Planned'
(+) indicates a positive change, and (-) indicates a negative change.

The results show development within areas with operating BeltLine trails compared with areas with planned trails with an increase in population and population density. People do appear to be moving into areas with operating trails zones. Among the operating BeltLine areas, the sample size was too small to determine which areas are contributing to this growth. There was a decrease in wealth within operating BeltLine areas, which could either mean that the people living there are getting poorer or that people are moving in with lower incomes than the people currently living there. However, this is happening in the city as a whole and in several other zones, suggesting broad economic declines from a source such as the 2008 recession. The areas with planned BeltLine segments did see an increase in average rent, which was surprisingly not seen among zones with operating BeltLine segments. This is unexpected, although a possible explanation is that housing prices could primarily be seen before trail opening, as observed by Immergluck (2009). However, the recession's effects are a major confounding factor. Eastside saw construction of new housing (reflected in an increase in median year built), which corresponds with reports showing large residential and commercial developments, particularly near the new Historical Fourth Ward Park. The block groups on the exterior of the overlay district experienced both the construction of new units and the destruction of old ones, resulting in an overall decrease is housing units and higher rents being charged for the newer housing stock.

Afterwards, a one-way ANOVA was run comparing percent changes in population, as well as absolute change in population density, per capita income, average rent, in vacancy rate and median year built. Because we are most interested in the effect of BeltLine construction, only the 'operating' and 'planned' groups were compared. ANOVA assumptions were tested, including approximately equal sample sizes, heteroscedasticity (Levene Statistic), and normal distributions (Q-Q plot). All variables are homoscedastic except for 'change in housing units' and 'change in average rent,' and only 'change in median year built' shows strong non-normality. The ANOVA results reveal less effect than the paired t-test, with only 'change in vacancy rate' showing differences between the 'operating' and 'planned' groups.' Areas with operating BeltLine trails saw their housing vacancy rate decline more than areas with planned trails, which aligns with expectations that the BeltLine made the areas more attractive to potential residents. However, the result is curious because neither 'change in housing units' nor 'percent change in population' were significantly different even though they are components of vacancy rate.

The data provides evidence of development in the parts of the overlay district with operating BeltLine segments. The growth has been seen primarily in population and density. While new units have been built, many appear to have replaced older units, resulting in a roughly constant number of slightly newer housing units. However, the economic situation for many Atlantans deteriorated over the same time, and it is not clear that areas with operating BeltLine segments experience growth above that experienced in other areas.

EMPLOYMENT

Retail and office employment are central to the BeltLine-area economy and most industry and warehousing have relocated. Retail and total employment are analyzed for the same zones as for residential characteristics above,

aggregated via the OneTheMap tool using LEHD data. As OnTheMap produces a single total for each zone, the results for each are provided without statistical tests.

In 2002, the area with the highest retail employment density was North Planned, however the Eastside has increased retail employment much faster and caught up. Of all the study zones, Eastside showed the largest absolute growth between both 2002 and 2010 (30 new retail jobs per square kilometer) and between 2010 and 2014 (40 new jobs per square kilometer). These results make it the fastest growing before the BeltLine trail opening and the second fastest since then trailing behind the Northside Planned between 2010 and 2014 with 51 new jobs per square kilometer. The Northside reversed its retail employment loses with the opening of the BeltLine to gain about half as many (23 retail employees per square kilometer) as the Eastside trail. At the same time, the West End area barely gained employment before the BeltLine and actually lost retail employment afterwards. Thus, the BeltLine does not seem to have a decisive effect on retail employment. The zones with the greatest growth before the BeltLine continued their trajectory (Eastside), and many areas with planned BeltLine trails have in fact outperformed those with operating trails both in retail growth and employment density. However, we cannot ignore the influence of speculation and the expectation of significant increase in land value.

Among total employment, the Inside zone containing the CBD remains the regional employment center, followed by Northside, which partially contains Buckhead, a secondary CBD. For most zones, employment density has remained roughly constant between 2002 and 2014. However, Westside Planned has experienced the largest absolute and relative growth, especially since 2010, and this despite the lack of trails. Before concluding from Westside's Planned growth that trails do not matter, it should be noted that all areas with operating trails increased total employment density since the trails' opening, which can only be said of West Planned, which may be an outlier, and Inside, which includes the CBD. Therefore, the BeltLine may have a small effect on total employment, although importance relative to other factors in unclear.

	Retail Emp Density (2010)	Change in Retail Emp Density (2010-2014)	Total Emp Density (2010)	Change in Total Emp Density (2010-2014)
Eastside	130	40	1,116	254
West End	88	-13	331	46
Northside	25	23	2,730	546
West Planned	80	27	851	963
North Planned	128	51	2,315	-28
South Planned	36	-9	369	5
Inside	134	18	5,984	428
Outside	50	7	640	4

Table VII: Retail and Total Employment Density Changes between 2010 and 2014

DOES THE BELTLINE NARRATIVE ALIGN WITH FACTS ON THE GROUND

Atlanta BeltLine, Inc. (ABI) sees the BeltLine as an economic development tool, one that will generate some 28,000 housing units (of which 20% will be affordable), and spur $10 billion in economic development by 2030. ABI reports that by the start of 2016, the BeltLine had generated $3.1 billion of private investment along the corridor out of a public investment of less than only $0.4 billion (Atlanta BeltLine, Inc., 2015). Such language featured in the 2015 annual report points to an urban and economic transformation of at least the 45 neighborhoods that it will one day connect. Observations made on the ground, past research (Immergluck, 2009), and ABI's own studies (such as reports of 6,000 new permanent jobs since 2006) support these development claims (Atlanta BeltLine, Inc., 2015).

This study acknowledges growth in the areas that already have operating trails. However, it is not clear from the data, so far, that it is not also experienced in areas with planned trails and could therefore be due to BeltLine operations. Areas with planned trails or even areas outside of the overlay district have experienced growth on some revitalization dimensions, often experiencing as much or more than areas with operating trails. Thus, this study does find evidence of revitalization around the BeltLine trails but is thus far unable to attribute it to the trails themselves.

The complexity is attributable to the many factors that influence development. The Eastside area, which has anecdotally experienced large and well publicized development in the past years, has more than just the new BeltLine trail segments. It also has a new large park funded by the BeltLine (Historic Fourth Ward Park), connections to an existing trail system run by the PATH foundation, and underutilized buildings, including the former Sears Roebuck

Warehouse that is being transformed into Ponce City Market, one of the largest mixed-use developments in the city. The trails alone may not be decisive, but rather additive with other already present amenities. ABI does recognize trails' limitations, which is why it deploys a holistic strategy both in terms of physical infrastructure and in terms of policies and incentives. For the physical infrastructure, ABI will continue to improve and create parks around the city, ultimately growing Atlanta's park space by 40%. One of the most promising parks is the Bellwood Quarry / Westside Park, which will add some 579 acres of park space in the Beltline's most economically depressed quadrant and become one of the city's largest parks (Alex Garvin & Associates, Inc., 2004). Similarly, the overlay district allows the city to align some streetscape policies near the BeltLine to be more conducive to pedestrian environments (Atlanta BeltLine, Inc., 2016b). These initiatives represent a multifaceted approach to making the BeltLine area's physical infrastructure attractive to developers and residents while constructing sustainable urban infill locations.

CONCLUSIONS

The Atlanta BeltLine seeks to provide amenities that will make infill sites attractive to developers and potential residents alike. These sites are framed as a multi-pronged strategy including built environment and policy measures to make the BeltLine and surrounding neighborhoods pedestrian-oriented. There is observational and journalistic evidence that new development is occurring around the Beltline's existing trails in a way that is not occurring along the planned trails. This study does find evidence for growth, but does not confirm disproportionate growth due to trail operations. Vacancy rate has declined in operating areas more than planned areas, but the results are not replicated when we examine other development variables. Employment also appears more mixed. Retail employment density grew in two of the three areas with operating BeltLine segments, although the growth appears to reflect continuing trends more than an increase spurred by the Beltline's opening. The three operating BeltLine areas all experience fairly large increases in overall employment density since 2010 that may (or may not) be attributable to the BeltLine.

There are several caveats that should accompany the research. First, the start year (2010) is a 5-year estimate including some data before the 2008 recession, which likely skews development indicators related to wealth. Second, many of the smaller areas contain too few block groups for statistically significant results and also often contain large sampling errors from ACS. There are many other factors that affect development that were not included in this study, and which are not controlled for. Finally, the Beltline's impacts may not fully coincide with opening of the physical trails. Some may experience speculative effects before opening, as Immergluck (2009) found. Other effects may be delayed, such as retail employment, which may follow population increases.

As the trails, parks, streetscapes, and ultimately rail transit associated with the BeltLine continue, it is likely that they will continue to attract more residents, and eventually more housing units and jobs as well. If this continues, development that might otherwise occur at the urban periphery may be diverted towards infill development in areas with lower energy and lower carbon lifestyles. The BeltLine alone and similar projects are unlikely to transform the city by themselves, but there is evidence that they do play a significant role in attracting infill development.

REFERENCES

Alex Garvin & Associates, Inc. (2004). The Beltline Emerald Necklace: Atlanta's New Public Realm. Retrieved from http://beltline.org/progress/planning/park-planning/

Al-hagla, K. S. (2010). Sustainable urban development in historical areas using the tourist trail approach: A case study of the Cultural Heritage and Urban Development (CHUD) project in Saida, Lebanon. Cities, 27(4), 234–248. http://doi.org/10.1016/j.cities.2010.02.001

Allmendinger, P. (2001). Planning in postmodern times. London, New York. Retrieved from http://www.tandfonline.com/doi/pdf/10.1080/1356347022000027756

Ambrose, A. (2004, March 15). Atlanta. In New Georgia Encyclopedia. Atlanta History Center. Retrieved from http://www.georgiaencyclopedia.org/articles/counties-cities-neighborhoods/atlanta

Atlanta Beltline, Inc. (2013). 2030 Strategic Implementation Plan - Final Report.

Atlanta Beltline, Inc. (2015). Annual Report 2015. Retrieved from http://beltline.org/about/resources/annual-reports/

Atlanta Beltline, Inc. (2016a). Eastside Trail. Retrieved May 7, 2016, from http://beltline.org/trails/eastside-trail/

Atlanta Beltline, Inc. (2016b). For Developers: We're Developing a New Future for Atlanta! Retrieved April 30, 2016, from http://beltline.org/about/resources/for-developers/

Atlanta Beltline, Inc. (2016c). Historic Fourth Ward Park. Retrieved April 29, 2016, from http://beltline.org/parks/historic-fourth-ward-park/

Atlanta Beltline, Inc. (2016d). Project History. Retrieved April 29, 2016, from http://beltline.org/progress/progress/project-history/

Bugliarello, G. (2006). Urban sustainability: Dilemmas, challenges and paradigms. Technology in Society, 28(1–2), 19–26. http://doi.org/10.1016/j.techsoc.2005.10.018

Bürer, M., Goldstein, D., & Holtzclaw, J. (2004). Location efficiency as the missing piece of the energy puzzle: how smart growth can unlock trillion dollar consumer cost savings. Citeseer. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.579.8548&rep=rep1&type=pdf

Byrne, P. F. (2006). Determinants of property value growth for tax increment financing districts. Economic Development Quarterly, 20(4), 317–329.

Byrne, P. F. (2009). Does tax increment financing deliver on its promise of jobs? The impact of tax increment financing on municipal employment growth. Economic Development Quarterly. Retrieved from http://edq.sagepub.com/content/early/2009/12/03/0891242409350887.short

City of Atlanta, Invest Atlanta, Atlanta Beltline, Inc., & Atlanta Streetcar. (2015). Atlanta Streetcar System Plan (Final Report). Retrieved from http://beltline.org/about/resources/streetcar-system-plan/

Ewing, R. (1997). Is Los Angeles-Style Sprawl Desirable? Journal of the American Planning Association, 63(1), 107–126. http://doi.org/10.1080/01944369708975728

Ewing, R., Pendall, R., & Chen, D. (2002). Measuring sprawl and its impact: The character and consequences of metropolitan expansion. Washington, DC: Smart Growth America.

Fulton County Government. (2016). Geospatial Data Download. Retrieved from http://www.fultoncountyga.gov/fcgis-geospatial-data

Garrett, F. M. (2011). Atlanta and Environs: A Chronicle of Its People and Events, 1880s-1930s. University of Georgia Press.

Gravel, R. A. (1999). Belt line - Atlanta : design of infrastructure as a reflection of public policy (Thesis). Georgia Institute of Technology. Retrieved from https://smartech.gatech.edu/handle/1853/7400

Handy, S. (2005). Smart Growth and the Transportation-Land Use Connection: What Does the Research Tell Us? International Regional Science Review, 28(2), 146–167. http://doi.org/10.1177/0160017604273626

Immergluck, D. (2009). Large redevelopment initiatives, housing values and gentrification: The case of the Atlanta Beltline. Urban Studies, 46(8), 1723–1745. http://doi.org/10.1177/0042098009105500

Jackson, M. I. (2008). Model city blues: Urban space and organized resistance in New Haven. Temple University Press.

Jepson, E. J. (2001). Sustainability and Planning: Diverse Concepts and Close Associations. Journal of Planning Literature, 15(4), 499–510. http://doi.org/10.1177/088541220101500401

Leigh, N. G. (1994). Stemming middle-class decline: The challenges to economic development planning. Transaction Publishers. Retrieved from https://books.google.com/books?hl=en&lr=&id=0nvcAwAAQBAJ&oi=fnd&pg=PP1&dq=stemming+middle+class+decline&ots=OiJlhezfxz&sig=BeInZBkOEi46eHg8i4maOGcyLOU

Leigh, N. G., & Hoelzel, N. Z. (2012). Smart Growth's Blind Side. Journal of the American Planning Association, 78(1), 87–103. http://doi.org/10.1080/01944363.2011.645274

McDonough, W., & Braungart, M. (2002). Design for the triple top line: new tools for sustainable commerce. Corporate Environmental Strategy, 9(3), 251–258.

McMahon, E. T., & Benedict, M. A. (2000). Green infrastructure. Planning Commissioners Journal, 37(4), 4–7.

Rose, M. H. (1979). Interstate: Express highway politics 1941-1956. Retrieved from https://trid.trb.org/view.aspx?id=150164

Ross, C. L., Nie, K. L. de, Barringer, J., Hashas, M., Benjamin, S., Doyle, J. H., & Pierce, D. (2007). Atlanta BeltLine Health Impact Assessment. Center for Quality Growth and Regional Development.

Schasberger, M. G., Hussa, C. S., Polgar, M. F., McMonagle, J. A., Burke, S. J., & Gegaris Jr, A. J. (2009). Promoting and Developing a Trail Network Across Suburban, Rural, and Urban Communities. American Journal of Preventive Medicine, 37(6, Supplement 2), S336–S344. http://doi.org/10.1016/j.amepre.2009.09.012

Sesay, I. (2012, June 20). Abandoned railway turns urban sprawl green. Retrieved April 29, 2016, from http://www.cnn.com/2012/06/20/us/atlanta-beltline/index.html

UN-Habitat. (2012). Energy. Retrieved May 7, 2016, from http://unhabitat.org/urban-themes/energy/

Wakefield, S. (2007). Great expectations: Waterfront redevelopment and the Hamilton Harbour Waterfront Trail. Cities, 24(4), 298–310. http://doi.org/10.1016/j.cities.2006.11.001

URBAN QUALITY THREW THERMAL COMFORT CONDITIONS IN AN URBAN SPACE. "THE SQUARE OF INDEPENDENCE, SÉTIF, ALGERIA"

Session T2.8 | June 3 | 9:00 – 10:30

Ballout Amor (1); Pr. Yasmina Bouchahm (2); Dhia Eddine Zakaria Lacheheb (3)
(1) Work group PUVIT, University Sétif 1, ALGERIA. bamor79@yahoo.fr
(2) Work group ABE, University Mentouri 3, Constantine, ALGERIA.
(3) Work group PUVIT, University Sétif 1, ALGERIA.

ABSTRACT: Traditionally outdoor spaces are as important as the interior ones, as they are used extensively throughout the year, these outdoor spaces are used by men, women, children and adults.

Purpose the current urban planning in Algeria tend to ignore these facts and the importance of these spaces seems to disappear gradually leading to the destruction of the sense of belonging to the community, while it should primarily aim to improve the quality of these spaces to improve the environment which is the life support of these people.

This urban planning inhibits any significant relationship of the residents with urban spaces, making the living environment and the way of life of inhabitants sleep, summarizing the role of these outdoor spaces to a single space of transition and movement.

There is a strong public interest in the quality of open urban spaces and it is recognized that they may contribute to the quality of life in cities and to lower the isolation and social exclusion. This is directly related with the physical aspects of urban space (involving thermal comfort, visual and acoustic comfort, urban morphology, etc.), but also with social environment.

The treatment of outdoor spaces in urban areas can improve the urban quality by mitigating the roughness of climatic constraints around buildings and in public spaces to make them more comfortable as long as possible.

To reach this comfort, the use of certain urban amenities is essential. Among the most effective arrangements and more prevalent we note the use of vegetation and water ponds, especially when they are associated. Both elements play an important role in creating a physical and social microclimate more favourable in the urban areas and can on their own solve many problems in outdoor spaces.

In order to demonstrate the important role of the presence of water and vegetation in the creation of a favourable microclimate a study will be carried out on the Independence Square (square of Ain El Fouara), urban space located in the the city of Setif and characterized by the presence of a water fountain and surrounded by a large mass of vegetation. In this study we conducted an investigation including a series of measurements and a questionnaire, both of them related to factors affecting thermal comfort in urban areas. Unlike the in-situ measurements that give us a

quantifiable preview of comfort, the questionnaire keys the qualitative dimension of comfort (notion of atmosphere) and which is in direct relationship with users and reports to us their opinion on the matter.

We will try by this method which consists of a series of questions presented in a predefined order to the users of the square not only to quantify the parameters relating to thermal comfort of people in urban areas, but also to detect the qualitative aspect of this comfort. This will allow the evaluation of different parameters related to comfort and thermal sensation, the preferences of the subjects and the various aspects of physical and psychological adaptation.

KEYWORDS: urban quality; urban atmospheres; microclimate; urban comfort; vegetation; water ponds; questionnaire.

INTRODUCTION

To put this in context must be noted that this paper is part of a more comprehensive research on the positive effect of vegetation and surface water on the quality of urban life in general and specifically on the thermal comfort of the Independence Square (Ain El Fouara square) in the city of Setif (Algeria) which is characterized by a semi-arid climate.

In this study we used several tools including climate analysis of the city of Setif, and then conduct a scale analysis of the microclimate with a measurement campaign of the most relevant parameters, namely, the air temperature, humidity and wind speed. Another tool used in this investigation and not least, is the questionnaire. Unlike field measures that give us a quantifiable overview of comfort, the questionnaire on its side touches qualitative dimension of comfort (notion of ambience), which is in direct relationship with the user, and it is this aspect that interest us and that we will see in this paper.

In order to demonstrate the importance of the presence of water and vegetation in the creation of a favourable microclimate a case study will be taken into account and that is the Independence Square(Independence Square), urban space located in the town of Setif, characterized by the presence of a water fountain, and surrounded by a large vegetation cover.

This square gathers every day thousands of people and this regardless of the season, this place is carrying history, architectural heritage and social life but it is not logical to thought that only this aspect attracts people to this square and there are many places with history and symbol but which are ignored by the population. This leaves us believing that there are many other reasons that give this square the importance it has.

Does it therefore offers some comfort to users and if so how does it manifest?

Does the presence of the fountain and vegetation, affect and impact the outdoor comfort and quality of urban life and therefore attendance square?

Before answering these questions, we firstly need to introduce topics such as the quality of urban life and the concept of urban environments while insisting on the vision of these objects through the prism of thermal comfort, something that will be necessary to put into context and understanding of our research.

THE QUALITY OF URBAN LIFE

DEFINITION

After consulting several documents on the issue, we agreed that there were two main ways to address the issue of the quality of life.

- The first requires an objective point of view towards the quality of life. A representative definition of this trend is as follows: "the quality of urban life is considered as the product of the interaction of several factors (social, health, economic, environmental) that collectively and often by unknown means, come into interaction to finally have an impact on human and social development at the level of individuals as that of the society.
- The second way involves a subjective look at the quality of urban life. Several definitions are representative of this point of view, think of that of the World Health Organization: "the quality of urban life is defined as the perception that an individual has its place in an environment, in the context of culture and the system of values in which he lives, in relation to its objectives, expectations, standards and concerns. It is a very broad concept that can be influenced in complex ways by the physical health of the subject, his psychological state and its level of independence, social relationships and its relationship to the essential elements of its environment". (Schraub and Conroy, 2002).

To understand the subjective perspective of the definition of the quality of life, Flanagan has identified certain factors to measure quality of life (Flanagan, 1982):

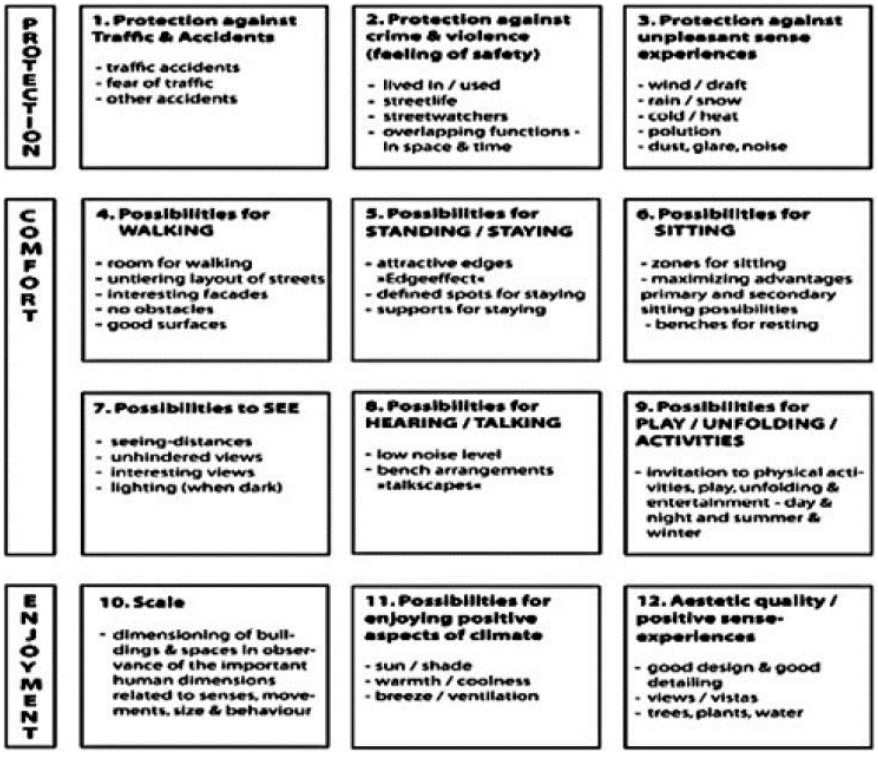
- Relationships with others.
- Civic, community and social activities.
- Recreation.
- The physical and material well-being.

APPROACHES TO THE ASSESSMENT OF THE QUALITY OF URBAN LIFE

The concept of "quality of urban life" can be approached on both subjective and objective perspective, depending on whether one considers the internal aspects (the satisfaction felt by individuals) and external (material object which causes or is in connection with satisfaction) (Pacione, 1982).

- According to André B.: "objective indicators of well-being (income per inhabitant, rate of underemployment, etc.) was insufficient to predict the quality of life since they do not take in account what feels like the population...The criteria of the quality of life depend on the subjectivity of each social group that establishes its own hierarchy of criteria, depending on their preferences, traditions and way of life» (André, 2001).
- A lot of research combines both objective and subjective approaches to enjoy a more complete understanding of the phenomenon of the quality of life. In these cases, the methodology is often quantitative; it is based on the development of encrypted data, a well-defined population. This population is not investigated in full, but only on a subset or sample» (Desrosières, 1982).
- As like the case for searches of Rogerson (1997) and Borsdorf (1999), the majority of subjective approaches propose to measure the "satisfaction" of the inhabitants by the survey questionnaires.
- In contrast to the methods of evaluation, focused on the "subjective" perceptions of residents, there are approaches which supports on measures "objective" developed by Jan Gehl (1979, 1987) and William H. Whyte (1980, 1988). According to them, there are two groups of activities in public spaces: the "necessary" ones (go to work, waiting for the bus, etc.) and "optional" activities (the social and recreational activities for residents). Necessary activities do not reflect much the quality of public spaces because they are essential to each person. On the other hand, the optional activities are strongly influenced by the quality of public spaces: people choose themselves to attend places corresponding to their tastes and preferences.

To assess the quality of a public space, it is often necessary to observe the behaviour of people who participate in optional activities. There are several reasons that explain the attraction of a person for a public space. Jan Gehl (1987) outlines the criteria of a good public space in a detailed table which includes twelve main factors (Fig. 1).

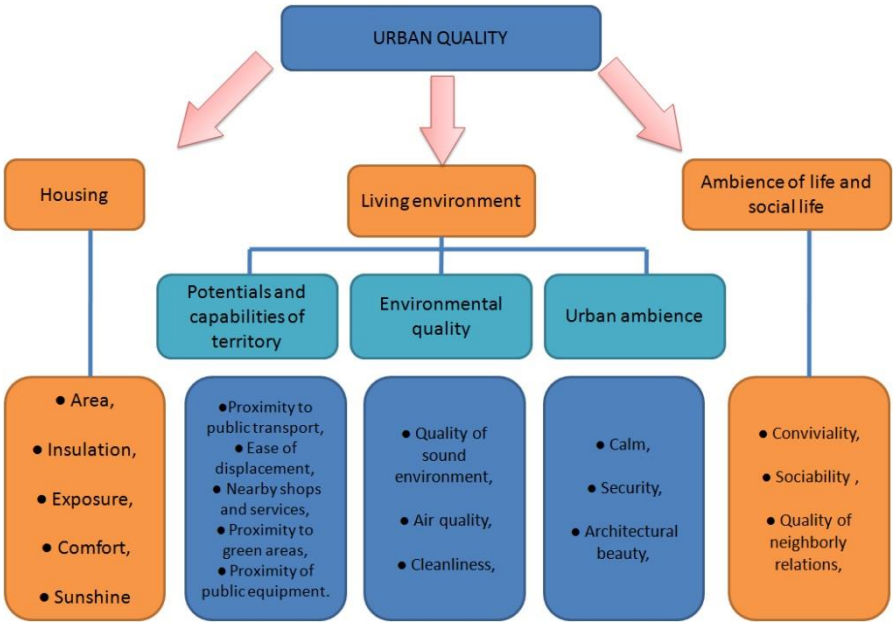


The factors of a good public space according to the table of Jan Gehl and the relationship between the quality of a city and activities in a city are summarized as follows:

- Protection against traffic and accidents.
- Protection against violence and crime.
- Protection against unpleasant sensory experiences (noise, fumes, pleasant and unpleasant smells, dust/dirt).
- Opportunities to walk.
- Opportunities to stand.
- Opportunities to sit.
- Opportunities to see nearby: Visual field, orientation/view, lines of vision without barriers, lighting (night).
- Opportunities to hear and talk: sound level, distance, location of the benches.
- Opportunities to play and recreation: game, dance, music, theatre, speech, mixture of different ages and people groups
- Opportunities to find peace and quiet.
- Physiological needs: eat, drink, rest, hygiene (public toilets), run, play.
- Services at small scales: signs, telephone boxes, mail boxes, billboards, city maps, rent strollers and carts, wastebaskets.
- Enjoy the climate positive factors: sun, heat / cold, breezes / ventilation.
- Arrangement to take advantage of positive sensory experiences: aesthetic qualities, views, nature, plants, trees, flowers and animals.

All these factors create the identity and the difference between public spaces (Gehl, 1987).

A study conducted by a team of CERTU (Center of studies on networks, transportations, urban planning and public buildings, Lyon) in which we try to give a subjective definition of the quality of urban life. The Assembly of the results allowed thus to define the concept of quality of life through three main dimensions (Fig. 2).



It is undeniable that the space of housing and its intrinsic qualities participate in quality of daily life. These seem to structure itself through its comfort, its size in relation to the needs and means of the family structure, its isolation, its exposure and sunshine. To complete this representation of the quality of daily life, the living space must be integrated with a quality living environment.

This dimension of living environment occupies a considerable place in the representations. Interviews permit as to evaluate the importance allocated to this space of daily life often likened to the residential area. The living environment can be divided into three specific units that are structured around the potential and functionality of territories, environmental quality of spaces and urban atmosphere. Each of these areas is then available in settings considered vital to the quality of daily life. Potentialities and capabilities of executives of life are thus built around the proximity of public transport, facilities of displacement, of the close to shops and services, proximity to green spaces and public facilities.

Environmental requirements depend on their quality of ambient sounds, on the air quality and cleanliness of the territories. The urban atmosphere depends on quiet, security and architectural quality of the neighborhoods ... etc. The quality of the ambiance of life and the social universe finally emerged as a major focus of defining the quality of daily life. This is based on elements of conviviality, of sociability and quality of neighborhood relationships that characterize living spaces (SAULNIER, 2006).

URBAN AMBIENCES

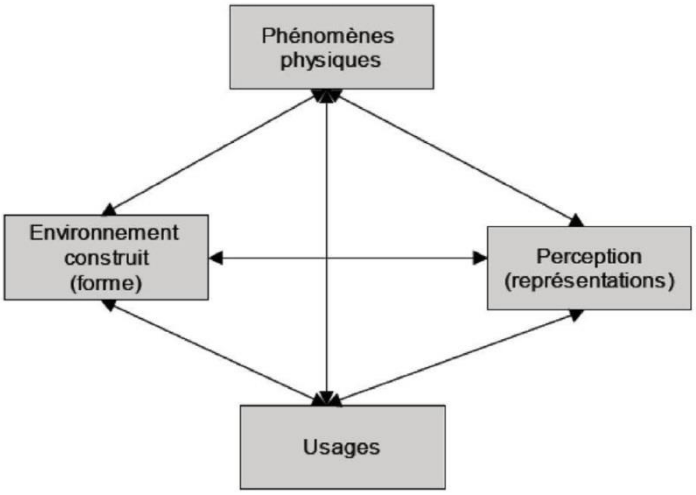
The architectural and urban ambiances are an open search field which is enriched by several modeling works and physical characterization of sensitive research in aesthetics, cognitive science (particularly ecological approach to perception), or yet the contributions of sociology and anthropology inhabited areas (Müller, 2005).

As a sensitive perception of the urban and architectural environment, the ambiance is a shared experience by everyone but more often hardly communicable and explainable. The most common definitions of "ambiance" are as follows:

- « Elements and physical devices that make an atmosphere ».
- « Material and moral atmosphere that surrounds a place, a person ».

It is possible to isolate the physical dimension of phenomena of ambiance of their sensitive and aesthetic perception or to associate with the general ambiance of a place from the different physical and sensitive phenomena associated with the lighting, sound, thermal, olfactory atmosphere.

The concept of ambiance articulates knowledge of physical phenomena, their interactions with the built form, and the uses of architectural and urban spaces the perception of the user and its different representations (Fig.3). It also allows crossing the spatial and temporal scales.



Research undertaken in recent decades have focused on two related areas: one focusing more on controlling ambient flows (light, sound, heat, ventilation, odor, ...) based on the engineering sciences and knowledge of urban and architectural forms, the other exploring the analysis of in situ sensory experience and mobilizing knowledge on the uses and representations.

The work on the atmospheres articulates the three components that often characterized the specificity of architectural research: project, subjects and the objects.

- The project: the challenge is to study or to design an urban project that respects the intentions of architectural or urban ambiance.
- Subjects: it's the people who practice or attend architectural and urban environments and who perceive and feel their physical environment (object) according to their physiological, psychological and cultural sensitivity (cognitive representations) and the use of these places.
- Objects: it comes here to the physical environments, natural and anthropogenic phenomena that interact with the built environment (buildings, infrastructure…) and natural (parks, vegetation, water plans...).

Works on the atmospheres are therefore intrinsically interdisciplinary research which combines architecture and urban sciences for the engineer with the human and social sciences (Hardin, 2007).

INFLUENCE OF CLIMATE ON THE URBAN QUALITY

The climate of the environment plays a very important role in the life in urban areas. And thus becomes one of the constituents of the urban quality of life.

Urban quality in any region of the world, is very influenced by the urban microclimate, urban environment can create different types of micro environments. The discomfort created by wind and sun because of environments created by some non-successful designs and planning and it also has adverse effects on urban quality.

The physical attributes of the space and climate have an influence on people in a direct way through physical processes and indirectly through the impression on the physical environment such as solar radiation, snow, the whistle of the wind, etc.

The climate is seen, heard and felt. It is mainly felt like heat or cold, i.e. thermal comfort. The characteristic microclimate is a property of an urban space which has a considerable impact on the range of possible activities and the actual use of this space.

Geographical position (latitude, altitude and landscape surrounding etc.) determines the local climate of a city or region. Buildings, vegetation, topography, and anthropogenic heat, etc. affect the climate on a human scale and create a characteristic urban microclimate which is different - more or less -than the local climate. The local climate is therefore measured to represent an average for a large region, and the weather which is felt directly is called microclimate (Miguet, 2000).

URBAN MICROCLIMATE AND IDENTITY OF PLACE

The microclimate that people feel instantly in the streets and squares is different -more or less- than the local climate. When it is sunny or windy the difference is larger and when the scale of the surrounding area is great (tall buildings or large open areas) the difference is even amplified.

The climatic particularities point to other impressions and evoke other sensations. Strong winds or solar radiation in an open space, for example, could amplify a spatial sensation of desolation or social feeling of being exposed.

People develop consciously an understanding of how the climate and physical environments are linked, i.e. the windy character or too sunny may be associated with wide views and freedom. We believe that places induce certain moods and microclimate can be a generator in this process.

Many observational studies have shown that people easily find the spaces in the windy days and consciously choose between being in the sun or in the shade depending on the temperature of the air (Adolphe, 1998).

We deduce that the climate is a very important element in architecture; it offers the thermal environment control means to improve the perception of urban spaces as well as offering the maximum comfort to users.

MICROCLIMATIC EFFECTS OF URBAN VEGETATION

No one can deny that the use of trees and green spaces in urban or architectural projects could only be a positive element in improving the living environment. The presence of urban vegetation is very important; because the induced effects are numerous and also concerns the urban planning and climatology issues as well as comfort and ambience.

The impact of vegetation may be direct but it can also appear indirectly and at a greater scale of the planning field through the urban microclimate, where vegetation plays an important role and that through the knowledge of microclimate functioning of urban vegetation.

The vegetation has various effects on the urban environment, beyond the aesthetic role and the pleasant sensation of proximity with nature provided by the trees and vegetation, it can stabilize soil, provide large horizontal and vertical wall surface shading, provide habitat for wildlife, obstruct the noise and improve the quality of the air. In addition, the process of photosynthesis slightly reduces the greenhouse effect. The leaves can be an effective filter for air pollutants (Vinet, 2000).

But also, the proximity of trees and vegetation changes significantly the use of energy in buildings, directly and indirectly: shading and protection from the wind but also cooling effect of evapotranspiration (Santamouris and Adnot, 2004).

MICRO-CLIMATE EFFECTS OF WATER SURFACES

The objective of the construction of a fountain or a water surface is to beautify the environment, cooling by evaporation, create special effects, to hide the noise of traffic and help with relaxation.

Indeed a body of water has a different thermal behaviour of most other surfaces found on Earth. The presence of a mass of water causes a decrease of the air temperature in the wind which is proportional to the wind speed and the length of the mass of the water.

Ponds and fountains can be effective air conditioning devices in open spaces because of their ability to maintain temperatures of water below the air temperature, and their low reflectivity. While the water evaporates, the temperature decreases and this evaporation is proportional to the contact air/water surface (Santamouris and Adnot, 2004).

VIII-CASE STUDY

PRESENTATION OF THE CITY OF SETIF

The department of Setif is located North-East of Algeria, it is located between 36° 50 and 35° North altitude and between 5° of West longitude and 6° of longitude East (Fig. 4).

The city having coordinates 36 ° 11'N latitude and 5° 24' E to longitude, and rising to a height of 1100 m.

The climate of the city of Setif is continental semi arid, characterized by a large amount of rainfall during the rainy seasons. The hot summer, knows however only rare rainfall and temperatures that are excessive in full summer season between June and August with monthly variations of 22.8 ° C to 26.4 ° C.

Annual precipitation average of 398, 9 mm made of this city one of the moderately watered regions of the country. According this analysis the climate of Setif is wet and cold during the winter season, hot and dry in the summer with high temperatures in summer.

MOTIVATION FOR THE SITE CHOICE

The choice of the site for our study focuses on one of the most important and best known public spaces of the city of Setif, and which is the square of Ain El Fouara.

This square is part of the colonial downtown, in the middle of a fabric of over 160 years (Fig. 5).

This choice is the result of a simple observation of the permanant regrouping of people in that square generally and especially around the fountain Ain El Fouara.

This square is located downtown and the presence of shops leads the passage and the rest of pedestrians in the area.

In addition, this square is a mineral open space with a water source and abundant vegetation which give us the opportunity to test our hypothesis about the role of these two elements coupled in terms of microclimate and comfort on field view to the rarity of such sites in the city of Setif.

THE EXPERIENCE WITHIN THE SQUARE

The Independence Squareis a centre where coexist several activities. It is the meeting place of different social categories justified by the presence of the mosque, the fountain, the administrations, shops and cafes.

The role of this square is not just as simple secondary functions and the public's enthusiasm towards this space remains the same for a long time, its functions should be reduced to those of a district reserved for its own inhabitants or some nostalgic, but this is not the case as more and more people visit this square, whether from other parts of the city, or foreigners from the city of Setif.

For years, the square and the fountain continue to be the focal point for the visitors of the city, they represent the collective memory of Setif.

For years, the square and the fountain continue to be the focal point for visitors to the city, both represent the collective memory of Setif. The outdoor areas cafes overflowing on archways and on fragments of the square, the portion adjacent to the mosque animation known only prayer times.

MAIN FEATURES OF THE SQUARE

- It has a strategic position in the city, which directly affects its attendance.
- The location of the square in the city, made of it a space of transition to a significant mechanical and pedestrian flow.
- It remains the dominant space in the urban structure.
- The existence of special items in it, such as the El Atik mosque and the Hall of exposition with their own historical identity.
- A fountain which has a high symbolic value in the collective memory, it is used to identify the square and is the symbol of the city of Setif.
- It quenches the thirst of passers during the hot days.
- The opportunity to stop and regroup within this square is present whether through benches, tables of coffee or other facilities.
- The diversity of the structure of the tissue within the square, providing areas with lots of vegetation and others or vegetation is non-existent.

- Vegetation is abundant which should bring a more in the comfort of users, thus protecting them from solar radiation and contributing in the decrease of temperature, intense and humidification of air. It may be noted that trees in the square are poplar (including the four trees), the Japan PRIVET and hackberry (FIG.6).

THE QUESTIONNAIRE

INTRODUCTION

For studies of thermal comfort in urban areas are often used field surveys. These are generally used where people are in the middle of the "real world settings" to include all the complexity of thermal conditions of each area of the case study. This collection includes environmental and human data simultaneously.

One of the human data collection techniques is undoubtedly the questionnaire and whose simplicity makes it a very commonly used technique. This is a technique of individual questioning, standardized, and composed of a series of questions presented in a predefined order. It allows quantifying the parameters relating to thermal comfort of individuals in urban areas, but also identifying the qualitative aspect of this comfort.

All this directed towards the need for a questionnaire, which allows the evaluation of different climatic parameters, the thermal sensation and the preferences of subjects, various aspects of the physical and psychological adaptation. As well as the evaluation and use of space, the assessment of the socio-economic subject, level of education, type of employment, financial capabilities that have been used to classify subjects according to their socio-economic environment, in addition to some data such as age, sex, clothing, etc.

THE SAMPLE

Investigation was made on the site on a sunny day of August 1st, 2007. Measures of climatic elements and the questionnaire were conducted in a day with typical weather conditions for the season of summer to prevent daily fluctuations, the day was sunny, little windy with clear skies.

For our case, both the sample classification criteria and the number of participants (48 people) are unquestionably the proximity and availability. In addition to interviews with the subjects, another operation was held and which is the measuring of the three weather parameters (temperature, humidity and wind speed) and that took a lot of time so we had to quickly make contact with people, trying to convince them to respond, simplify their understanding of issues so they can finally answer.

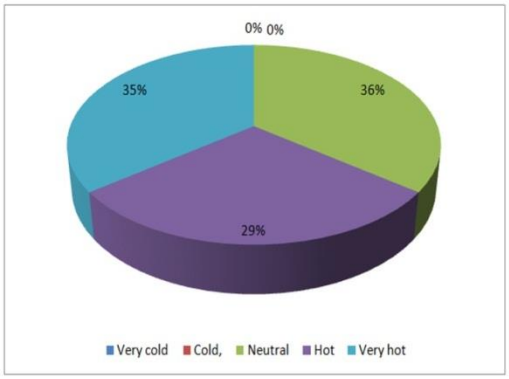
In the world of this statistical method called sampling accidental, it is questioning random people (passers, or just sitting on benches) in a public place without trying to sort them. The danger is to establish non-representative samples (Dodge, 2002).

THE MODEL OF THE QUESTIONNAIRE

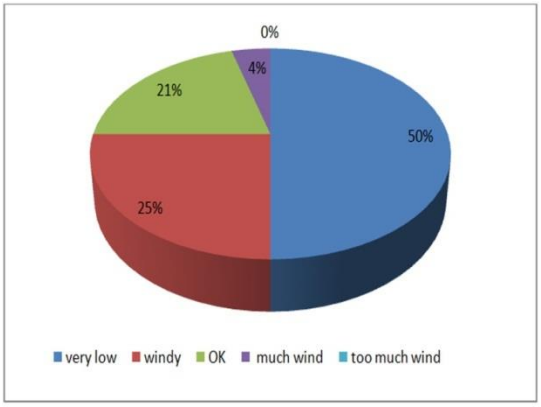
Regarding the questionnaire used in this study, it includes three categories of questions, the first questions are observatory (subject description, context in which the subject is, date-time, location in the square, activities ... etc.), the second was general (age group, gender, clothing, food ... etc.) are the latest ones related to comfort.

RESULTS

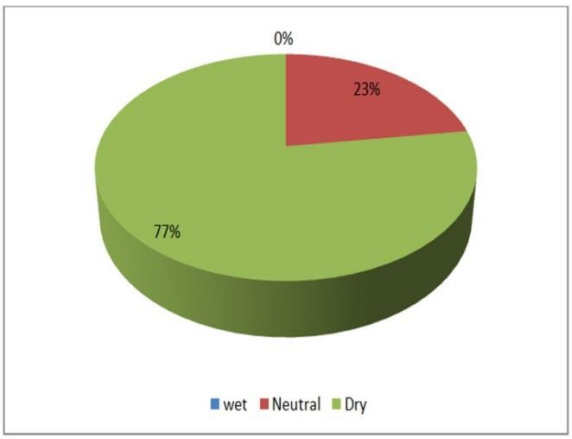
- Firstly, we note that all age groups are represent in the sample selected, however the portion over 55 years is still the most represented with 41%, it is simply explained by the fact that this category is generally no more active at this age (retirement) and therefore has more free time than other categories.
- We were surprised to find that 75% of respondents are not or do not live in Setif, having as belief that the square of Ain El Fouara would be a gathering point for people from the town of Setif.
- We Also notes that 52% of participants are active people (people working), confirming that the square is a place to change of scenery and have fun after a hard day's work or during breaks, knowing that instead Ain El Fouara is close to several administrations in the region. The portion of students / pupils remains the least represented with 8%.
- Independence Squarerepresents the ideal place for meeting and gathering because 75% of the participants in the questionnaire are with one or two people.
- According to remarks noted on the outfits of the participants, they reflect perfectly the summer season but also a try of acclimatization to the climate conditions of the site. Even consumption reflected this acclimatization, with the consumption of cold drinks which represents 52%, reflecting a desire to refresh and to lower its metabolic heat.Hot drinks are less consumed with 10% of total.
- Concerning the thermal comfort, it is noted that the discomfort due to the heat is clearly quantified with 65% of participants who say they feel hot or very hot. Only 35% say that comfort conditions are achieved, but it should be noted that this result is obtained at the beginning and end of the day where the thermal conditions are milder (Fig. 7).



- Other Elements have consolidated our understanding of the comfort of the participants as the answers to the question "what do you think of the sun now?", Participants will unconsciously answer about the intensity of solar radiation at the time of the questionnaire. We simply noted that those in the shade does not suffer the inconvenience caused by the intensity of solar flux and do not wish amelioration concerning this element. Unlike those found in the sun and who would like to decrease the intensity of solar flow, which return us to the importance of using more solar mask (vegetation).
- For the wind, we note that 75% of the participants think that it is low or very low and this seems to cause discomfort, because in these thermal conditions (especially the air temperature), most of them say that there is a "lack of air", referring to a lack of airflow (Fig. 8).

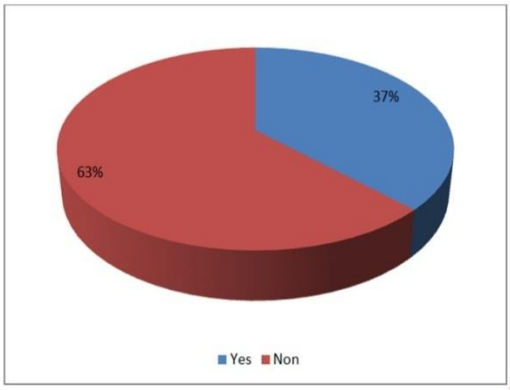


- For Humidity, the majority of participants (77%) think that it is dry in the square (at the moment of the questionnaire). However 23% think that the humidity level is acceptable, but we would point out that most of those having this sensation have been questioned during the morning period in which the air in the square benefits from natural air humidity but also from the effect of the vegetation of a park north of the site (Fig. 9).



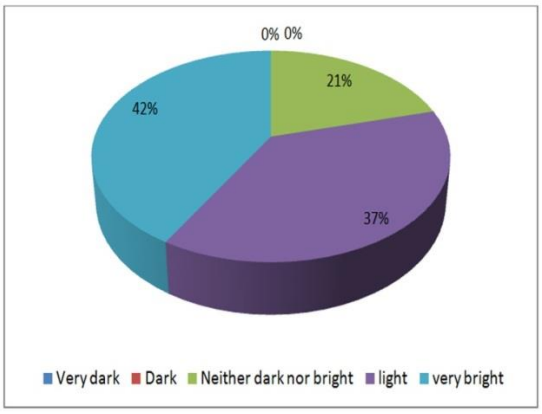
This result confirms those obtained during the measurement campaign and where we note that the effect of an existing Park nearby is noticeable during the morning and fades gradually as the temperature of the air and surfaces increases.

- For The question "Do you feel comfortable?", We note that 63% of respondents do not feel the comfort and only 37% do. But we must admit that we had influenced participants as this question seemed ambiguous (thinking they have already answered other questions relating to the comfort) and trying to explain their, we may have stressed on the thermal side while "feel comfortable" does not depend on this element only (Fig. 10).

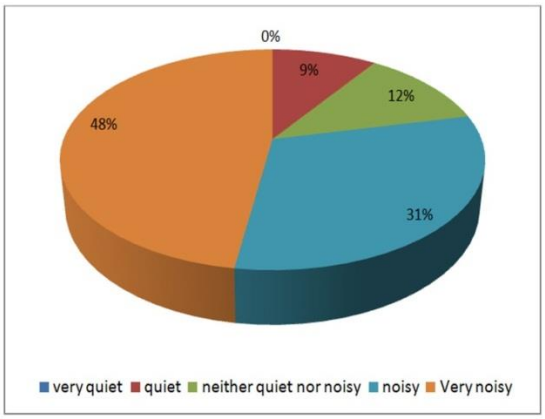


- Concerning the visual comfort we note that the lighting in the square is quite comfortable seeing that no subject considered the square as dark, and those who voted that the square is very bright, do not consider this to be a defect or constitute any discomfort.

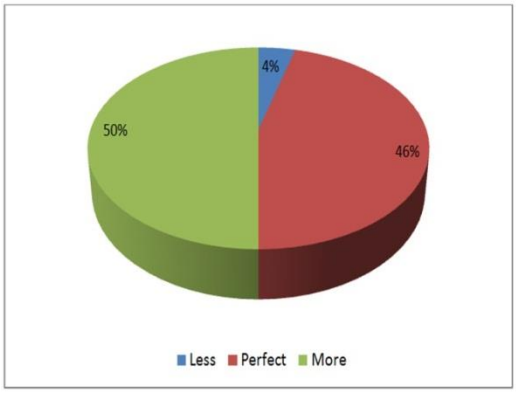
- The glare effect also seems not to disturb, seeing that 41% said they do not suffer from this discomfort, however 20% shows their dissatisfaction toward this discomfort but only because of a new hotel and whose large windows reflect sunlight and especially at the beginning and midday (Fig. 11).



- Unlike Visual comfort, the subjects consider that the sound environment is uncomfortable with 75% who consider the square as loud or very loud. This is due primarily to the heavy traffic that exists within the square. The remaining 25% consider that Square is pretty quiet; we note that these participants were questioned in the early morning, a time when the mechanical movement is less intense (Fig. 12).

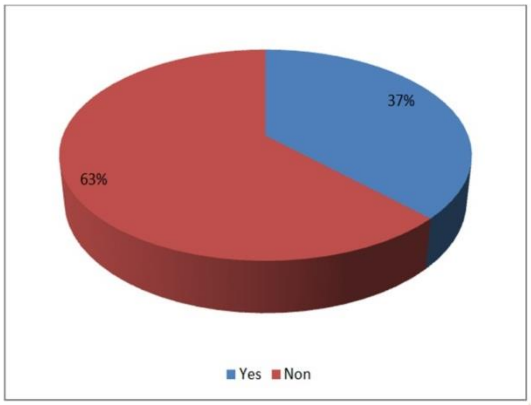


- Seeing the percentage of people who frequent the square of Ain El Fouara quite often we see that 76% are there every day or at least once a week, which will give some legitimacy to our questionnaire .
- We Also wished to know the opinion of the participants on the state of the vegetation in Square, 50% think there should be more vegetation and are aware of the positive role of the latter, 46%think the amount of vegetation is perfect and should be no addition. Only 4% think that there should be less vegetation (trees) (Fig. 13).



- The View of the water flow also seems to be viewed positively by the people and 46% of them think that the sight of such phenomenon can brings some comfort, while 19% do not feel it and 35% are indifferent. The answers concerning an addition of water surfaces (ponds, fountains and water jets) seem to be rather mixed, as 38% of participants are for such a contribution, 35% are against and say that the only water point should

exist in the square is the fountain of Ain el Fouara showing their commitment to the fountain and its symbolic role, 27% are completely indifferent to such an addition (Fig. 14).



CONCLUSION OF THE QUESTIONNAIRE

In most studies on the thermal comfort of outdoor spaces, a purely physiological model is employed involving a mathematical model of the comfort to calculate a thermal satisfaction index depending on the environmental conditions, the activity of the person and its degree of clothing.

However, the measurements on the ground revealed that a purely physiological approach is inadequate to characterize the conditions of outdoor thermal comfort while the notion of adaptation becomes more and more important. This involves all the processes by which the individual uses to improve the balance between the environment and its own needs, as much a physical and psychological point of view. This involves personal changes such as changing clothing according to the season or the variation of the metabolized heat from thanks to consumption of cold drinks, but also changes of posture and position, and thus are crucial parameters for satisfaction in a thermal environment (NIKOLOPOULOU, 2004).

This part presents the results of a questionnaire on thermal comfort in warm semi-arid climate, where we try to establish a relationship between the microclimate of the Independence Squareand human behavior.

This questionnaire has enabled us to detect the qualitative side of the sensation and behavior of users instead of Ain El Fouara towards the thermal comfort in this urban space.

Several elements are highlighted, such as the difference of these behaviors due to the social class of each participant, the adaptation of people to climatic conditions and which is reflected by their clothes, their consumption and their positions in this space.

For the different parameters of comfort it was noted that there is some correlation between the results of the questionnaire and the measurement campaign and this confirms the dry and warm microclimate and little windy of the square, and is confirmed still more the existence of comfort zones through things that are not easily noticeable in the measurement campaign. Another very important thing to note is the favorable opinion of users towards the presence and the addition of vegetation and water in the square, and their awareness of the contribution that can bring these two elements on their comfort.

The questionnaire helped us to confirm the results obtained during measurements and even detect elements beyond the simple quantification and the element that takes the most attention is the phenomenon of adaptation shown by users of this space to put themselves in more comfortable conditions.

We also confirmed that social considerations clearly influence behavior or reactions of people towards thermal comfort from the knowledge in detail of the concept of comfort to total ignorance of this element.

However, the beneficial effect of vegetation on thermal comfort conditions seems to be unanimous among users of the site (whether consciously or not) and therefore the wish of an addition of this element in the square. Unlike adding water bodies appears to be faced with a problem rather "nostalgic" towards the fountain of Ain El Fouara.

REFERENCES

Adolphe L. (1998). Ambiances architecturales et urbaines. Edition Parenthèses.

André B. (2001). Qualité de la vie. Revue : L'Action Nationale.

Desrosières A. (1982). Réflexions sur la portée sociologique des diverses phases du travail statistique. Edition INSEE.

Dodge Y. (2002). Premiers Pas En Statistique, édition Springer.

Flanagan J.C. (1982). Measurement of quality of life. Edition Archives of Physiotherapy and Medical Rehabilitation.

Gehl, J. (1987). Life between Buildings, Van Nostrand Reinhold publishing,

Hégron G. and Torgue H. (2007): Ambiances architecturales et urbaines « De l'environnement urbain à la ville sensible ». Cresson - Centre de recherche sur l'espace sonore et l'environnement urbain.

Miguet F. (2000). Physical parameters of architectural environments: A numerical model for the simulation of natural light into the urban development project. University of Nantes.

Müller L. (2005): Une approche différente de l'urbanisme. Edition: Lars Müller Publishers.

Nikolopoulou M. (2004). Design of outdoor spaces in urban environments: a bioclimatic approach, Centre for Renewable Energy Sources, Department of Buildings.

Pacione M. (1982). The Use of Objective and Subjective Measures of Life Quality in Human Geography. Edition Progress in Human Geography.

Schraub S. and Conroy T. (2002). Quality of life and cancer. Edition John Libbey Eurotext.

Santamouris M. and Adnot J. (2004). Cooling the cities. Edition Presses of the Ecole des Mines de Paris.

Saulnier N. (2006). De la qualité de vie au diagnostic urbain, vers une nouvelle méthode d'évaluation - Le cas de la ville de Lyon. Thèse de doctorat, Nantes: Université Lumière Lyon 2.

Vinet J. (2000) Contribution à la modélisation thermo-aéraulique du microclimat urbain. Caractérisation de l'impact de l'eau et de la végétation sur les conditions de confort en espaces extérieurs. Thèse de doctorat, Nantes: Université de Nantes.

TRACK 03

INNOVATION AND INTELLIGENCE: towards learning cities

Chair: Paulo Morgado, Universidade de Lisboa, Portugal

Scientific Committee: Adrienne Keane, Macquarie University, Australia
Arnaud Banos, Universite de Paris, France
Manuel Laranja, Universidade de Lisboa, Portugal
Perry Pei-Ju Yang, Georgia Institute of Technology, USA
Robin Ganser, Nuertingen-Geislingen University, Germany

Intelligence represents, from a territorial approach, a new planning paradigm, based on knowledge-based economies and in a globalized innovation. Cities can better address the challenges of an increased competition for knowledge and innovation depending on how much/well they can bridge local resources, innovation institutions and broadband networks (Komninos, 2009).

Besides all the technological apparatus of this new intelligent cities approach, social scientists have also incorporated such a paradigm into urban planning through focusing on knowledge, creativity and social capital.

Cities strive for improved development, for recognition, for more residents and tourists, for quality of life and the means they use to compete for it are increasingly based on new and differentiated assets, such as innovation and intelligence.

WORKING WITH URBAN MEGATRENDS

Session T2.8 | June 3 | 9:00 – 10:30

Bogna Anna Gebalska, DENMARK

ABSTRACT: The recent focus on cities follows population growth and obviously accelerated urbanization. Urban environment is shaped by the global forces, worldwide changes, called Megatrends. Cities, in response to global challenges, are working on strategies and plans for their future development. However the common influences, their results and impact differ across the world. As a consequence, there is no one common and universal solution that can be applied to approach challenges. City's response, successful strategy and action, depends on local characteristic, what is explored and examined in this study.

The research reveals that working with Megatrends is a condition for a positive transformation. Moreover, every city can facilitate the process of change and use global forces as opportunities for local improvement, contributing to the overall urban condition.

KEYWORDS: sustainable city; development strategy; addressing global trends; policy response.

INTRODUCTION

Today cities undergo a revolution. The urbanisation process, accelerated by constant population growth and enhanced mobility, pushes cities to become global hubs that are gathering generated flows of people, energies and also consequent risks. Today, the shape of our environment, governance, economy is an effect of global movements, global decisions and global changes.

Can we address and work with those global forces locally? Cities, both people and structures are challenged. Concerning the dynamic of social changes and urban activities influenced by innovative technologies, our habitat is facing a rapid transition, apparent in every location. City can use the opportunities of momentum, planning and acting responsively to the events or it can miss the chance in the global competition, losing prosperity. There is a considerable interest in finding what triggers cities' attractiveness and development, and maybe even bigger interest in how to provide sustainable solutions for cities and the future society. International institutions emphasise the significance of global dynamics and the importance of creating strategies to face Megatrends. Acknowledging global forces, it is essential to understand that "urban regions throughout Europe will be affected by challenges resulting from megatrends in diverse ways depending on the urban characteristics" (JPI Urban Europe, 2014). This statement indicates that there is no one universal solution and that there is need for different actions across the world, what is examined and explored in the following study.

This research was conducted following the build-up 8 step framework, which merges theoretical part with case study. As a point of departure, global processes and changes - Megatrends (SOER 2010; EEA, 2010) were mapped. Next, the case study was conducted to see the specific conditions of three case cities and understand their development paths. Case study indicated differences and similarities of challenges and opportunities that are brought by Global Trends. Result demonstrates that the condition of a city is a resultant of numerous forces and depends equally on global processes and local responses towards them. The linkage made between the Megatrends and case cities, helps to understand the interrelation and aims to focus results on addressing global challenges better in the future. The study concludes by providing a 5-step working framework, indicating key aspects of approaching Megatrends, if we aim to make the transformation of cities a common success.

UNDERSTANDING MEGATRENDS

In the era of globalization, advanced communication and transportation technologies, there are overall processes and forces that affect the whole globe, called Megatrends. Megatrends set the direction for the world and human development. With many variations and different intensity, those overall tendencies affect human environment. Characteristic of Megatrend is that it can be recognised on a large, mainly global scale, where it shapes the social, economic and environmental settings (JPI Urban Europe, 2014). Used in many disciplines and also in the urban discourse, term Megatrend is composed of a "trend", defined as general direction of development or change (Oxford Dictionary, 2015) with the prefix "mega-" that indicates large, huge scale. Megatrends are shaping social, economic and environmental processes. Outcome of Megatrends is that they produce site-specific challenges, pressures, impacts that are awaiting suitable action. The manifestation of Megatrends in urban environment, depends on local circumstances, such as history, geography, political and economic situation, as well as culture and demography of a place. (JPI Urban Europe, 2014).

Kjaer-Global maps Megatrends within four mainstream areas of smart, social, organic and wellness (Kjaer-Global, 2012). The coverage and popularity of those terms shows, how powerfully the trends shape our modern lifestyle. Smart is mainly connected to big data systems, importance of learning and information flow. Organic stands for the cultural mix, openness, bottom-up incentives, wellness is composed of the positive psychology, sustainability, the pursuit of healthy and "good" life. Social is described by the keywords of crowdfunding, sharing, mobility and social networks. All of them affect the urban mindset, setting the baseline for modern global society.

Megatrends' impact on the city can be already identified as driving our urban environment and actions. The entrepreneurial communities, shared space, facilities, social platforms, accelerated mobility and intensive usage of technology in our daily life, are they not the most prominent characteristic of the modern urban life? (Frost&Sullivan, 2014)

In the following study the importance of Megatrends is investigated in the correlation with city development. Eleven Megatrends, evaluated to be of significance for Europe (EEA, 2015), that are used for upcoming study analysis are:

1. Diverging global population trends
2. Towards a more urban world
3. Changing disease burdens and risks of pandemics
4. Accelerating technological change
5. Continued economic growth
6. An increasingly multipolar world
7. Intensified global competition for resources
8. Growing pressures on ecosystems
9. Increasingly severe consequences of climate change
10. Increasing environmental pollution
11. Diversifying approaches to governance

Megatrends influence the world and shape the future. They are formed by the sum of all minor actions and triggers. This process is similar to the water cycle in the atmosphere. The global environment, gathers the results of many individual factors, and produces some common "situation" in the atmosphere, which the gives rise to different weather conditions in different locations. As a result we experience wind, rainfalls or droughts (Fig.1). This study focuses on how Megatrends affect the urban development in European context. Because Megatrends may be used as a positive driving force of development, it is crucial to recognize them and use for building development plans. The importance of these global powers is reflected by the concerns of many large research and consultancy entities that put an effort to track them and plan for them. There are as many positive as negative results of Megatrends. Recent environmental, economic and social concerns resulted in rethinking the priorities of future development. Today, sustainable growth and development is an objective of United Nations Agenda (European Union, 2011).

CASE STUDY

We now move towards the summary of case study, which examines three cities, representants of different economies, demography, history and geographies, all members of European Union, all affected by similar Megatrends, in order to understand that the effects caused by global processes differ from city to city.

The aim of examining each city first independently, later in cross-analysis matrix (Table I), is to recognize how specific conditions change the influence of Megatrends and therefore see that it requires specific, contextualized action.

CASE STUDY: INTRODUCTION

The case study that I use as a source for this paper, was conducted during five months of research and it followed the pragmatic methodology, described later on. The choice of cities was made to give an insight in different results of common Megatrends on "different grounds" - specific cities, with its individual characteristic. Therefore, case cities represent different regions of Europe, Nordic, Middle and Eastern part (BBSR: Metropolitan areas in Europe, 2011), Copenhagen (Denmark), Milan (Italy) and Lodz (Poland). All three cities also have different rank and function in global scale (Buijs, 2010), they are in a different stage of urbanization process regarding their different size and role in a local and global network (Taylor, 2003). However, the choice draws attention to the most common medium-sized urban form, as this city scale is considered to play the crucial role in future urban development in European context (European Union, Regional Policy, 2011).

The case study analysis were carried out describing every city in the eleven themes, those are: (1) Geography and location (2) Historical inclinations (3) Urbanisation (4) Economy (5) Mobility (6) Demography (7) Migration (8) Current issue (9) Strategies, plans, development (10) Transition area (11) Governance, followed by the summing up chapter:

(12) Lesson. Full analysis may be found in a reference (Gebalska, 2015), however for the purpose of this paper, we will concentrate solely on the outcomes gathered in cross-sector summary, which allows to sketch the condition and different context of each city. We will use it later in a comparative analysis as a fundament, a prerequisite to understand the diverse impacts of Megatrends. Data used for this study is a compilation of international databases, national statistics, city databases and local policy documents. City is characterized by the complexity of spatial-socio-economic dynamics, the goal is to make a framework for a holistic and inclusive approach. Employing systematic approach I aimed to correlate the city condition with the influence of Megatrends and patterns, and reveal the main issues and challenges for each city, and therefore for other cities. The value that comes from studying three geographically and function-wise different cities, is that we are able to observe their specific and formulate scalable learnings.

CASE STUDY: CITIES OVERVIEW

The following short description of each city, brings an overview on their individual settings and challenges, detailed description may be found in related study (Gebalska, 2015). This following overview of case cities aims to familiarize reader with the context of cities in order to better understand subsequent comparative analysis.

COPENHAGEN, DENMARK

Copenhagen is a developing, small European capital, representing Nordic region. It has a long history of well-developed social sector, balancing its own small population with migration- supporting policies, balancing the demand on a job market. The common critique points out high prices and rising demand on housing market, but it is not as severe as in other Nordic locations, for instance in Stockholm. The city is resident-friendly having worked out an effective governmental structures for citizens support and promotion of good practises. It overcomes its geographic limitations of spatial development, having established a bridge linkage with Swedish city Malmo. This very positive cross-border cooperation with Malmo is a mutual advantage that enables geographically limited Copenhagen to expand East-way and enables the smaller city of Malmo to operate as a supporting town, with its own strong and different identity. The Oresund Bridge is a physical sign of not only local partnership but also cooperation on the national level, which goals to connect Scandinavia to Europe, making Copenhagen an important tie in this chain. It refers back to the history of Copenhagen, when it was benefiting from the interest on trade across the Baltic Sea. Today, Copenhagen is a vibrant multicultural capital, with a strong policy focus on addressing environmental issues, it is known for its cycling culture and admirable climate adaptation plans. The successful development is a result of good governance, good collaboration of many self-governing municipalities that constitute on the Capital Region (Region Hovedstaden), having common development objectives. The coherence of efforts is in huge part a result of business-public cooperation and dialogue, as well as popular in Scandinavia private-public partnerships used for managing investments. In this way the economic driven actions are accompanied by the public welfare goals, or maybe even the public wellbeing is a base for the economic activities.

MILAN, ITALY

Milan is the biggest of three investigated cities, with the population of around 3,5 million within the metro area. The historical inclination of many scattered Italian citta's is apparent across Italy, where the territorial division into regions is very strong, affecting structure of governance, organization of cultural and economic sectors. The resultant level of independency of each province makes it hard to make coherent steps towards achieving the overall goals. Also apparent, strong economic division, makes the development objectives dissonant. Northern part with case city of Milan, is much more European-like and affluent, whereas the Southern part is in economy, level of education or technological advancement, poorer and belated.

Milan itself is a regional capital of Lombardy, prominent international hub, highly rated in global city network (Taylor, 2003), famous for fashion and design (Buijs, 2010), known as a popular tourist destination. Milan city is a centre of big agglomeration, it is achieving really good economic results, not being separated from its local settings, rather driving the regional development of Lombardy. Milan has solid prosperity factors, the index being a compilation of productivity, quality of life, environmental sustainability, infrastructure and social equity indicators (UN-Habitat, 2013). The declining population trend line of the inner city is caused mainly by the local migration of affluent part of society into the city's large suburbs, while the core city itself, transforms to accommodate more and more global city functions (Buijs, 2010) being mainly composed by the service-related amenities for business and tourism. This rich and lively city is challenged by the transition in governance, where the coherence is very important and the cultural, and historical characteristics create difficulties for consistent and inclusive practises. Political and system constraints are being addressed with Milano Metroploli strategy (Milano Metropoli, 2011). Through the improvement in regional physical connectivity, some barriers are overcome, however the unique fame of Milano and historically accumulated

power, plays a significant role in its current development. The city needs to address congestion and environmental issues better in the future strategies.

LODZ, POLAND

The city of Lodz is located in central Poland, and it belongs to the Central - Eastern Europe, released from the Soviet oppression in 1989, it represents characteristic city form that part of Europe. Lodz is growing rapidly and transforming, the economy is driven by privatization, consumerism and competition, at times exaggerated as for the wish to fill the gap, separating post-soviet block from western world.

Current lack of identity is a huge problem for the city, hampering development and making it more difficult to build city attractiveness and keep residents attached to their environment. As a post industrial city, Lodz struggles with the industry decline and one-branch economic reliance, what makes it similar to many other cities in Europe, such as Turin or Manchester. The city is searching for a new market value and competitive advantage, trying to keep up with changes. However on this path, the historic potential is neglected, as the old university and film-industry related specific is not used, otherwise the common and nonspecific global objectives are followed, such as trying to base economy on services and to make Lodz an attractive business hub. The proximity to the country capital, Warsaw, makes it difficult, also because there is no fast-rail connection. Instead, recently a numerous resources were allocated to enlarge the local airport, which in last years brought city the financial loss of around 9 million Euros in each year, which is a significant part of this less than million-inhabitant city budget. The city's great potential is slowly restored by bottom-up initiatives of young, well-educated and entrepreneurial people, who develop creative businesses and contribute to the city's cultural renaissance.

CASE STUDY: CROSS ANALYSIS

Having sketched case cities' context, we can now examine the comparative analysis table (Table I) that presents the range of alternatives for addressing challenges in different contexts of case cities. It presents how different are the results of common 11 Megatrends, described by European Environmental Agency (EEA, 2015). What processes they trigger and how those processes affect cities. The second part of the table shows the identified responses in city planning and governance, as the ways of addressing Megatrends.

Examining provided table we can observe how the common global Megatrends (EEA, 2015) work. They trigger processes and events in an urban environment, which have different implications in specific cities. We see for example, that the overall rising population does not bring the same effects in every city (Table I, (2)). While we could assume that when urban population is growing, the population in all cities is growing proportionally, the real situation differs. In Lodz, as well as many other cities, the population of inner city is actually shrinking. The core city is in decline. Already dense city of Milan develops more as a business and service hub, whereas its suburbs are more likely to accommodate the inflow of people coming to settle down there. The Milan's agglomeration is growing both in number of residents and spatially. Logically the cities' responses and action should be different. Table presents some of the responses, being also critical towards them. In fact, in many cases no responses that address the challenge could have been found.

Some of trends are so broad and powerful that their effects are much more comparable or even the same. The most identically affecting Megatrend is the one connected with environment. Climate change, environmental degradation, pollution and resource scarcity has huge and similar results for all urban life (Table I, (7,8,9,10,)). However, if we consider it in the broader global picture, there are some locations much more directly affected, for instance those already now suffering from droughts or floods. Whereas, we may still feel safer regarding the environmental changes and pressures in Europe, there is a huge space for action, policies and turnovers to improve the global situation, counteract and minimise the negative input.

When we examine each city separately we can find the interrelations between the situation, specific challenge and global trend, causing it. It is essential to try to make those chain connections, as it makes it easier to understand how we can address an issue, in short, what we can do about that. Without having an overview and knowing the reasons, the response we choose and the action we take up, may be easily misguided or, what is even more likely, there will be no action whatsoever addressing the urge challenge, where there should definitely be. On the contrary, when we understand that a variety of different settings and local actions shape the city together with the diverse implications of global common forces, we can create accurate strategy, develop focused action plan and build a framework for relevant responses. Mapping both local and global scales, their interplay and dynamic, we can recognize the city-specific limitation and potentials, and afterwards work with Megatrends.

Megatrend	Process/Event	Consequences			Responses		
(EEA, 2015)		Lodz	Copenhagen	Milan	Lodz	Copenhagen	Milan
(1) Diverging global population trends	Demographic shifts	Ageing population	More single residents	Low fertility rates	No policy to improve the situation, secure or activate elderly	Facilitating the modern lifestyle, providing housing, offering social opportunities	Weak reaction, securing the pregnant employment
	Socio-cultural shifts	More private initiatives, creative activities, still traditional family model in majority	Many individuals, international marriages, unstable living situation – rentals, short-term inhabitants	Accelerated socio-cultural mixture	Social benefits for families, public response belated, ex. lack of secularism in governance	Focus on tolerance and free expression of all cultures, ethnical knowledge-transferring, benefiting from variety, focus on monitoring and improving security	Building an international identity, enhancing cultural exchange, slowly releasing the social cluster composition (still strong in business sectors)
(2)Towards a more urban world	Urbanisation	Downtown population decline, sprawl, "doughnut" city	Growth	Spatial expansion	Inaccurate – belated, Huge investments in infrastructure, no social programs	Flexible policy, supporting business and society oriented, territorial cooperation	Improving city core and territorial cohesion
(3) Changing disease burdens and risks of pandemics	(side effect of population growth, polarisation and rising density)	-	-	-	Promoting active, healthy lifestyle	Promoting active, healthy lifestyle, enhancing outdoor activities, conscious consumer choices; well-developed social sector and health care	-
(4) Accelerating technological change	Communication technologies and innovation	Disparities in access to technologies	Very ICT oriented society	Increase in using technologies mainly by businesses and individuals	Establishing free Wi-Fi zones in the city, weak device support, no public access to devices in libraries or municipality institutions	Enhancing smart solutions, innovation development and technological improvement, using technologies to improve standard city management	Using technologies mainly to promote and improve city's attractiveness
(5) Continued economic growth?	Manufacturing industry decline	Abandoned factories and sites in the city centre	Abandoned factories and sites in the city centre	Decline in manufacturing but factories still operates	Service oriented requalification of sites, textile industry residues moved into suburban towns	Functional shift to cultural activities balanced with keeping the industry or its atmosphere where possible	Enhancing manufacturing
	Tertiarisation	Rapid shift to service sector, development of outsourcing activities	Development of services and other business sectors	Accelerate development of business activities	Attracting outsourcing investors, supporting small businesses	Well established cooperation with private sector, supporting small businesses, city cooperation with business	Supporting services development – attracting tourists and promoting investments

(Cont. next page)

(6) An increasingly multipolar world	Extended mobility, globalization	Emigration of educated youth, immigration of uneducated from rural areas	More tourists, overseas immigration	More tourists, international society composition	No successful policy to attract youth, excluding uneducated from city vision, no planning for social works or other job opportunities for them; establishing international agreements in education and employment sectors, attracting foreign business and visitors	Facilitating immigrants policy, controlling the inflow, free Danish lessons for newcomers, assistance in registration process, inclusive tolerant city policy with the emphasis on equal opportunities and adaptation process; maintaining and developing international agreements and employment sectors, attracting foreign business and visitors	Weak foreign language skills and learning support, tourism oriented economy, city international arena develops independently of policy input; maintaining and developing international agreements, attracting foreign business and visitors
(7) Intensified global competition for resources, ***(10) Increasing environmental pollution***	Pollution, resource scarcity	Increasing air pollution, higher oil prices, worsening condition of environment			-	Promoting green mobility, reducing CO^2 emissions, using renewable resources, producing bioenergy, heat from waste plants, district heating	Tariffs on congestion
(8) Growing pressures on ecosystems, ***(9) Increasingly severe consequences of climate change***	Climate change	More moderate climate, pollution	Heavier rainfalls, rising sea level	Air pollution and urban island effect	-	Climate Adaptation Plan, Green and Blue design project, focusing on recreational green areas, reducing CO^2 emissions	-
(11) Diversifying approaches to governance	Transition of governance	Collapse of conservative bureaucratic system, shift toward client-, consultancy, management oriented governance	More open and transparent	Shift in planning policy, releasing the development from complex bureaucracy based regulations, simplifying the process of transition	Public consultation of city investments and projects, successful project of introducing citizen's budget, support programs for creative industries, policies of relocation of unused premises and friendly taxation programs for entrepreneurs	Improving and maintaining the tradition of public-private partnership, constant corporation of authorities, businesses and residents – communities and individuals, transparency	Implementation oriented actions, focus on right framework instead of precise guideline, enhancing territorial cohesion and regional corporation

Table I. Cross-analysis matrix. Megatrend: consequences and city's responses (Gebalska, 2015).

ADDRESSING RESULTS

Two terms are of significant relevance when we consider city working with Megatrends. One is the concept of transition (Hopkins, 2011), the other is the importance of strategic planning. Both will be now explained.

To describe the various transformations of the urban layer, we employ the concept of transition (Hopkins, 2011), meaning a change that is realized by adaptation, using the constructive power of ongoing processes.

Rob Hopkins, the cofounder of the Transition Town concept, defines the transition as a move towards a "resilient community in uncertain times" (Hopkins, 2011). Transition, defined as 1) a passage from one form, state, style or place to another 2) a period of transformation, indicates an ongoing process of change that is a characteristic for modern dynamic world. Interrelations that influence a single city have developed over decades and it is a massive work to change them. Nonetheless, the shift has already begun today under the climatic and economic pressures, alarming concerns about food, water scarcity, depletion of resources, terrorism and many others. City is a generator of the innovation, trends, knowledge (European Union, Regional Policy, 2011), so its role is to lead this transition movement. Hopkins also notices that, what is called transition, is rather an unknown and experimental process, consequences and outcomes of which, are to be studied now and in the future. The transition in urban context implies a concentration of all ongoing processes, because the city works as a kind of a magnet for all the social and economic shifts.

STRATEGIC RESPONSE

Working with city transition and navigating the ongoing transformation, we apply strategic planning. The importance of strategic approach in planning became more prevalent at the end of last century. In the past, cities were established and grew in their own rhythm, whereas today the local agenda is confronted with global dynamics, what requires more planned and focused action. The global challenges generate pressures for cities, among which we can recognize environmental or energy concerns, pollution, crime and congestion, being also identified among the costs of urbanisation density (Kohlhase, 2013). Climate change as a point of departure is addressed in many development plans, setting a main direction of changes, solutions and investments, such as newly born fossil fuel free policies and the broad toolbox within the concept of smart city. Global dynamic requires strategic approach, as reaching the balance and the objective of resilient city is a challenge in the world, dominated by the urban dweller (Taylor, 2003; OECD, 2015). In the globally connected city network, there is also rising competition between cities, as they are important global hubs (Taylor, 2013; Sassen, 2001). Cities operate more as business entities that need to attract the investment and residents, therefore they have to tackle similar economic and organizational aspects. Promotion, branding, working out a unique attractive profile is common practise of cities. However in this competition, some cities are more wisely using their natural potential, for example by developing the traditional branches or acting as local hubs (Milan), others are lost on a market with too many possibilities (Lodz).

Strategic, means also prepared, ready to face uncertainty of events, adaptable. From reporting, documenting on and evaluating actions, we can create a matrix of causes and responses, and observe in a long term perspective, how effective they are. When we are able to transfer learnings, match the similar city conditions, or use the time-difference of the effects of ongoing processes, we should have already a set of tools and methods to respond to challenges in time, because they might be rapid. This dynamic makes "good timing" a key aspect that we need to approach, when there is not much time in a momentum to win or to lose. This paper aims to encourage everyone, every city to contribute to the creation of the toolbox of practises. When it is impossible to figure out and apply one unique solution, we shall allow to learn from a reliable experience of others.

TRANSITION STRATEGY

Merging both concepts, we can formulate a new term, transition strategy, which we can use to approach the dynamic field of changes and processes in a focused, capable way. Transition strategy requires to be planned accordingly to recognized challenges and opportunities. Knowing that the nature of global trends is dynamic, it is important to stay attentive and flexible towards changing circumstances, new events, new solutions and technologies. Commonalities between the conditions can enable to transfer the solutions easier between the cities and therefore to respond in time. The successful implementation process mainly depends on the policy frame and the capability and socio-economic capacity to employ good practises.

IMPORTANT ASPECTS IN APPROACHING MEGATRENDS

In general, most contemporary cities need to face and address similar issues, such as social cohesion and integration in more and more diverse urban environment, flexibility in adjusting to population changes, management of labour market, food, water, energy, security issues, and of course the environmental concerns (OECD, 2015; EU

Regional Policy, 2011; Kouritt, et al., 2014; Bettencourt & West, 2010). Those global issues underlying the local development have to be taken into account with the same attention as the local circumstances (European Union, Cities of Tomorrow, 2011). Due to the complexity of problems, threats, their interrelations, the coupling of different scales, contexts and incentives, the dynamic of a matter, this is a huge challenge. City majors and decision-makers should pose some of key queries when they attempt to plan strategically and work out solutions in these uncertain times. The major dilemma is how to prioritize the actions in order to work out a successful strategy that will address global concerns and serve the city, and its inhabitants at the same time. Which of those global forces are the most important to be considered in the specific case and how to approach them? The level of difficulty rises, knowing that we are on a constantly changing ground, flows, energies in the cities are transforming all the time. There is obviously a lot of work already done, that addresses global challenges. Among the virtuous actions, there are also some unfortunate efforts to fill in the development gap or parrot some other action uncritically. Basing on a broader literature review, I identified "copy-paste" as the most popular, therefore it is good to remind that repeating even the best practises and solutions may bring about diverse, even contradictory results. However, cities may of course use the broad palette of tactics and solutions with success. If they transfer the solutions wisely, building on them, create a contextualized response, they may achieve great positive results. It is advisable to get inspired by already used methods, but always taking into account the individual characteristic and also post assessment.

In approaching the development strategy, there is an importance of all levels of governance: local institutions, societies, communities, but also a national and international framework. In fact, in addressing the global problems the coherence in actions on different scales, from local to global is requisite. Integrated efforts towards achieving common goals is a way to work, as we might see while the global efforts wants to cut down on emissions, the local action needs to support it. If it counteracts, giving for example priority for cars in the city, the common goal cannot be fulfilled. Above wish to play in the same team, does not implicate using the same methods. On the contrary the actions that shall be applied will differ across the world. There is no one-fits-all solution, though the development strategy for every city is unique due to its specific characteristic, shaped by national, regional and inner-country differences.

5 STEP FRAMEWORK FOR WORKING WITH MEGATRENDS

Argued before, it is hard to create a simple recipe for addressing Megatrends. But as an outcome and sum up of this study, a working framework is provided that enables the positive city transition by employing the power of Megatrends. The formula for a successful response towards changing settings includes five aspects, of which sum can result in a firm base for transition strategy.

WORKING WITH MEGATRENDS FRAMEWORK:

1. Identify global trends
2. Recognize local conditions, factors
3. Identify good-practises, analyse and transfer learnings from existing solutions
4. Workout an inclusive strategy to work with Megatrends
5. Stay attentive, responsive, flexible - transition is a process, it has no fixed-results

We can use those five points and create more specific action plan with designation of tasks and methods that we use to fulfil the guideline objectives. Having this frame as a starting point, enables to be aware of current issues and adjust the city policies, responses and investment to the changing overall situation. At the same time a lot of attention is put to work with the natural city potential, unique, context-dependant aspects that filter the impacts of Megatrends. This framework indicates a new working method and attitude that may be integrated into city planning practise, it is a guideline for a process itself, and not a one-time project to be run and finished. Having those more general five points underlying the further strategy, ensures that we do not overlook any of the important aspects.

It is essential to acknowledge that the dynamic global field drives us away from thinking about the urban development as a set, stable, focused on results path. It is an adaptation-oriented process that is so much affected by the global dynamic and local energies that it is really hard to estimate what moves can be right to start. The constant evaluation and checking what is out there and in here, is a key to success.

CONCLUSION

The strategy, with which we address the future challenges should not to try to hamper the ongoing processes but accompany them wisely, trying to accelerate the opportunities and ensure the well-functioning of city. The right virtue, the intention will bring about good outcomes. Integrated vision of the European cities future should not limit the local diversity and significance of small-scale cultural, landscape or economic values. The holistic approach is necessary to understand global processes and work with them locally.

The study points out that sustainable development, smart and environmentally- friendly solutions as a common objectives need to be discussed and approached location-wise. Solutions and methods to achieve those universal goals are context dependant. Context, from politics, natural resources, historic background and financial condition, to the culture, people's habits and beliefs, changes the trajectories of understanding or the capacity of policy response, therefore generates implications for the suitable actions.

Working with Megatrends is a condition for the positive transformation. To facilitate the process and use global forces as opportunities for local improvement, we need to make an effort to continuously check the global with local settings, deduce the connection between global trends and local effects, and accordingly navigate actions in appropriate and relevant way. This is a complex task and should be approached with a palette of research and design methods that are available. We need to approach the dynamic situation collectively and inclusively, if we aim to make the transformation of cities a common success.

ACKNOWLEDGEMENTS

This work bases on the thesis research conducted at Danish Technical University as a part of Nordic Master Program in Sustainable Urban Transitions.

REFERENCES

BBSR: Metropolitan areas in Europe, 2011. Metropolitan areas in Europe, Bonn: Federal Institute for Research on Building, Urban Affairs and Spatial Development.

Bettencourt, L. & West, G., 2010. A unified theory of urban living. Macmillan Publishers Limited.

Buijs, S., 2010. Megacities. Exploring a Sustainable Future. 010 Uitgeverij

EEA, 2015. Assessment of Global Megatrends - an update, Copenhagen: European Environmental Agency.

EEA, 2015. European environment — state and outlook 2015: Assessment of global megatrends, Copenhagen: European Environment Agency.

EEA, 2015. Global megatrends update: 11 Diversifying approaches to governance, Copenhagen: European Environment Agency.

European Union, Cities of Tomorrow, 2011. Regional Policy. Cities of Tomorrow. Challenges, visions, ways forward.

Frost&Sullivan, 2014. Fast-Forward to 2025: New Mega Trends Transforming. s.l., s.n.

Gebalska B., 2015. Catalysts of City Transition: Global Trends and Migration Patterns, Copenhagen, DTU.

Hopkins, R., 2011. The Transition Companion. Totnes: Green Books.

JPI Urban Europe, 2014. JPI Urban Europe: Policy Paper. A Screening of Urban Megatrends, Joint Programming Initiative, Urban Europe.

JPI Urban Europe, 2014. Urban Megatrends: Towards a European Research Agenda, Joint Programming Initiative Urban Europe

Kjaer A.L., 2014. The Trend management Toolkit: A practical guide to the future. Palgrave Macmillan UK

Kjaer-Global, 2012. 8 Global Key Trends 2020. [Online].

Kohlhase, J. E., 2013. The new urban world 2050: perspectives, prospects and problems. Regional Science Policy & Practice, 5(2).

Kourtit, K., Nijkamp, P., Partridge, M., 2015. Challenges of the New Urban World. Springer, Spatial Analysis, 8:199-215.

Kourtit, K., Nijkamp, P. & Scholten, H., 2014. The Future of the New Urban World. International Planning Studies.

Milano Metropoli, 2011. Milano Metropoli Agenzia di Sviluppo (Development Agency). [Online]

OECD, 2015. The Metropolitan Century: Understanding Urbanisation and its Consequences., Paris: OECD Publishing.

Osterwalder, A. & Pigneur, Y., 2010. Business model generation: a handbook for visionaries, game changers, and challengers. Hoboken, N. J.: Wiley.

Oxford Dictionary, 2015. Oxford University Press

Sassen, S., 2001. The global city: New York, London, Tokyo. Princeton University Press.

SOER, E., 2010. The European environment — state and outlook 2010, European Environmental Agency.

Taylor, P. J., 2003. World city network: a global urban analysis. London: Routledge.

COMPONENTS OF AN AUGMENTED REALITY APP EFFECTIVE IN UNDERSTANDING FLOOD DISASTER PREVENTION

Session T3.3 | June 3 | 9:00 – 10:30

Mieko Saito(1); Yasuhiro Tajima(2); Genichiro Kikui(3)
(1) Associate Professor, Faculty of Design, Okayama Prefectural University, JAPAN
cytoo@dgn.oka-pu.ac.jp
(2) Associate Professor, Faculty of Computer Science and Systems Engineering, Okayama Prefectural University, JAPAN
(3) Professor, Faculty of Computer Science and Systems Engineering, Okayama Prefectural University, JAPAN

ABSTRACT: Flooding commonly occurs in Japan, causing major damage to property and human life. Recently, cost-free smartphone applications using augmented reality (AR) technology for disaster prevention have become available to mitigate these damages. Existing AR applications in Japan were used to extract information on their weaknesses. An experiment and survey of 78 subjects examined the effectiveness of using images only to convey information and using realistic versus unrealistic images. The results found that displaying an AR image and the associated information on the same screen effectively improved the subjects' comprehension of the content, but there were no significant differences regarding type of image, suggesting that the extent of realism of an AR image is not the most important element.

KEYWORDS: disaster prevention; augmented reality; flood damage; evacuation.

INTRODUCTION

To improve citizens' self-help abilities and disaster prevention awareness during emergencies and disasters, numerous smartphone applications for disaster prevention recently have been developed and freely distributed in Japan. These applications particularly focus on the benefits of augmented reality (AR), which are easy to comprehend intuitively. Since 2000, the public's adoption of AR has accompanied the proliferation and increasing performance of smartphones. With the appearance of mobile AR, which users can employ without new equipment or skill, the public's interest had rapidly risen. About 300 iPhone applications are available in Japan concerning disaster prevention, of which approximately 10 percent employ AR technology. However, public use of AR disaster prevention applications is in its developmental stage. AR's role and effects have not been thoroughly studied, and it is not clear whether AR has been helpful.

Matsuzaki et al. (2009) reported on two promising typical uses of AR for dealing with disasters. The first one involves training people via simulations. A representative example is the "AR training unit" from Resolve Fire & Hazard Response Inc. in the US, where it is used to prepare firefighters. This tool is employed to create simulated experiences against the backdrop of AR under non-emergency conditions before an disaster occurs. The second use relates to matters of navigation, such as evacuation guidance and escape routes. AR is considered successful in terms of helping people navigate through a landscape via AR screens; the goals include dealing with delays in evacuation due to poor visibility caused by smoke or darkness and psychologically influencing people who might hesitate to evacuate under typical circumstances. This use may be attributed to AR's intuitive induction role, which involves comprehension at a glance.

Based on these two uses, this study assumes that the former would be implemented under non-emergency conditions. The study's main objective is to explore the necessary elements of AR applications that are effective for

increasing citizens' disaster prevention awareness and self-help abilities. The study focuses on flooding, which frequently occurs in Japan. For example, during the Kanto/Tohoku heavy rains in September 2015, the riverbanks of five large rivers managed by the central government were inundated, damaged, and collapsed as did 80 small and medium rivers maintained by prefectural governments.

We believe that improving soft preparations can improve the preparations to combat flooding and minimize harm to humans. To address the study's key concerns, we conducted a survey of existing AR applications designed to assist people in averting the effects of floods and investigated the elements needed in AR applications to disasters. We then validated the effects of these elements using a subjective experiment. First stage describes the weaknesses of the current applications, and second stage reviews the hypothesis regarding the required features.

EXISTING AR APPLICATIONS ON DISASTER PREVENTION AND THEIR PROBLEMS

This study used 23 of the freely available disaster prevention AR applications for iPhone and iPad. The following seven items were used in terms of the AR applications' characteristics, such as the developer, purposes, and the AR technology's functions:

1. Purpose of the application
2. AR features and their presentation techniques
3. AR format (location-based or vision-based)
4. Conditions for using the AR features
5. Presence or absence of simulation images (whether the presumed disaster images are superimposed)
6. Presence or absence of navigation features (including air tags displaying information)
7. Distributor and administrator of the AR application

CHARACTERISTICS OF DISASTER PREVENTION AR APPLICATIONS

Three principal attributes of the applications were considered in this study. The first attribute is that most of the applications assume that people use them in non-emergency contexts. Although there were applications that employed partial features or offered real-time links to weather information, only "Amemiru" (apple.com, 2016) from Shimadzu Business Systems Corporation offered practical applicability in disasters. This study's survey did not identify any freely distributed applications that seemed reasonable for use in disasters. The second attribute concerns location-based AR (which can be used only in a given area using location data, such as GPS). It is reasonable that the main reason for this is that local municipalities distribute most disaster prevention applications with their hazard map deployment. Because these applications have characteristics that display information on how much flooding may occur at a given location, the ability to link with GPS is essential. The third attribute concerns ambiguity of the purposes of the simulation and navigation features, although both are provided. Most of the applications we studied use similar images to conduct flood simulations. For example, a diminished sense of the reality of flooding could be created by superimposing light blue transparent images on the camera viewfinder (Figure 1). Moreover, those features designated as aspects of navigation only displayed the evacuation site using air tags, without specific instructions or functions, i.e., "AR hazard scope" (apple.com, 2016) (Figure 2).

Figure 1. Flooding Simulation

Figure 2. Evacuation Site

CURRENT PROBLEMS

Based on the AR applications' characteristics, we recognized the following two problems regarding current disaster prevention AR applications. First, in most of the applications, AR technology is limited to visual data, such as information on anticipated floodwater depth, evacuation sites, and escape routes. However, the content of instructions for taking action during an evacuation, or the extent of knowledge of disasters, is described only in display or in a different hierarchy that employs AR, i.e., "disaster navigation with the smartphone" (apple.com, 2016) (Figure 3). Consequently, users must gain understanding by linking the information gathered across different pages or menus. The challenge for many users is that assimilating specific knowledge through that process and applying it to real actions might be difficult.

Figure 3. Screens displaying a menu and instructions

Second, although AR is used in simulations, the realism in the images is not necessarily accurate. Many simulation features employ transparent, light blue images to portray floodwater, which is quite different from what floodwater really looks like. This is most likely done to make it easier to depict submerged matter. However, floodwater is a turbid muddy color that obscures dangerous underwater areas, and the true difficulty of a flooding situation cannot be depicted by transparent images. The efficacy of these varied expressions in disaster prevention education has not been sufficiently explored, and it is most likely that the current expressions are not suitable to convey reality.

ELEMENTS NECESSARY IN DISASTER PREVENTION AR APPLICATIONS

This section uses the idea of improving AR applications meant for disaster prevention education under non-emergency conditions to propose solutions to the two problems described above: the limitations of visual presentation and unrealistic pictures.

With respect to the first problem, we aim to find a solution whereby a structure is created to display the disaster prevention knowledge linked to the simulation images shown by AR. We believe three steps. First step is to show users a real background. Second step is to show users flooding image simulated through AR on same display. Three step is to show users text-based instructions on the same screen. Therefor the certainty of understanding could be augmented to the usual AR benefit of easy to comprehend intuitively. Regarding the problem of realism, we aspire to find a solution whereby the benefits of the light blue transparent images (usually employed in the simulation pictures) and the turbid floodwater images, which more closely resemble actual flooding, are clearly differentiated. It could be considered inappropriate to use one image to convey knowledge (such as cannot open the door if the water rises 30 cm above the floor level) and simulation (such as during an evacuation and after flooding, things underwater are invisible, please wear shoelace-secured shoes that do not come off easily). Thus, we propose using the light blue transparent images, which are visually effective for revealing underwater objects, as knowledge information. We further suggest using images of muddy water with a high level of realism as simulation data.

EXPERIMENT

In this study, we created experimental content suitable to validate the effects of two different solutions and assessed the effects of each solution. First, we validated the effects of the presence or absence of specific instructions. To clarify whether AR screens with or without certain directions influence individuals' understanding of the content

differently, we exhibited experimental educational materials to distinct groups of subjects. We evaluated the results using test scores on tests conducted after the experiment.

Next, regarding the second solution, we corroborated the effects of differences in the realism of AR (Computer Graphics expression) on (1) comprehending content and (2) improving awareness. With respect to comprehending content, we broadly classified the information into two categories: “knowledge information” (about location and depth) and “simulation information” (about the status of things).

After the experiment, we conducted tests and appraised the results using the test scores to confirm whether light blue and muddy water images differently influenced the subjects’ understanding of content (in each of the groups) and whether there was any successful combination of information and images. With respect to improving awareness, we compared the responses to the questionnaire items asked before and after the experiment, and we examined the subjects’ responses on the questionnaire regarding their impressions.

EXPERIMENTAL MATERIALS

We developed the experimental educational materials for flood disaster prevention by selecting items (for which commentary was deemed necessary) from the information that must be provided to residents according to the “Handbook for Developing Hazard Maps” published by the Ministry of Land, Infrastructure, and Transportation. We created a website that simulates an AR application with the following six items as content. The first three items concern knowledge information and the other three items are about simulation information.

1. The water level at which it becomes difficult for an adult to walk is set at 50 cm.
2. The water level at which it becomes difficult for an adult to open a door is set at 30 cm.
3. The water level near a flooded canal at which evacuation is feasible is set at 10 cm.
4. Shoelace-secured shoes that do not come off easily should be worn for evacuation.
5. Clothes made of materials that are not waterproofed should be worn for evacuations because raincoats are not suitable for persons moving underwater.
6. A long stick must be carried to check around one’s feet during evacuation after flooding.

We prepared three types of experimental educational materials, as follows:

A. The light blue transparent image is superimposed on the actual background photo. Most current disaster prevention AR applications use this method (Figure 4).
B. Text-based instructions are displayed on the superimposed screen in A (Figure 5).
C. B, except a superimposed CG image of opaque, muddy water replaces the transparent light blue image (Figure 6).

Figure 4. Experimental educational material A

Figure 5. Experimental educational material B

Figure 6. Experimental educational material C

Figure 7. Item title

To confirm the effects of the presence or absence of instructions, we compared the results of A to those of B. To corroborate the effects of realism, we compared the results of B to those of C, except, for the elements to be validated, we unified all the other content we developed. For all of the educational materials in A through C, we provided a table of contents at the beginning and a title screen for each item, the goal of which was to provide advance orientation and allow the subjects to imagine the display content, irrespective of the group to which they were assigned.

Because there were no instructions in educational material A, the purpose was to inform the subjects regarding what to consider while viewing the AR image (Figure 7). We also showed the photos of the background under non-emergency conditions before superimposing the CG image that mimics AR. We did this to ensure that, in the actual experimental materials, the subjects browsed the content in the following sequence: [item title] → [normal background image] → [CG image simulated through AR] → [instructions (B and C only)].

SUBJECTS

The subjects of the experiment were 78 university students aged 18 to 24 years. We selected them based on the results of the Citizen Satisfaction Survey (Disaster Prevention) conducted by Okayama Prefecture in 2015. This survey explored whether people had prepared for potential disasters. Among those who reported that they “have done nothing,” approximately 40 percent were about 20 years old. This finding led us to believe that subjects in that age category would be less likely to exhibit variations with respect to their disaster response abilities.

EXPERIMENTAL PROCEDURE

Task 1 (learning): The subjects were divided into three groups (A, B, and C) and asked to view the corresponding experimental educational materials one time without time limit. The subjects were allowed to view the materials one time with the idea that AR might aid the subjects’ intuitive comprehension and to ensure that no variations in comprehension could result from multiple viewings.

Task 2 (calculation): After completing Task 1, the subjects were immediately asked to perform subtractions of three per calculation from 300 in succession, multiple times, for about one minute. This was done to facilitate our assessments of whether the subjects had merely memorized the content or they had acquired knowledge by understanding the content.

Task 3 (replay): After completing Task 2, the subjects were tested to ascertain whether they had memorized the content via comprehension.

In addition, we collected their responses to a questionnaire asking for their opinions of the experimental educational materials. In formulating the experimental procedure described above, we referenced a previous study (Hayashi, Ishii, & Hiraki, 2014) on cognitive psychology.

RESULTS: THE EFFECTS OF THE PRESENCE OR ABSENCE OF INSTRUCTIONS

First, we compared the percentages of correct answers between Groups A and B. In Group A, the percentage of correct answers for the six items was 27 percent, suggesting that, in the absence of appropriate instructions, it was difficult for these subjects to obtain specific knowledge (Figure 8). However, in response to item 4 (“What type of footwear should be selected for evacuation?”), more than 60 percent (n = 17) of the subjects gave the correct

answer. Regarding the reasons for the selection, seven subjects chose the correct answer of “difficult to remove,” and four chose “to prevent injury” as the reason. The findings suggest that, in the absence of instructions, even with the light blue transparent image, the subjects could imagine that footwear might come off while wading through floodwater.

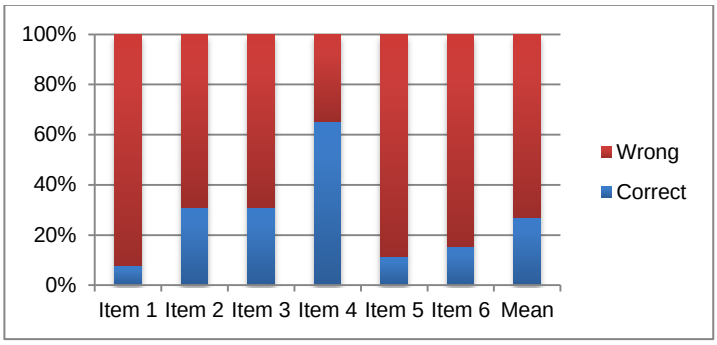


Figure 8. Percentages of correct answers in Group A

In Group B, the percentage of correct answers for the six items was 87 percent (Figure 9). We did not observe significant shifts in the percentages of correct answers across the items in Group B, whereas, in group A, we witnessed changes by item. These results imply that combining AR images with appropriate instructions likely influenced the subjects’ comprehension of the content, irrespective of the item.

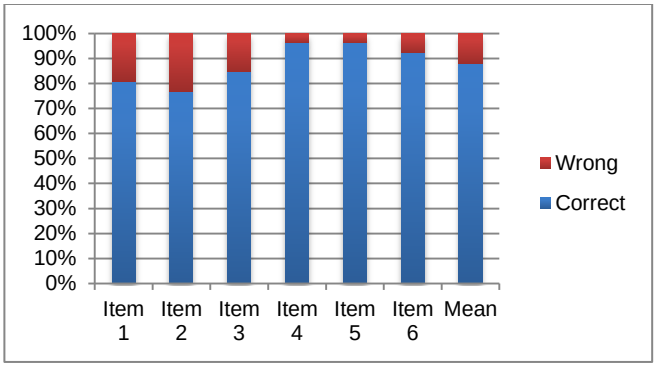


Figure 9. Percentages of correct answers in Group B

Regarding the subjects’ opinions of the educational materials, they were asked, “Did the images shown help you to comprehend flood disaster prevention?” The response options were “very helpful,” “somewhat helpful,” “not so helpful,” and “not at all helpful.” In Group A, 21 subjects responded that the images were “very helpful” or “somewhat helpful,” and only four subjects responded that the images were “not at all helpful.” In contrast, all 26 subjects of Group B responded positively (Figure 10).

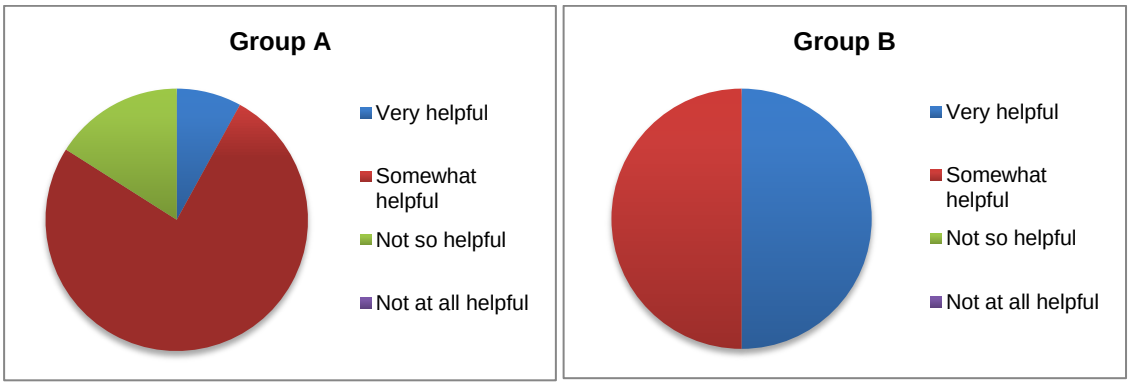


Figure 10. Subjective evaluations

Items in the questionnaire asked the subjects to explain what they “liked” and “disliked” about the experimental educational materials. Twelve subjects in Group A stated that “what should be understood from the images alone was not clear.” However, no one in Group B stated that “what should be understood from the images alone was not clear. ” Eight respondents from Groups B and C stated: “The presentation of step-by-step information helped me

understand." The average time that the subjects spent viewing the six items in the experimental educational materials was one minute and 57 seconds (Group A), two minutes and 24 seconds (Group B), and two minutes and five seconds (Group C). These findings suggest that, because the subjects in Groups B and C did not need much more time to comprehend the content, although they had to read the text-based instructions, "certainty of comprehension" was likely augmented by "ease of intuitive comprehension."

EFFECTS OF REALISM

To evaluate the effects of the realism of the simulation images using AR, we contrasted the percentage of correct answers of Group B with those of Group C (Figure 11). About 87 percent of the subjects in Group A answered all six items correctly, whereas, in Group B, it was 89 percent. Because the first three items are on knowledge information and the last three concern simulation information, we presumed that a light blue transparent image would be relatively more effective in the first three items and the depiction of muddy water would be more effective in the last three items. However, the results revealed that for items 1 and 3, 94 percent of Group C correctly answered using the muddy water image, which was greater than that of Group B. For item 4, although there was only a marginal difference of one response, Group B had more correct answers than Group C. Based on these observations using the percentages of correct answers on the test, our hypothesis was not supported.

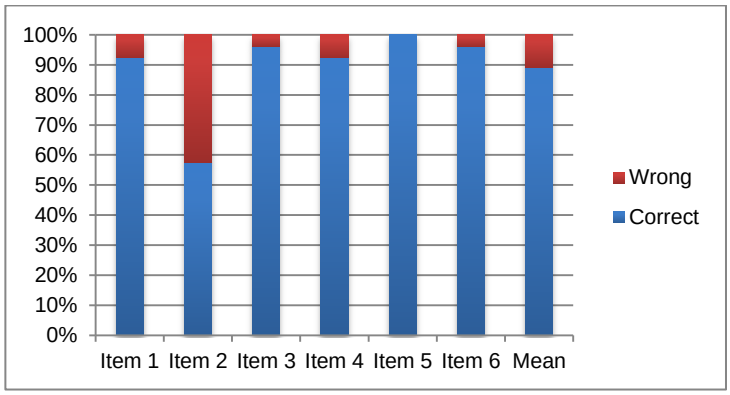


Figure 11. Percentages of correct answers in Group C

However, we want to highlight the findings on item 2. Item 2 asked: "What is the level of water above which an adult is unable to open a door in case of flooding?" In Group C, which was shown images of muddy water, 15 of 26 (58 percent) subjects answered correctly. Furthermore, in the opinion portion of the questionnaire, four of 26 (15 percent) subjects responded negatively about the use of the opaque photos of muddy water. They made comments such as "one cannot discern the area superimposed by the image of flooding" and "slightly more transparent images are desirable.". These observations suggest that the opaque images might have interfered with the indication and perception of water depth. Regarding the significantly high percentage of wrong answers on item 2, we infer that the absence of clues regarding water depth likely affected the outcomes because the silhouettes of an adult and child provided for the subjects' reference as an indicator of water depth was used for items 1 and 3, but not for item 2 (Figure 12). The silhouette was not shown in item 2 because the photograph was of a close-up composition. This study's results suggest that, when a clue is available, a user can simultaneously estimate water level and the actions to take during a disaster. Therefore, it is important to determine whether there are more clues than the extent of the AR images' realism.

Figure 12. Differences between transparent and opaque images of flood levels

Regarding the opinions of Groups A and B of the experimental educational materials that used the transparent light blue images, six subjects reported “no realism in the image of water.” However, none of the Group C subjects mentioned the absence of realism, and 10 of the 26 Group C subjects (38 percent) described the image as “close to the actual turbidity of the water,” a “good representation of water,” or that the image made it “easier to grasp the actual situation.” Based on these results, we surmise that, although a transparent light blue image aided the assimilation of information more than did the pictures of muddy floodwater, the pictures of muddy floodwater were more helpful than the light blue images to the subjects’ understanding of floodwater damage.

Two of the subjective questions were: “Given the opportunity to view other content, do you want to view it in the same format as this one [content viewed]?” and “Do you want to learn about preparations for disasters other than flooding in the future?” The response options were: “completely agree,” “somewhat agree,” somewhat disagree,” and “completely disagree.” More subjects from Group C than from Group B responded “completely agree” or “somewhat agree” (Figures 13 and 14).

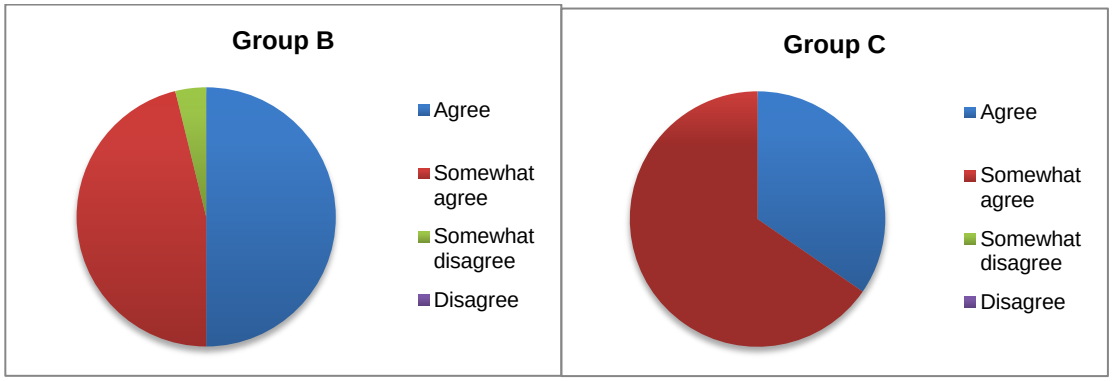


Figure 13. Group B and Group C distributions of responses to: “Given the opportunity to view other content, do you want to view it in the same format as this one [content viewed]?”

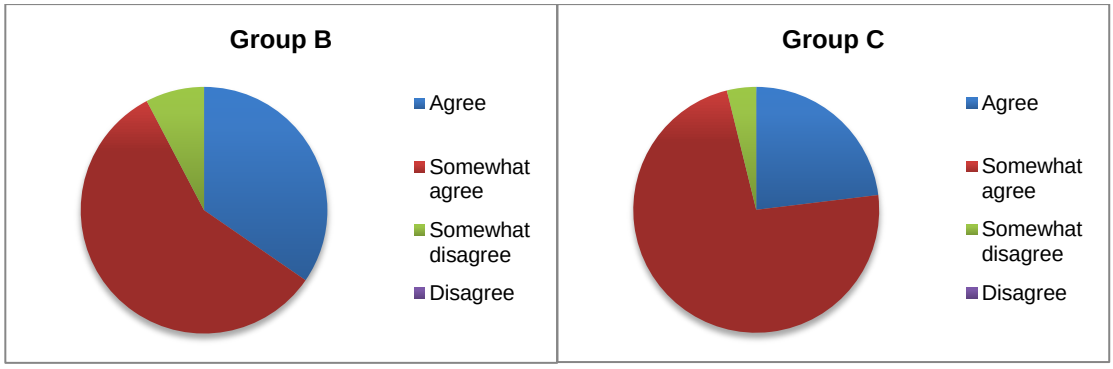


Figure 14. Group B and Group C distributions of responses to: “Do you want to learn about preparations for disasters other than flooding in the future?”

Before the experiment, the subjects were asked about “the things you know and the actions you take in terms of flood disaster prevention.” Seventeen subjects in Group B and 15 subjects in Group C responded. Although the difference was not large, increased awareness of preparing for disasters was found such that Group B’s percentage with awareness increased from 17 to 24 (from 65 percent to 92 percent) and Group C’s percentage with awareness increased from 15 to 25 (from 58 percent to 96 percent) after the experiment. The findings suggest that realism in AR images likely improved awareness of preparing for flood disasters.

CONCLUSION

Based on the experimental results, we conclude that displaying an AR image and the associated information on the same screen effectively improved the subjects’ comprehension of the content. With respect to the hypothesis of differences in the types of information for which realism in an image can help increase comprehension, we found no significant differences. We argue that our experimental results are meaningful because, to the best of our knowledge, experiments with AR images have not been published. Above all, we observed that the extent of realism of an AR image is not the most important element. Furthermore, realistic images improve the ability to grasp the contextual circumstances of a flood, which should help improve awareness of and attitudes regarding disaster prevention.

SUMMARY

In terms of AR's two typical uses in disaster prevention, as simulations before an event and to navigate during a disaster, we developed a hypothesis about the necessary elements and validated it in a subjective experiment. Regarding the effects on training features that could not be studied in this experimental design, we expect to address them in future research.

REFERENCES

apple.com. (2016). iPhone App "Amemiru" Retrieved from https://itunes.apple.com/jp/app/amemiru/id640441905?mt=8

apple.com. (2016). iPhone App "AR hazard scope" Retrieved from https://itunes.apple.com/jp/app/arhazadosukopu-lite-dong-jing23qu/id524308937?l=ja&ls=1&mt=8

apple.com. (2016). iPhone App "Disaster navigation with the smartphone" Retrieved from https://itunes.apple.com/jp/app/suma-bao-zai-hai-shinabi/id683003070?l=ja&ls=1&mt=8

HAYASHI, Masahiro., ISHII, Ishii., & HIRAKI, Kazuo. (2014). Conditions of illustration that facilitate understanding of disaster prevention manual. Japanese Cognitive Science Society, The 31st conference, 443–446.

MATSUZAKI, Kazutaka. (2009). About emergency AR utilization. In NIKKEI BP (Eds.), All about augmented reality (pp. 137–152): Tokyo JAPAN: Nikkei Business Publications, Inc.

PARKING SPACES IN THE AGE OF SHARED AUTONOMOUS VEHICLES: HOW MUCH PARKING WILL WE NEED ND WHERE?

Session T3.3 | June 3 | 9:00 – 10:30

Wenwen Zhang; Subhrajit Guhathakurta; Catherine Ross
Georgia Institute of Technology
Atlanta, GA 30308, USA
Subhro.guha@coa.gatech.edu

ABSTRACT: We are on the cusp of a new era in mobility given that the enabling technologies for autonomous vehicles (AVs) are almost ready for deployment and testing. Recently, the U.S. Department of Transportation unveiled new policy guidance that reflects the reality that widespread deployment of AVs is now feasible (DOT 02-16 Press Release). While the technological frontiers for deploying AVs are being crossed, we know far less about the potential impact of such technologies on urban form and land use patterns. In this study we specifically examine the role of shared autonomous vehicles (SAVs), a taxi system without drivers, in influencing urban parking demand.

One Previous study, based on the simulation of SAV operations in a hypothetical grid-based city, reveals that the SAV may eliminate a significant amount of parking demand for participating households (Zhang, Guhathakurta, Fang, & Zhang, 2015). The models of SAV operations tested in earlier studies are constrained by several assumptions, including highly developed grid-based transportation network, same link level travel speed all over the network, and homogeneous households over the city. This paper attempts to address these issues by simulating the operation of SAVs in the City of Atlanta, USA, using the real transportation network with calibrated linklevel travel speeds, travel demand origin-destination (OD) matrix, and synthesized travel profiles. This real world data-driven discrete event simulation (DES) model will be used to determine the temporal distribution of parking demand and the spatial distribution of parking land use under charged and free parking scenarios.

KEYWORDS: parking; autonomous vehicles; urban form; land use.

INTRODUCTION

Autonomous vehicles, cars that drive themselves, are being tested for deployment in various locations around the globe. Multiple companies, including Google, Audi, Nissan, Tesla and BMW, have announced plans to have fully automated cars by 2020. Indeed, small-scale, lowspeed, automated mobility on demand systems will soon be tested in Europe (CityMobil2 Project, n.d.) and possibly by Google and Uber shortly (Conye, 2015; Markoff, 2014). Recently,

the U.S. Department of Transportation unveiled new policy guidance anticipating widespread deployment of AVs (DOT 02-16 Press Release). The vehicle automation technology combined with the sharing economy will undoubtedly lead to a new travel mode – Shared Autonomous Vehicles (SAVs), a taxi service without drivers, which will be more affordable and environmentally friendly to operate than privately owned Autonomous Vehicles (AVs) (Fagnant & Kockelman, 2015; Shen & Lopes, 2015). SAV systems have the potential to further reduce the average waiting time and improve ride-matching experiences when compared to existing ride-sharing technology (Shen & Lopes, 2015).

This promising SAV system will inevitably lead to changes in the demand for parking in cities. One Previous study, based on the simulation of SAV operations in a hypothetical grid-based city, reveals that the SAV may eliminate a significant amount of parking demand for participating households (Zhang, Guhathakurta, Fang, & Zhang, 2015a). This study adds to the proliferating literature on the impact of SAVs based on real-world data driven simulation. We developed a discrete event simulation (DES) model to examine the impact of SAVs on urban parking land use at various parking prices setting. The model output will provide insights towards the amount of parking space and the spatial distributions of the parking lots for the SAV system.

EARLIER WORKS

Despite that the SAV system remains under development, there have been a wealth of literature exploring different aspects of the anticipated system using simulation approaches. Some early studies demonstrate that SAV systems are feasible by evaluating the existing travel demands and quantifying operation costs of the SAV system. As the concept of SAV prevails, more studies are conducted to investigate the impact of the SAV system on the urban built environment, including its indirect environmental benefits, integration of electric vehicle technology with the system, and its direct impact on urban parking demand distributions.

Several studies have validated the feasibility and affordability of the SAV system. Ford (2012) and Kornhauser (2013) evaluate the performance of a shared taxi system, aTaxi system, with fixed service stations distributed every half-mile in the region. Their results suggest that the system is definitely achievable. Burns et al. (2013) develop a more advanced agent-based simulation model to explore the profitability of a ubiquitous SAV car-sharing system. The simulation is set up in cities with highly developed grid-based transportation network and trip generation zones. The simulation results imply that the cost per trip mile can range from $0.32 to $0.39, depending on the fleet size of the SAV system. This travel cost is more affordable than owning and operating a private vehicle. Bridges (2015) suggests that this mile based cost can even be reduced to $0.13, if the SAVs are powered by electricity and the system can still anticipate a reasonable share of profit. In sum, all the above studies suggest that SAV system is profitable and affordable to the general public.

Fagnant and Kockelman (2014) adjust Burns et al. (2013)'s model to obtain more robust gas consumptions and air pollutant and Greenhouse Gas (GHG) emissions results. The adjustment include introduction of different vehicle travel speeds during peak and off-peak hours and directional effect of traffic. Their study results show that each SAV can replace approximately 11 privately owned vehicles. As a result of the vehicle ownership reduction, some environmental benefits, such as reductions in energy consumptions, GHG emissions, and air pollutants emissions per vehicle life cycle, can be expected. However, the study acknowledges that the SAV system tends to generate approximately 5% more vehicle miles travelled (VMT) due to the empty vehicle navigation process. Such side effect, nevertheless, can be alleviated or even eliminated by introducing and encouraging ride-sharing behaviors in the system (Fagnant & Kockelman, 2015; Zhang, Guhathakurta, Fang, & Zhang, 2015b).

Some other SAV simulations are developed by extending Fagnant and Kockelman (2014)'s model. Zhang, Guhathakurta, Fang, & Zhang (2015a) incorporate dynamic ride-sharing service into the SAV system and explore the impact of SAVs on the urban parking demand. Their results indicate significant amount of reduction can be achieved by reducing vehicle ownership for participating households and increasing the vehicle utilization rate in the city. Chen, Kockelman, & Hanna (2016) integrate the electric vehicle charging component into the model to Fagnant and Kockelman (2014)'s model to analyze the spatial layout of charging stations for the Shared Autonomous Electric Vehicle (SAEV) system.

All of the above discussed studies develop models under the grid-based city settings and hence are constrained by several assumptions, including grid-based transportation network, constant link level travel speed across the network, and homogeneous households in the hypothetical city.

More recent literature overcomes such limitations by simulating the operation of SAV system within a real-world context. Fagnant, Kockelman, & Bansal (2015) implements the SAV system in the context of Austin, TX to determine required fleet size and examine the system performance (Fagnant et al., 2015). International Transport Forum (2015) explores the impact of the system on urban traffic in the City of Lisbon and the results suggest there will be a vast

increase in traffic flow (International Transport Forum, 2015). Spieser et al. (2014) study the feasibility of the SAV system and the level of service that the system may offer if all vehicles are automated in Singapore. Their results show that not only is the SAV system capable to serve the entire population, the service quality is also quite impressive. The expected waiting time for SAV system is even shorter than the existing transit or privately owned vehicles. Rigole (2014) simulates an SAV system that serves all the commuting trips in Stockholm and identifies the reduction in air pollutant emissions that the system can achieve. Shen & Lopes (2015) replace existing New York taxis with SAVs and monitors average waiting time given various vehicle dispatching algorithms. Their results suggest that SAV system can outperform the existing taxi system via centralized operation.

Although the literature regarding the SAV system is proliferating, only two of them attempts to quantify the influence of the system on urban parking demand (International Transport Forum, 2015; Zhang et al., 2015a). Zhang et al. (2015) include parking demand estimation module in the simulation to examine both the spatial and temporal distributions. However, the results can be constrained by the model assumptions, as the simulation is developed based on hypothetical gridbased city settings. Although the ITF study develops model using data from Lisbon City, the parking demand is not the primarily model objective of the study. In ITF's model, autonomous vehicles park directly at the client's destination if not assigned to other incoming clients.

Therefore, neither parking infrastructure availability nor parking price is considered in the model. Such simplification leaves the model insufficient to evaluate spatial distribution of the parking demand. Finally, both studies develop models based on the activity scanning simulation framework, i.e. time advances by small but constant time steps. This framework has a rather inefficient time advancement mechanism, as the model trades off between simulation time and time-related output resolutions. This paper fills the above research gaps by simulating the operation of SAVs in the City of Atlanta, USA, using the real transportation network with calibrated link-level travel speeds, travel demand origin-destination (OD) matrix, and synthesized travel profiles. This real world data-driven simulation model will be used to determine the temporal distribution of parking demand and spatial distribution of parking land use under different parking price policies. Furthermore, the Discrete Event Simulation (DES) model framework to overcome the drawbacks of activity scanning models.

DISCRETE EVENT SIMULATION MODEL DESIGN

DES BASICS

The DES models the operation of a system as a sequence of events in time. The time variable, denoted as !, advances when and only when an event occurs. Events are only scheduled if there will be changes in the state of the system. Therefore, in DES models, the simulation time variable can jump from one event to the next. On the other hand, the activity-scanning or timestep based models breaks the simulation up into small time slices and the system attempts to update the states at each time slice. Therefore, in activity-scanning models, time advances by constant time-steps as defined by the simulator designer.

For this study, the DES framework is used to model the complex macro-dynamics of the SAV system in a stochastic environment, i.e., the interaction between travel demand and the SAV supply, without simulating the micro-changes rising from the movement of busy vehicles (i.e. the ones that cannot be assigned to serve other clients) in the transportation network. In our model context, the DES model presents two advantages compared with activity-scanning or time-step based models. First, there will be no need to verify and validate the selection of time step resolution in the DES model. Second, the DES model significantly reduces simulation time and coding complexity by not scanning the busy vehicles in the system. In this study, a simulator is developed based on the DES framework and the following sections will elaborate about the conceptual model and implementation algorithms for the simulator.

CONCEPTUAL MODEL FORMULATION

MODEL ENTITIES

The system under investigation for this study is the SAV system. In this system, a total of nc clients generates trips or travel requests, which are modeled as the trip entities. The total number of trips may vary given the stochastic nature of the travel demand. It is also assumed that all involved clients will agree to share rides if a match in trip itinerary can be found. The service requests will be fulfilled by nv self-driving vehicles, modeled as vehicle entities. The available vehicle with the lowest travel time cost will be assigned to fulfill a specific travel request. A client will be put on a waiting list, a queue (Q), if all vehicles are occupied or the closest available vehicle is too far away (i.e., more than the waiting time tolerance of the client). Once the last onboard client is dropped off, a SAV will become available again. Then if the vehicle is not assigned to serve another traveler, the vehicle will be programmed to relocate to balance SAV supply distribution in the city. After the relocation process, if the SAV remains available, it will be

assigned to find a parking spot by the parking entity, which minimizes the parking costs, including fuel cost and entrance cost, to park. All the modeled entities and their attributes and states variables are summarized in.

Entity Types	Modeled Entities	Attributes *(Travel demand)*	States
Trip Entities	*Trip* [Descriptions] [the travel demand generated by customers to travel from origins to destinations at a particular point in time]	Origin Destination Departure time Willingness to share rides Hourly salary Client ID	Pickup timestamp Drop-off timestamp Ridesharing clients id Quit
Vehicle Entities	*SAVs* [Vehicles in the SAV system]	Vehicle ID	Waiting client ids Onboard client ids Future travel paths Current location
Parking entities	*Parking Lots* [Parking infrastructures]	Location Price Total Number of Parking	Available number of parking spaces
Queue Entities	*Waiting Client List* [A list of waiting clients]		

Table 1: Modeled entities by types

MODEL ACTIVITIES

All the entities in the model will get involved in a sequence of activity instances. For a client entity, once a client request for service, a call event will be generated, and a vehicle will then be assigned to serve the client. Once a vehicle is assigned, a pickup event will be scheduled for this vehicle with the estimated pickup time given network speeds. After picking up the client, a move event will be scheduled to move the vehicle to the next link in the transportation network given the estimated path towards the destination. A vehicle with a client who are willing to share rides may be assigned to pick up a second client if their itineraries match.

After a vehicle has served all the assigned customers and if the vehicle is in an area where the supply is significantly over the anticipated demand, then a relocation event will be arranged to find potential relocation destinations and the vehicle will move towards relocation destination unless it is reassigned to serve other calling clients on the way. Once the vehicle arrives at the relocation destination and is still not assigned to serve any calling clients, the system will schedule a find parking event to find ideal parking location for the vehicle to save energy. If the found parking lot is not where the vehicle is currently located, then the vehicle will move towards the parking location and park upon arrival. The notations of all the events are as below.

The event space, ***e***, gathers all the simulated events or activities in the system:

1. ^{e}*call* = call event, which reserves vehicle for service;
2. ^{e}*move* = vehicle movement event;
3. ^{e}*pick* = vehicle pick up event;
4. ^{e}*drop* = vehicle drop off event;
5. ^{e}*relocate* = vehicle relocate event, which identifies relocation destination;
6. ^{e}*fpark* = vehicle find parking event.
7. ^{e}*park* = vehicle park event.

The life-cycle diagram describing the sequence of events that the client and vehicle entities go through in the system is illustrated in Figure 1.

MODEL INPUTS AND OUTPUTS

There are several inputs for the model to assign values for attributes of different entities, including transportation infrastructures, such as parking spaces and road network, local travel demand, local income distribution, SAV fleet size, among others. The transportation infrastructure inputs provide information regarding road network composition, link level capacity, number of available parking spaces, the location of the parking spaces, and their price per entrance. The local travel demand data provide information regarding the spatial and temporal distributions of trip origins, destinations (also known as the OD matrix), and the time stamp of the trip occurrences. In this study, the link level travel speed by time of the day is obtained from the local travel demand model developed and calibrated by the

Atlanta Regional Commission (ARC). The primary outputs of this model include both the spatial and temporal distributions of parking demand, and other system service quality metrics, such as average waiting time, system wide VMT generation, and detour time for ride-sharing services.

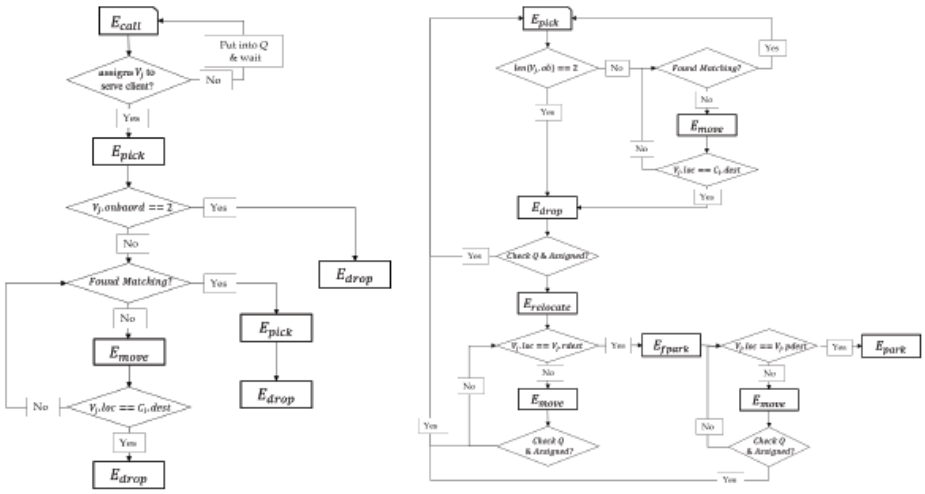


Figure 1: Life-cycle diagram for the client(left) and vehicle(right) entity in the SAV system

MODEL ASSUMPTIONS AND SIMPLIFICATIONS

Since the SAV system is not tested under actual conditions, several assumptions are embedded in the model. The major assumptions are listed as follows:

- 5% of the residents will give up their vehicle and use SAV system instead, which is similar to the assumption used by Fagnant and Kockelman (2014) and Burns et al. (2012);
- There will be no induced travel demand after the implementation of SAV system;
- All SAV users are willing to share rides with strangers;
- The cost of SAV is $0.5 per minute with no startup fees (Burns et al., 2012);
- The cost of SAV is $0.3 per minute for each onboard client when two people are sharing rides to encourage ridesharing;
- The fuel cost of SAV is $0.04/mile (assuming the vehicles use electricity) (Chen, Kockelman, & Hanna, 2016)
- The clients will switch to other modes of transportation after waiting for more than 15 minutes.

For easier model implementation, we also make the following simplification in the model:

- The trips always start and end at TAZ centroids;
- The vehicle travel speed is fixed given time of the day on one road segment (but will be updated hourly);
- The average intra-zonal travel time is modeled using the following formula:

$$intra-zonal\ travel\ time = \frac{\sqrt{area_{taz}}}{2 * travel\ speed}$$

- Both loading and unloading times are set as 1.5 minutes;
- The clients will never cancel the trip once a vehicle is assigned to the client;
- The clients are first come first served during off-peak hours
- Empty vehicles will be assigned to serve the closest calling client during peak hours to optimize vehicle use;
- The system doesn't offer reservation service for the general public.

To conclude this section, Figure 2 summaries the simulation inputs, outputs, and the relationship between various modeled activities and their implementation modules. The model implementation algorithms will be elaborated in the following section.

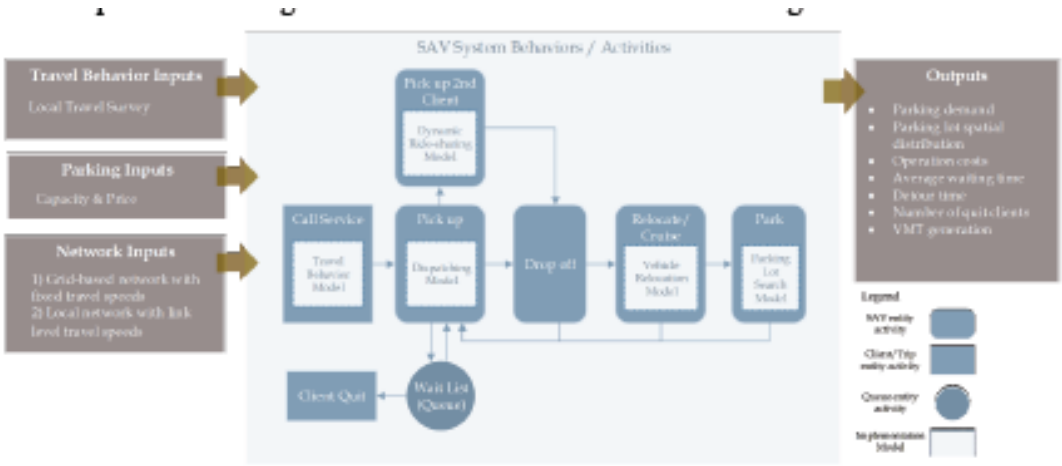


Figure 2: Framework of the Conceptual Model

MODEL IMPLEMENTATION ALGORITHMS

TRAVEL BEHAVIOR MODEL

This study simulates travel demand based on the OD matrix provided by Atlanta Regional Commission. It is assumed that the trip generation follows Poisson Distribution. The total number of produced trips for each OD pair will be simulated by generating a Poisson random number given the average trip number, 78,:, from the OD matrix.

$$NumTrip_{ij} = Random.Poission\ (\lambda i, j)$$

For each generated trip C, the trip departure time is assigned based on the formula below. The cumulative density function (CDF) for trip departure time is estimated based on the weighted 2009 Atlanta travel survey.

$$DepartureTime_k = CDF_{dt}^{-1}(r)$$

where,
r, is uniformly distributed random number from 0 to 1.
$CDF_{dt}^{-1}(r)$ is the inversed CDF for trip departure time.

DYNAMIC RIDE-SHARING MODEL

The dynamic ride-sharing model determines whether two trips can be pooled together to benefit both clients. In the ride-sharing process, the vehicle won't serve clients on the first come first serve basis, but will optimize the route to minimize total VMT after picking up the second client. Excessive travel time for each client is estimated based on the optimized route.

If the itinerary for calling and onboard clients can satisfy the following criteria, then the trips will be served simultaneously by one vehicle.

1. The detour time for each client is equal or smaller than 15% of travel time without ride-sharing;
2. For short intra-zonal trips, the acceptable maximum detour time is set as 3 minutes;
3. The ride-sharing induced detour time should be compensated by the decrease in SAV fare for both clients.

After searching for all the potential ride-sharing vehicles, if several matches are found, the one with the least total excessive travel time for both clients will be recommended as the best match for the calling client.

VEHICLE DISPATCHING MODEL

Vehicle dispatching model describes rules regarding how to assign SAVs to serve calling clients. Most of the existing models assign vehicles based on first come first serve rule. In this study, for each calling client, the system will first search for the closest empty SAV and save the time needed to pick up the client. Then the system will continue to search for the SAVs with only one onboard client to determine whether the trips can be pooled together based on the dynamic ride-sharing model described above. If no trips can be pooled together, the closest empty SAV will be assigned to pick up the client. If ride-sharing can be established, the one with the largest benefit for the calling client

will then be compared with the closest empty SAV. The vehicle that offers larger benefit or smaller costs (including both time and fare costs) will be assigned to serve the client.

VEHICLE RELOCATION MODEL

The primary goal of the vehicle relocation model is to match the spatial distribution of available vehicles to the expected travel demand to reduce average waiting time. Therefore, the relocation model attempts to identify the underserved and over served areas in the city 10 and assigns vehicles in the over served areas to navigate to underserved areas. Fagnant & Kockelman (2014) proposes to calculate balancing value for big zones in the hypothetical city to determine the potential relocation destination for idling vehicles located in SAV supply surplus areas. The imbalance value for each zone is estimated based on the following formula.

$$BlockBalance = \frac{SAVs_{Block}}{SAVs_{Total}} - \frac{Demand_{Block}}{Demand_{Total}}$$

Based on the calculated block balance values, the model pushes vehicles in zones with 10% or more SAV surplus to zones with 10% or more SAV shortage. In this study, similar relocation strategy is used. The balance value is estimated at TAZ level to determine zones to relocate. The only difference is the selection of threshold of balance value that may trigger vehicle relocation. In Fagnant and Kockelman (2014)'s study, the balance values are estimated for 25 big zones. While, for this study, there are 208 TAZs (i.e. approximately 8 times more zones) in the study area. Therefore, the SAVs will relocate from zones with 1.25% (10%/8) excessive supply to zones with the largest shortage in SAV.

VEHICLE PARKING MODEL

After the relocation process, if the vehicle remains out of service, the vehicle will be assigned to parking at a TAZ that minimizes the summation of fuel cost and parking entrance cost and if there are available parking spaces in that TAZ. This process can be interpreted using the formula below.

$$_{j\ E\ J_A}^{min}\ (fuel\ cost_{i,j} + entrance\ cost_j$$

Where,
i, is the TAZ index for the current location of the vehicle;
j, is the index of potential parking TAZ;
J_A, is a set of indices for TAZs where remain empty parking space.

MODEL APPLICATION AND RESULTS

MODEL ENVIRONMENT SETTINGS AND INITIALIZATION

This study develops the simulation model using data from the City of Atlanta, USA. Atlanta is the capital city of Georgia, with an estimated population of 447,841 in 2013 and an area of 134 square miles. The city is highly car-dependent, with more than 92.2% of the commuting trips completed by automobiles (ARC, 2011). The city offers enormous parking infrastructures to meet the parking demand. The latest downtown parking survey reveals that there are about 93,000 parking spaces within Atlanta's downtown area (CAP, 2014).

The Atlanta Regional Commission (ARC) has developed an OD matrix for vehicle-trips based on the 2009 local travel survey. The OD matrix is prepared at the Traffic Analysis Zone (TAZ) level and therefore, the spatial resolution of the study is also set at the TAZ level. There are 208 TAZs located within the City of Atlanta. It is assumed that approximately 5% of the trips that both start and end in the City of Atlanta will choose the SAV system as the travel mode and the rest of the trips will be accomplished via alternative transportation modes. Under this assumption, the SAV system serves around 32,365 or 3.7% of all vehicle-trips in the 10-county Atlanta Metropolitan Area on the daily basis.

The Atlanta road network, coded with length, capacity, calibrated link level travel time (in the unit of minutes) for both peak and off peak hours, is also obtained from ARC. The centroids of TAZs are linked with adjacent nodes and the travel speeds for these links are set as 20 and 30 mph for peak and off peak hours. The administrative boundary for the city of Atlanta is discontinuous, as the Hartsfield-Jackson airport is not connected with the rest of the city. To serve the airport area, road network located outside the city boundary but connecting the airport to the rest of Atlanta is also included in this study. There are 3,708 nodes and 8,694 edges in the final transportation network.

The City of Atlanta provides impervious surface data for all parking lots. Central Atlanta Progress (CAP) maintains downtown parking inventory, such as parking price, parking spaces, and the type of parking lots. The downtown parking data from both sources are compared to generate average area for individual parking space and then applied to the rest of Atlanta to obtain an estimation for the total available parking space given the amount of parking surface provided by the city. The parking spaces are then aggregated by TAZs. For each TAZ, only a portion of the parking lots is reserved for the SAV system. The reservation is calculated based on the following formula.

$$Pi = \frac{Attraction_i}{Total\ Attraction_i}$$

where,
$Attraction_i$, is the attracted trips in TAZ ! that will be served by SAV;
$Total\ Attraction_i$, is all of the attracted trips in TAZ ! based on the 10-county OD matrix.

The TAZ level parking price is imputed based on the average land value from tax assessor data. However, the land value in TAZs with large amount of tax exempt land is extremely low, which may not realistically reflect parking price. To alleviate such problem, the final TAZ land value is calculated as the average of all adjacent TAZs. TAZ land values are then rescaled from $0 to $20 as the final parking price. The distribution of allocated parking space density and parking prices are illustrated in Figure 3.

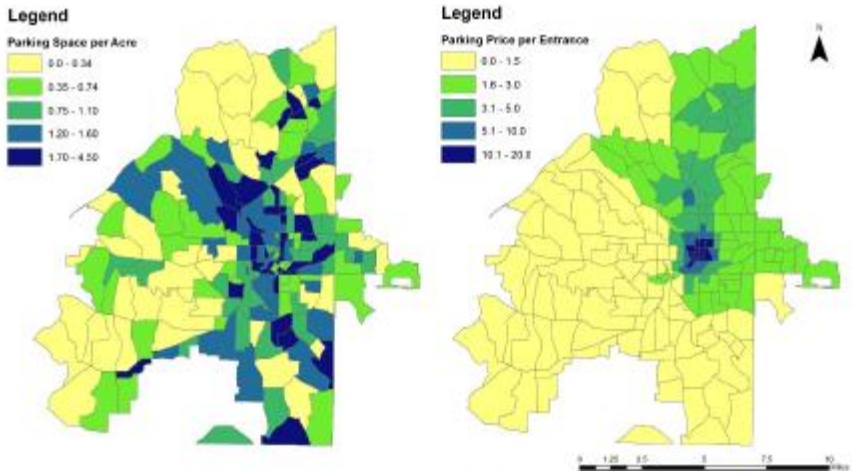


Figure 3: Parking Infrastructure Supply (left) and Parking Price Distribution (right)

At the beginning of the first simulation day, the SAVs are randomly distributed. The model is set to run 50 consecutive days to collect outputs for further analysis. The output from the first simulation day is excluded in the final analysis, as it is a warm-up run to determine the location of SAVs at the beginning of the following simulation days.

Two scenarios, i.e., charged and free parking scenarios, are established to examine the impact of different parking price policies on SAV system parking demand and urban parking land use. The same string of random numbers is used in the simulation runs for different scenarios to ensure that the differences in outputs are not caused by noises rising from the random number generator.

SPATIAL DISTRIBUTION OF PARKING LAND USE

At the end of the simulation, the total required parking for each TAZ is estimated based on the following formula. The total parking space is estimated as the parking lots that need to be reserved to meet the maximum parking demand throughout the simulation day. An average of all 50-day simulation runs is calculated as the final required parking space for each TAZ.

$$ParkingSpace_{i,d} = max_{0 \le t \le 1440} ParkingSpace_{i,d,t}$$

$$ParkingSpace_i = \sum_{d=2}^{50} ParkingSpace_{i,d}/50$$

where,
i, is the index for TAZ;
d, is the index for simulation day;

t, is the simulation time of the day (in the unit of minute).

Figure 4 shows the spatial distributions of the parking space for the two scenarios. In the free parking scenario, parking demand is the highest in major trip generation zones, such as Atlanta Downtown, Midtown and Buckhead areas. In the charged parking scenario, the parking spaces shifts from the highly developed TAZs to west side communities where the existing land value is significantly lower. Additionally, the results also suggest that SAVs won't be re-assigned to park in urban fringe areas, as the summation of parking and vehicle travel costs bottoms in TAZs that are adjacent to the urban cores rather than urban fringe areas. Such phenomenon can be attributed to the fact that land value decreases exponentially as the distance to employment centers increases while the fuel costs raise at slower but constant speed. The distribution of total parking and travel costs are illustrated in Figure 5.

Finally, in the charged parking scenario, the parking space tend to concentrate in some western communities, such as English Avenue, Bankhead, and Center Hill. Compared with other neighborhoods in Atlanta. These communities are characterized by higher poverty rates, larger percentage of African American population, and higher proportion of industrial land use. The concentration of parking space in these neighborhoods may lead to planning equity issues in these areas. However, it may also offer opportunities for new infill development as the SAV system will be more accessible to these neighborhoods and indirectly improve their mobility and accessibility.

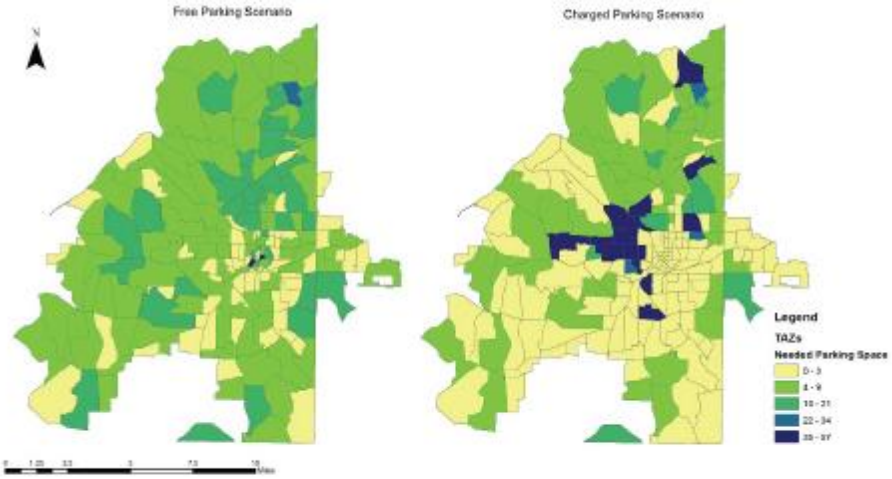


Figure 4: Spatial Distribution of Parking Spaces by Scenarios

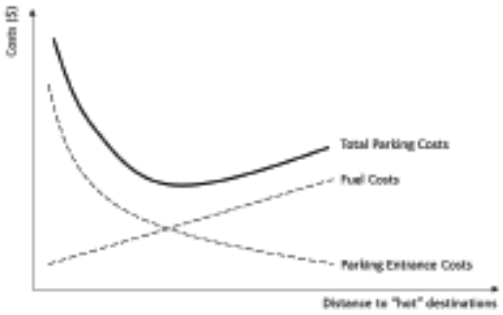


Figure 5: Total Parking Costs by Distance to Urban Cores

TEMPORAL DISTRIBUTION OF PARKING DEMAND

The parking demand at specific simulation time of the day is calculated by adding all parking demand at all TAZs together. An average of all 50-run results is calculated as the final output.

$$ParkingDemand_{d,t} = \sum_{i=1}^{208} ParkingDemand_{d,t,i}$$

$$ParkingDemande_t = \sum_{d=2}^{50} ParkingDemand_{d,t}/50$$

where,
i, is the index for TAZ;
d, is the index for simulation day;
t, is the simulation time of the day (in the unit of minute).

The total parking demand by time of the day is illustrated in Figure 6. The two scenarios do share some common patterns. For instance, the parking demand peaks during 1-3 am, when almost all the vehicles are parked somewhere in the city. The parking demand is the lowest during the evening peak hours (i.e. 5-7 pm), when virtually all the vehicles are in operation.

Additionally, the parking demand decreases and increases in similar places before the morning peaks and after the evening peaks in the two scenarios.

In contrast to the free parking scenario, the charged parking scenario suggests that the parking demand during mid-day time period is significantly higher (approximately 70% more). Such results can be counter intuitive. Nevertheless, the phenomenon can be explained by the fact that more vehicles will be in the empty cruising state during midday time period when parking lots are free. In the charged parking scenario, once completing the relocation process, the SAVs will navigate to TAZs that minimize the summation of parking cost and vehicle travel costs to park. In other words, in the charged parking scenario, the system will set certain amount of SAVs to park outside of (but close to) the densely developed TAZs and leave smaller, but sufficient amount of, fleet size inside of the expensive TAZs to serve the travel demands while minimizing parking footprint in the developed areas. Meanwhile, in the free parking scenarios, most of the vehicles will remain inside the highly developed TAZs to serve clients and go through the vehicle cruising process again after dropping off the clients.

Hence, compared with the charged parking scenario, more SAVs will cruise and relocate during mid-day period in the free parking scenario, rendering a smaller parking demand for the entire system. The side effect of vehicle cruising is that the total cruising VMT generated between 10AM and 3PM in free parking scenario is 61.3% higher, when compared with charged parking scenario.

Despite the higher parking demand in the charged scenario, the parking entrance costs for the entire system during mid-day is significantly smaller. In the charged parking scenario, the system, on average, spends $1,800 ($1.8/SAV) to use parking lots, compared with $14,500 ($14.5/SAV) in the free parking scenario (if the lots were charged at similar rates as in the charged parking scenario). The parking costs reduction can be attributed to the facts that SAVs navigate to less expensive areas to park and the system tends to reduce the parking turnover rates.

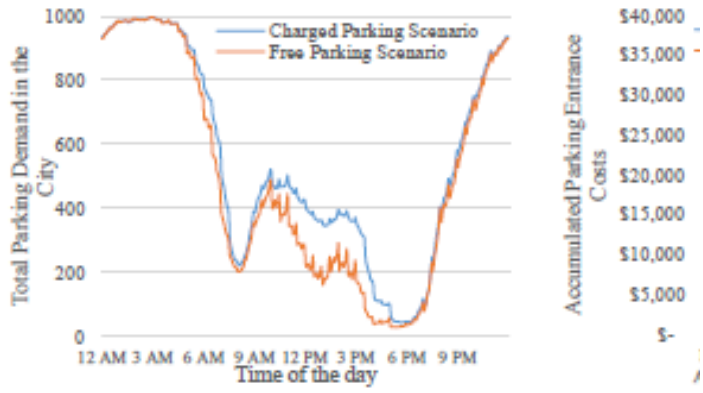


Figure 6: Temporal Distribution of Parking Demand (left) and Accumulated Parking Entrance Cost (right)

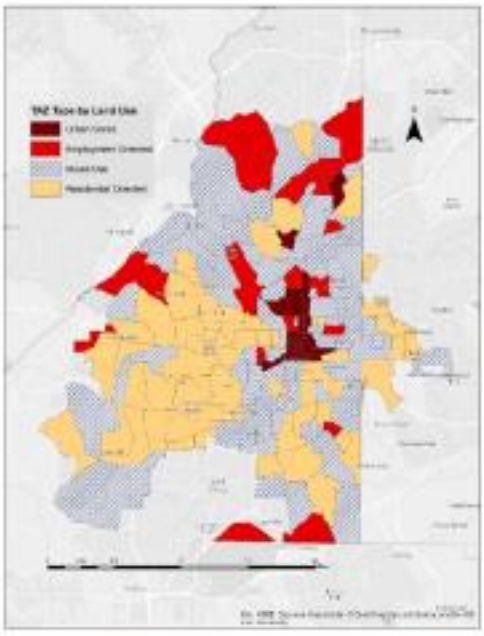


Figure 7: TAZ Types Classification Result

TOTAL PARKING LAND USE

The total required parking land use is calculated by adding TAZ level required parking space together. The number of parking lot consumed by the SAV system in free parking and charged

parking scenarios is 1,371 and 1,495 correspondingly. Compared with existing parking infrastructure, the SAV system can save up to 4.9% of the parking land use at a low market penetration level of 5%. It is interesting that the SAV system has a larger parking footprint, in the charged parking scenario. Such phenomenon can be explained by the spatial mismatching in parking demand during night and midday periods. For clarification purpose, the TAZs are classified into four types1, namely CBD, employment oriented, mixed use, and residential oriented TAZs, based on the residential household density, employment density, and recreation and service employment density. The spatial distribution of classification results are shown in Figure 7. A majority of the southeastern TAZs are residential oriented and some northern TAZs and a few southern TAZs (i.e. the ones that are close to the airport) are employment oriented.

The TAZ level parking demand by time of the day are aggregated by the TAZ types and the results from free and charged parking scenarios are illustrated with solid and dashed lines separately in Figure 8. The parking demand in CBD areas is significantly reduced especially during night and after morning peak hours in the charged parking scenario. However, this reduced parking demand is only shifted to mixed use and residential parking areas. Moreover, the outcome also suggests that after charging for parking, the parking demand in most CBD and adjacent areas will peak during daytime after morning peak hours. This is the primary reason that the parking footprint in charged parking scenario surpasses that in the free parking scenario. A small portion of the vehicles will park in the mixed use or residential oriented TAZs during night and keep consuming parking space in CBD and adjacent areas during daytime, rendering a larger demand for parking lots. The parking demand in employment oriented TAZs remains similar in two scenarios. The employment oriented TAZs outside of CBD areas have more industrial land uses. Therefore, the parking price in these areas are acceptable for the SAV system.

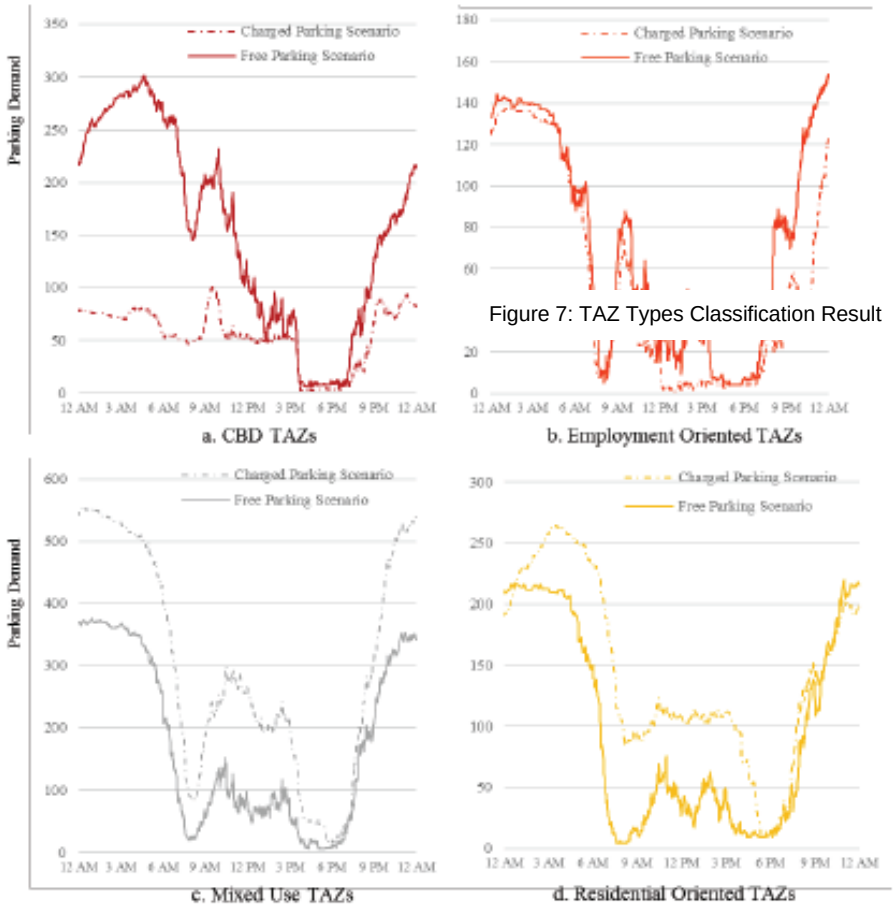


Figure 7: TAZ Types Classification Result

Figure 8: Parking Demand by TAZ Types and Scenarios

TRADEOFFS IN WAITING TIME AND VMT

In the charged parking scenario, the SAV system trades off parking costs with client's average waiting time and VMT generation. The average waiting time for clients by time of the day is shown in Figure 9. Clients in the charged parking scenario wait longer, especially at the beginning of the peak hours, such as 7am and 4pm. In the charge parking scenario, vehicles tend to park at zones with lower land value, resulting in a spatial mismatch between vehicle and travel demand distributions. Additionally, the SAVs are less likely to cruise to balance vehicle distribution

after parking in the early morning time period when the travel demand is quite low. In this simulation, the vehicles only relocate after dropping off clients and the vehicles will not relocate after parking. Therefore, the spatial mismatching between vehicles and clients is expected to be the largest in the morning when almost all the vehicles are assigned to cheaper parking lots. This mismatch causes a large discrepancy in average waiting time between the two scenarios.

Figure 9: Waiting Time Distribution by Time of the Day and Scenarios

Finally, the SAVs tend to generate 8,131 more VMT to reduce parking entrance fees in the parking process. Additionally, the SAV system also produces 12.6% (5,006.2) more VMT in the picking up process, due to the fact vehicles concentrate at TAZs with lower parking fees.

MODEL VERIFICATION AND VALIDATION

The travel behavior model is verified by comparing the distributions of trip length and departure time from both simulation results and Atlanta Travel survey. The Chi-square goodness of fit test results for trip length and departure time distributions are 0.96 and 0.98 respectively, indicating that the simulated distributions are not significantly different from the weighted Atlanta travel survey observations. Therefore, the implemented travel behavior model is considered robust in regenerating travel demand for a typical travel day.

The vehicle movements are traced to verify the activity flow implementation process. Figure 10 illustrates the travel path for a randomly selected vehicle in one simulation day from the charged parking scenario. The sequence of the nodes visited by the vehicle is marked in order. The vehicle starts to serve clients at 5:31am and ends by 7:52pm. A total of 30 trips are served by this vehicle throughout the day. Three of them ride-sharing trips, two of which involve intra-zonal trips and, therefore, are not reflected in Figure 10. The vehicle spends approximately 7.2 hours serving vehicles, and 0.9 hours relocating and navigating to parking lots. The vehicle checks into parking lot 6 times and parked for approximately 1.01 hours each time.

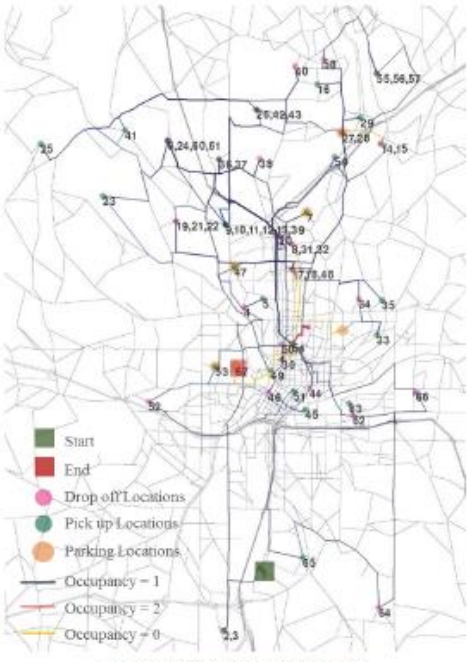


Figure 10: Vehicle Travel Path Example

CONCLUSIONS AND DISCUSSIONS

The simulation results show that parking land use can be reduced by approximately 4.9%, once the SAVs start to serve 5% of the trips within the City of Atlanta in both charged and free parking scenarios. The reduction is contributed primarily through improving vehicle utilization intensity and reducing private automobile ownership. The results are consistent with the parking demand model based on the hypothetical grid based setting (Zhang et al., 2015a) and the Lisbon SAV simulation study (ITF, 2015).

The results from charged and free parking scenarios suggest that charged parking policy will effectively reduce the amount of parking in the CBD areas. The required parking lots in the CBD area is reduced by 67% from 301 to around 102 spaces. Additionally, in the charged parking scenario, the average parking lot occupancy rate in CBD area is approximately 72.1% percent throughout the day, compared with 30.5% in the free parking scenario.

However, the reduced parking lots in CBD will shift to TAZs that are close to CBD areas and generates a spatial mismatching in parking lots consumption during night and daytime. In the Atlanta's case, the mismatch is large enough to even inflate the parking footprint for the SAV in charged parking scenario.

The results also suggest that the spatial distribution of parking land use in the city may change fundamentally in the two scenarios. In the free parking scenario, the parking lots will be more evenly distributed throughout the city. While, the parking infrastructures may concentrate in the low-income neighborhoods, which may lead to equity problems if not properly regulated or planned.

This study explored the variation of parking demand and the spatial distribution of parking land use under free and charged parking policies. There remain some limitations in terms of charged parking scenario development and deserves further exploration. In this study, the parking price is entrance based, while a time sensitive parking price scheme may fundamentally change the operation strategy of SAV system and results in a change in the parking demand and parking land use. Additionally, the model doesn't offer an optimized solution for urban parking land use design, which may be achievable by a centralized operation of SAV system and can provide a more comprehensive picture for smart city development. More future studies should be devoted to examine how the SAV system can be integrated as part of sustainable urban growth policies by optimizing the parking demand and parking land use spatially via a smart parking price charging system.

REFERENCES

ABI Research. (2013). Half of New Vehicles Shipping in North America to Have Driverless, Robotic Capabilities by 2032. Retrieved February 24, 2016, from https://abiresearch.com/press/half-of-new-vehicles-shipping-in-north-america-to-/

ARC. (2011). Household Travel Survey Final Report. Retrieved May 25, 2016, from http://www.atlantaregional.com/transportation/modeling/household-travel-survey

Bridges, R. (2015). Driverless Car Revolution: Buy Mobility, Not Metal. Retrieved from Amerzon.com

Burns, L. D., Jordan, W. C., & Scarborough, B. A. (2013). Transforming personal mobility. Earth Island Institute, Columbia University.

CAP. (2014). Parking Today: Downtown Atlanta Parking Assessment Existing Conditions. Retrieved from http://www.atlantadowntown.com/_files/docs/existing-conditionsdownload.pdf

Chen, T. D., Kockelman, K. M., & Hanna, J. P. (2016). Operations of Shared Autonomous, Electric Vehicle Fleet: Two Implications of Vehicle and Charging Infrastructure Decisions.

CityMobil2 Project. (n.d.). CityMobil2 Project. Retrieved February 15, 2016, from http://www.citymobil2.eu/en/About-CityMobil2/Overview/

Fagnant, D. J., & Kockelman, K. M. (2014). The travel and environmental implications of shared autonomous vehicles, using agent-based model scenarios. Transportation Research Part C: Emerging Technologies, 40, 1–13.

Fagnant, D. J., & Kockelman, K. M. (2015). Dynamic ride-sharing and optimal fleet sizing for a system of shared autonomous vehicles. In Transportation Research Board 94th Annual Meeting.

Fagnant, D. J., Kockelman, K. M., & Bansal, P. (2015). Operations of Shared Autonomous Vehicle Fleet for Austin, Texas, Market. Transportation Research Record: Journal of the Transportation Research Board, (2536), 98–106.

Ford, H. J. (2012). Shared Autonomous Taxis: Implementing an Efficient Alternative to Automobile Dependency. Princeton University.

International Transport Forum. (2015). Urban Mobility System Upgrade: How shared selfdriving cars could change city traffic.

Kornhauser, A. (2013). Uncongested mobility for all: New Jersey's area-wide aTaxi system. Princeton University. Operations Research and Financial Engineering. Retrieved September, 23, 2013.

Rigole, P.-J. (2014). Study of a Shared Autonomous Vehicles Based Mobility Solution in Stockholm.

Shen, W., & Lopes, C. (2015). Managing Autonomous Mobility on Demand Systems for Better Passenger Experience. In PRIMA 2015: Principles and Practice of Multi-Agent Systems (pp. 20–35). Springer.

Spieser, K., Treleaven, K., Zhang, R., Frazzoli, E., Morton, D., & Pavone, M. (2014). Toward a systematic approach to the design and evaluation of automated mobility-on-demand systems: A case study in Singapore. In Road Vehicle Automation (pp. 229–245). Springer.

Stanley, M. (2013). Autonomous cars: self-driving the new auto industry paradigm. Blue Paper.

Zhang, W., Guhathakurta, S., Fang, J., & Zhang, G. (2015a). Exploring the impact of shared autonomous vehicles on urban parking demand: An agent-based simulation approach. Sustainable Cities and Society, 19, 34–45.

Zhang, W., Guhathakurta, S., Fang, J., & Zhang, G. (2015b). The Performance and Benefits of a Shared Autonomous Vehicles Based Dynamic Ridesharing System: An Agent- Based Simulation Approach. In Transportation Research Board 94th Annual Meeting.

TRACK 04

LEISURE AND TOURISM: towards learning cities

Chair: Carlos Cardoso Ferreira, Universidade de Lisboa, Portugal

Scientific Committee: Armando Montanari, University La Sapienza, Roma, Italy
Elisabeth Hamin, University of Massachusetts, USA
Caroline Scarles, University of Surrey, United Kingdom
Robert Maitland, University of Westminster, United Kingdom

In the last decades, large changes in the world economic order have occurred. The crises affected product growth, and induced a decline in production of some sectors and a consequent increase of unemployment in North America and Europe, while BRIC`s and other emerging industrial and trade economies are of growing importance in the world arena. The recreational and tourism dimension has been an important strategy of affirmation and development of cities; the dynamics that recreational and tourist activities imprint to urban fabric represents a potential gain of attractiveness and increased competitive conditions.

But tourism and leisure in an urban context also challenges its multiple players - politicians, technicians, entrepreneurs, residents and visitors - about the sustainability of this dynamic, prefiguring many challenges:

- which tourism is taking shape and which one the city wants?
- how to reconcile the lived city with the visited city?
- will innovation and creativity be compatible with the authenticity of the places?
- how to generate co-creation of touristic value of/for different players?

These issues will be discussed in this track, as well as others that may be relevant to a broad and current discussion on leisure and tourism in the city.

CITIES AND EVENTS - CITY OF NOVI SAD AND EXIT FESTIVAL (SERBIA)

Session T4.1 | June 1 | 16:00 – 17:30

Demirović D.(1), Radosavac A.(2), Njegovan Z.(3), Pejanović, R. (4)
(1) MSc, PhD student, Faculty of Sciences, Department of Geography, Tourism and Hotel Management, University of Novi Sad, Trg Dositeja Obradovica 3, Novi Sad, SERBIA. Phone: +381642686290, demirovic.dunja2@gmail.com
(2) PhD, University, Business Academy in Novi Sad, Faculty of Economics and Management, Cvećarska 2, 21000 Novi Sad, SERBIA, phone. +38163271089, adrianaradosavac@gmail.com
(3) Njegovan Zoran, PhD, Full Professor, Faculty of Agriculture, Department of Agricultural Economics and Rural Sociology, University of Novi Sad, Trg Dositeja Obradovica 8, Novi Sad, SERBIA. Phone: +381214853 393, njegovan@polj.uns.ac.rs
(4) Pejanović Radovan, PhD, Full Professor, Faculty of Agriculture, Department of Agricultural Economics and Rural Sociology, University of Novi Sad, Trg Dositeja Obradovica 8, Novi Sad, SERBIA. Phone: +38163600217, pejanovic@polj.uns.ac.rs

ABSTRACT: For cities, events represent a significant social event or activity which bring together people and are based on one idea. Events contribute to the economic and tourist development of micro destination, sometimes to the whole country. For many cities, events represent the brand and trademark of a destination. The local community should be consulted and involved in the planning, setting-up and realization of the event. It is important that the positive effects of the events go beyond the short-term negative effects for the local community. The local population is a very important player in the development of tourism destinations. The interest of local communities for the development of tourism, in the area where they live, starts from the awareness of the local community that excessive exploitation of resources and poor management decisions can lead to the destruction of existing values in their environment. EXIT festival is held in Novi Sad, on Petrovaradin's fortress since 2000 and is one of the biggest cultural and social projects in Serbia in the XXI century. In this paper, authors have carried out survey among 234 residents of Novi Sad with the aim to investigate the perceptions of the social impact of the festival, whether social impact exists due to the festival in their community. Also, the survey was conducted in order to determine what effects the local population expects as a result of the festival, and which of these effects are important.

KEYWORDS: city; events; local community; Novi Sad; EXIT festival.

INTRODUCTION

Events industry is today the growing global phenomenon, whose role and influence on society has been recognized long ago (Bowdin et al., 2006). Festivals are subdisciplines within the study of events. They are extremely important segment of events for the occasion of these events, as well as popularity, which brings them a great number of visitors. They occur in almost all cultures, which occupy the special place. The indicators obtained during various studies pointed the importance of organizing the festival as exceptional tourist potential for the city and sometimes festivals are drivers of the development of specific destinations.

Policy Studies Institute from the UK in the journal “Cultural trend” points to the fact that the term festival has been used for hundreds of years and means a large number of events. The essence of the festival is always referred to the celebration and reaffirmation of the community and its culture. The increase in living standards and the amount of free time positively influenced the development of events as a special form of entertainment (Bjelobrković, 2009).

The organization of mega events and investing in gigantic artistic projects are expensive investments. Such large investments are profitable only in the long term. Many cities and some states have experienced it with serious consequences (Parkinson and Bianchini, 1993). In addition to the economic problems, there is a conflict between the social and economic goals. Local communities are often unwilling to accept new development activities and projects. As a result, they tend to increase tensions and conflicts between tourists and locals. Active participation of local communities in decision-making is essential for sustainable development.

Author Poljanec-Borić (2000) states that the local population, in relation to their communities and the environment, has a much better sense of what the real needs of the area are, as well as the clearer the vision of future development, rather than the central government. Because of this, it is necessary to include the vision, aspirations and needs, potential and enthusiasm of the local community in plans for future development.

Residents recognize the positive and negative effects of tourism development, but also the degree to which they are willing to tolerate negative effects. Tolerance depends on the involvement of local people in the tourism economy, the period of residence in a tourist destination and frequency of exposure in daily life. Very often a local community believes that social benefits such as community pride and international recognition are the same (or more) important as the economic benefits of the event (Mihalik and Cummnings, 1995). The increase in intangible psychological

values, including civic pride and national unity are also benefits of mega-events (Kim and Petrick, 2005). Also, Hall (1997) states that organizing and visiting events contribute to a better understanding of other cultures, strengthen cultural values and traditions. On the other hand, some authors argue about negative consequences of the impact of events in the local community: the price of hotel accommodation and plane tickets rises during the growth of mega-events, while the salaries of employees in hotels and airlines remain unchanged (Baade et al., 2005), extermination of traditional family values and there is a cultural commercialization. Attention on the differences in culture and social and economic status between the local population and tourists may have a negative impact on the local community of the host (Tosun, 2002). However, all authors share the opinion that the support of the local population is crucial to the development of tourism, regardless of the type of tourism that is being developed, and hence for tourism events (Lee et al., 2013).

According to the data of the Tourist Organization of Vojvodina (Serbia), Vojvodina annually hold 1,382 events. One of the most important events is the EXIT festival which has been held in Novi Sad for 16 years and was included in the top 10 European festivals. The aim of this study is to examine the effects of the music festival EXIT (Novi Sad, Serbia) to the local community and to the tourism of Novi Sad. EXIT represents a musical event that affects the creation of a positive attitude of visitors and participants from abroad about Serbia. In accordance with the categorization of events in Serbia, EXIT belongs to the first category of tourist events. This is a music festival which realizes significant economic effects on the destination, but also socio-cultural effects on the local community as a result of interaction between the local community and visitors to the festival, especially foreign visitors.

THEORETICAL FRAMEWORK

LOCAL COMMUNITY AND TOURISM

Definition of local communities is often very different and varies from one author to another, and depends on the area of the professional and scientific terms. Most authors, who are trying to give the definition of the concept of community, use the following point: the space, the people, the needs and activities. Bringing together these four terms in one sentence, it can be said that the local community is made up of people who live in a certain area, they have common needs and are engaged in different activities. Each local community is determined by its cultural, historical and traditional values, especially by the people who live and work (Mataga Tintor, 2007).

Most goals or benefits sought from the community have a basis in sharing and increasing social and cultural values of the community. It is therefore not surprising that most of these values are represented as the cornerstone of public events. For the maintenance of the community, the events not only provide a mechanism for community development, but they also help in preserving the authentic cultural heritage of the community, which makes them attractive and they attract visitors (Hinch and Delamere, 1993).

The local population is a very important player in the development of tourism destinations. The interest of local communities for the development of tourism in the area where they live is based on the awareness of the local community to excessive exploitation of resources and poor management decisions can lead to the destruction of existing values in their environment.

The quality of life of the local community can not be distorted by the development of tourism or a specific event, because disrupting the quality of life lead to losing the domestic population, which should be the basis of economic development of destinations. Satisfaction with life in a tourist destination is already in the mature stage of development of tourism, but when tourism development begins to degrade, it entails a decline in the quality of life at the destination (Cecil et al., 2010). Author Jelinčić (2006) indicates that the impact of tourism on the local population can be twofold:

- tourism stimulate some positive behavioral traits of the local population: improving self-awareness, pride, confidence and solidarity among the local population, or
- cause resentment in the local population due to the presence of tourists: there is a sense of boredom, opposition and even hatred towards tourists.

The intensity of individual impacts can be varied, and can lead to the mixing of positive and negative impacts. Creating positive or negative attitudes contribute to the advantages and disadvantages brought by tourism development. Positive attitude contributes to an increase in household income (ensuring economic independence and stability of the areas), ensuring the construction of municipal infrastructure, encouraging small business, creating a recognizable tourist destination and the branding of indigenous offerings, encouraging the return of displaced persons etc. Negative attitudes contribute to the disadvantages that come with tourism development: emigration, exceeding the carrying capacity of destinations, the destruction of natural and cultural resources for the sake of

building tourism infrastructure, the destruction of originality and lack of employment opportunities throughout the year to destinations that operate seasonally.

EXIT FESTIVAL (NOVI SAD, SERBIA)

EXIT festival has been held in Novi Sad, on Petrovaradin's fortress since 2001. The festival was founded in 2000 when it lasted 100 days and was held on the quay near the University of Novi Sad. It was organized by the student movement who fought for democratic reforms in Serbia at the end of the twentieth century. In 2000, the festival had a local character, and from the next year, it became one of the most important music festivals in Europe. Festival now lasts four days and is held in the first weekend of July. Each July, thanks to the EXIT Festival, Petrovaradin' fortress becomes the heart of cultural tourism of Serbia (Besermenji et al., 2009).

CNN states that, according to the calculations of the Government of Serbia, EXIT to Serbia contributed more than $ 125 million through tourism. It is estimated that in one year thanks to the public relations, the festival contributes to Serbia with around 87 million dollars (www.exitfest.org).

1999., EXIT is visited by about 20,000 people, and a poster that promoted this event was symbolically drawn with fist which breaks the five-pointed star. This was a continuation of unsuccessfully completed student demonstrations against the University Law of 1998. The organizers of this event were from the Student Union of Serbia. The so-called "Zero EXIT" was held in the summer of 2000 and played a significant role in the campaign for democratic change before October 5. During the 100 days that the program lasted, there were held concerts, film screenings, performances, parties, workshops and debates (Lazarević and Bursić, 2014).

In 2014, the EXIT Festival won the prize for the “Best Major Festival at the European Festival Awards in 2013” at the 5th European festival awards. With over 620,000 votes from audience across the world, EXIT has brought the prestigious title in the category of Best European Festival, competing with more than 300 festivals from 34 countries.

Year	Total number of visits
2001.	180.000
2002.	198.000
2003.	152.000
2004.	160.000
2005.	160.000
2006.	168.000
2007.	180.000
2008.	168.000
2009.	160.000
2010.	140.000
2011.	140.000
2012.	132.000
2013.	200.000
2014.	185.000

Table I. Number of visits to the EXIT festival since its founding
Source: www.exitfest.org

Table I presents a number of visits recorded on the EXIT festival by ages. Such a great number of visitors shows the importance of this festival for tourism of Novi Sad. Number of visits presented in Table 1. does not represent the number of visitors, because for example, if one visitor buys a ticket for four days of the festival and use it, it will be counted as four visits.

EXIT festival is one of the safest music festivals in the world. To achieve the above, EXIT has established an agency that takes care of the guests' safety. This agency deals not only with hiring security guards, but also is concerned about the security measures in the entire festival, which is more than necessary given the location where the festival is held (Petrovaradin's fortress is consisted of high walls).

Cost analysis of EXIT festival and its impact on the local and national economy, in 2010, has been done by consulting and design company from the United States, “Booz, Allen, Hamilton Inc.”. Investigated attributes are: the main characteristics of the participants, the consumption of visitors, the impact on the local and national economy and the multiplier effect of the income. The research results show that the estimated benefits outweigh the costs. The estimated impact on the economy and revenues from Novi Sad EXIT festival is at 13.3 million euros, while multiplier coefficient is 1.9. The impact on the Serbian economy is reflected in revenues of 10.9 million euros with a multiplier coefficient of 2.7. The final impact is less for Serbia, but the multiplier is higher.

In order to successfully organize such a large festival, a large investment is required. Most of the funds are provided from the EXIT festival ticket sales (about 50%), funds received from sponsors cover about 35-40% of the cost, and state authorities (city of Novi Sad, Provincial Secretariat for Culture and several ministries) provide 10-15% of the total of the necessary funds.

METHODOLOGY

For research purposes, a questionnaire was designed based on the literature review and the scale used to check the impact of music festivals on the local community. The questionnaire consisted of two parts: the first part included demographic data of respondents, and the second part was composed of items with which respondents expressed their agreement or disagreement ranging from 1 (strongly disagree) to 5 (strongly agree).

The target population consisted of sampling the local population of Novi Sad in different age groups and different occupations. Respondents are employed in travel agencies, hotels, tourist organizations, small entrepreneurs, professors and students of the University of Novi Sad.

Research on effects of EXIT festival on the local community and tourism of Novi Sad was conducted in June and July 2015, because it is considered that festivals achieve the greatest impact on the local community for a period of one month before and during the festival (Fredline et al., 2003). The questionnaire was distributed electronically (using e-mail), or personal delivery of the printed version of the questionnaire. For statistical analysis, the statistical program SPSS, version 20 was used.

RESULTS AND DISCUSION

Socio-demographic characteristics of the participants in the study of effects of the EXIT music festival on the local community, are presented in Table II.

234 respondents participated in the survey, mostly female (54.7%). Structure of respondents by age indicates that 45.3% of respondents from Novi Sad are under the age of 30 years, and most are employed in the private sector (46.15%). A large number of unemployed refers to students. Most of the respondents live in Novi Sad between 11 and 20 years (41.03%). Those who live less then 10 years are mostly students or young people who came to Novi Sad for study. When asked whether they had ever visited EXIT festival, even 72.2% of respondents said yes. This issue could be relevant when examining the effects of the festival to the members of the local community.

Characteristics	Absolute frequency	%
Gender		
Female	128	54.7
Male	106	45.3
Age		
Less then 30	106	45.3
31-40	73	31.2
More then 41	55	23.5
Length of residence in the city		
Less then 10 years	74	31.62
11-20 years	96	41.03
More then 20 years	64	27.35
Occupation		
Government sector	43	18.38
Private sector	108	46.15
Unemployed	83	35.47
Have you ever visited the festival?		
Yes	169	72.22
No	65	27.78

Table II Socio-demographic characteristics of respondents
Source: Authors based on data from the survey research

Table III shows the average assessment, ie. agreement or disagreement with the stated views of the population of Novi Sad, in conjunction with the effects of a music festival EXIT. The values of the arithmetic mean (M), respectively the average ratings of attitudes are ranged from 2.59 (the lowest value) to 4.73 (the highest value). The highest average grade, the residents of Novi Sad have given to the statement: “Due to the festival, city is promoted outside the country borders” (4.73), which confirms that this festival contributes to the development of tourism in Novi Sad. Most residents of Novi Sad agree that “Due to the festival, the city's image has been improved” (4.40), indicating that respondents believe that maintaining EXIT festival is significant for the promotion and image of Novi Sad. For those

statements, which are estimated by the highest average scores above 4, the standard deviation is less than 1, which indicates that respondents largely agree in their assessment of the attribute.

Attitudes	Rang	Arithmetic mean	Standard deviation
Due to the festival, city is promoted outside the country borders	1	4.73	0,636
Due to the festival, the city's image has been improved	2	4.40	0,853
Due to the festival, the local population has the opportunity to gain additional revenue	3	4,37	0,864
The festival is of great importance for exploring the local culture by the visitors of the festival	4	3,99	0,972
The identity of the local community is improved due the festival	5	3,92	1,152
Festival has a positive cultural impact on the local community	6	3,84	1,147
Local residents have a sense of pride because of the festival in the city	7	3,74	1,112
The level of the noise is increased during the festival in the city	8	3,71	1,131
Prices of goods and services are increased during the festival	9	3,69	1,167
The city is very crowded during the festival	10	3,65	1,182
The safety of the local population during the festival is at a high level	11	3,56	1,114
The cleanliness and orderliness of the city are disrupted during the festival	12	3,45	1,304
Festival visitors behave correctly towards the local community	13	3,29	1,1
Normal routines and daily life of the local community is disrupted due to the festival	14	3,21	1,288
The quality of life of the local community is improved because of the festival	15	3,09	1,27
Local traffic is overloaded and there are big traffic jams during the festival	16	2,63	1,304
The views of local communities in organizing and holding festivals are taken into account	17	2,61	1,232
Crime rates are increased in the city during the festival	18	2,59	1,218

Table III Descriptive statistical analysis
Source: Authors based on data from the survey research

The lowest average grade respondents from Novi Sad gave for the statement “Crime rates are increased in the city during the festival” (2.59) and for the statement “Local traffic is overloaded and there are big traffic jams during the festival” (2,63). How these attitudes belong to the group of negative effects, and the average grades indicate that the respondents generally do not agree with the above statements, it can be concluded that the residents of Novi Sad consider that the EXIT festival did not achieve significant negative effects on the local community. The inhabitants of Novi Sad gave the highest average grade to the positive effects ie. attitudes that indicate social benefits, with which the respondents mostly agree, and we can conclude that respondents from Novi Sad think that the EXIT festival achieves greater positive than negative effects on the local community.

Respondents are generally not sure or gave low scores to assess that their views are taken into account when organizing the festival, which indicates that on the destination (Novi Sad) there are not researches on the attitudes of the local community in conjunction with the festival, but more emphasis on the study of attitudes of festival visitors, especially foreign visitors.

Based on the obtained results in Table IV, it can be concluded that there is a statistically significant difference among the residents of Novi Sad between those who visited the festival and those who have never visited this event. Respondents who visited the festival gave higher grades - they perceived the positive effects of musical festivals in the local community, while respondents who have never visited the festival gave smaller grades for statements that indicate the positive effects of the festival, and higher grades for the statements that mark negative effects of the festival. Author Magnusson (2010) had the similar results and he states that the visit of the festival influences the perception of the effects of the festival among the respondents, and that those who have never visited the festival more agree with the statements that mark the social costs of the festival, ie. negative effects on the local community.

Factor	Visit	N	M	Deviation	t	p
Positive effects	Yes	169	3,68	0,691	4,831	0,00
	No	65	3,27	0,793		
Negative effects	Yes	169	3,12	0,894	3,112	0,00
	No	65	3,61	0,931		

Table IV T-test according to the visits to the festival and by the factors
Source: Authors based on data from the survey research
Note: N - number of respondents; M - mean; t - the value of statistics (the sign is not important); p - significance level ($p < 0.05$)

CONCLUSION

This research can help the organizers of the festival, local authorities and other stakeholders to identify priority effects of the music festival of high importance for the local community, or areas where they are doing a good job and where they can continue as they did so far, and where they need to improve their work in order to achieve the best performance of the festival and the greater satisfaction of the local population. Festival organizers and the local community have an interest to minimize the negative and maximize the positive effects of the festival.

Festival organizers need to continuously monitor the attitudes and perceptions of the local population towards the impact of tourism in their community, as they change over time.

REFERENCES

Baade, R., Baumann, R., Matheson, V. (2005). Selling the big game: Measuring the economic impact of mega-events through taxable sales. College of the Holy Cross Working Paper Series, 05-10.

Besermenji, S., Pivac, T., Wallrabenstain, K. (2009). Significance of the Authentic Ambience of the Petrovaradin Fortress on the Attractiveness of EXIT Festival. Geographica Pannonica, 13(2), 66-74.

Bjelobrković, Z. (2009). Event tutizam – značaj i potencijal na području Kotora (Event tourism - the importance and potential of the area of Kotor). Belgrade: Singidunum University.

Bowdin, G., Allen, J., O'Toole W., Harris, R., McDonnell, I. (2006). Events management. Oxford: Butterworth-Heinemann.

Cecil, A.K., Yao-Yi, F., Wang, S., Avgoustis, S. (2010). Cultural tourism and quality of life: results of a longitudinal study. European journal of tourism research, 3(1), 54-66.

Fredline, L., Jago, L. Deery, M. (2003). The development of a generic scale to measure the social impacts of events. Event Management. An International Journal, 8(1), 23-37.

Hall, C.M. (1997). Hallmark Tourist Events: Impact, Management and Planning. San Francisco: John Wiley & Sons.

Hinch, T.D., Delamere, T.A. (1993). Native festivals as tourism attractions: A community challenge. Journal of Applied Recreation Research, 18(2), 131-142.

Jelinčić, D.A. (2006). Turizam vs. Identitet: globalizacija i tradicija (Tourism vs. Identity: Globalization and Tradition). Etnološka istraživanja, 1, 161-207.

Kim, S.S., Petrick, J.F. (2005). Resident's perception on impacts of the FIFA 2002 World Cup: the case of Seoul as a host city. Tourism Management, 26, 86-96.

Lazarević, T., Bursić, D. (2014). The effects of the EXIT festival on traffic of tourists in Novi Sad, First International Conference Higher Education in Function of Sustainable Development of Tourism in Serbia and Western Balkan, Užice, Serbia.

Lee, S., Lee, Ch., Kang, J., Lee, E., Jeon, Y. (2013). Residents' Perception of the 2008 Beijing Olympics: Comparison of Pre- and Post-Impacts. International journal of tourism research, 15, 209-225.

Magnusson, I. (2010). The social impacts of the Carnival in Aalborg, A quantitative events social impact study. Aalborg: Aalborg University.

Mataga Tintor, A. (2007). Razlike u percepciji lokalne zajednice i prevencije poremećaja u ponašanju između ključnih ljudi s obzirom na spol (The differences in the perception of the local community and the prevention of behavioral disorders among key people in relation to gender) Croatian Review of Rehabilitation Research, 42(2), 83-100.

Mihalik, B.J., Cummnings, P. (1995). Host perceptions of the 1996 Atlanta Olympics: support, attendance, benefits and facilities. Travel and tourism research association 26th annual proceedings: 397-400.

Parkinson, M., Bianchini, F. (1993). Liverpool: A Tale of Missed Opportunities? In F. Bianchini and M. Parkinson (Ed.), Cultural Policy and urban regeneration: the West European Expirience, (pp. 155-177). Manchester: Manchester University Press.

Poljanec-Borić, S. (2000). Sistemski uvjeti za razvoj turizma u hrvatskim nerazvijenim područjima: prilog razumijevanju uloge države u primjeni politike održivoga razvoja (System requirements for the development of Croatian tourism in underdeveloped areas: a contribution to understanding the role of the state in the implementation of sustainable development policies). Tourism, 48(4), 425-432.

Tosun, C. (2002). Host perceptions of impacts: A comparative tourism study. Annals of Tourism Research, 29(1), 231-253.

RELIGIOUS OBJECTS AND EVENTS AS RESOURCES FOR TOURISM DEVELOPMENT IN CITIES – CASE STUDY: MUNICIPALITY OF BEČEJ (SERBIA)

Session T4.2 | June 2 | 11:00 – 12:30

Demirović, D.(1); Radosavac, A.(2); Njegovan, Z.(3); Pejanović, R. (4)
(1) MSc, PhD student, Faculty of Sciences, Department of Geography, Tourism and Hotel Management, University of Novi Sad, Trg Dositeja Obradovica 3, Novi Sad, SERBIA. Phone: +381642686290, demirovic.dunja2@gmail.com
(2) PhD, University „Business Academy in Novi Sad, Faculty of Economics and Management, Cvećarska 2, 21000 Novi Sad, SERBIA, phone. +38163271089, adrianaradosavac@gmail.com
(3) Njegovan Zoran, PhD, Full Professor, Faculty of Agriculture, Department of Agricultural Economics and Rural Sociology, University of Novi Sad, Trg Dositeja Obradovica 8, Novi Sad, SERBIA. Phone: +381214853 393, njegovan@polj.uns.ac.rs
(4) Pejanović Radovan, PhD, Full Professor, Faculty of Agriculture, Department of Agricultural Economics and Rural Sociology, University of Novi Sad, Trg Dositeja Obradovica 8, Novi Sad, SERBIA. Phone: +38163600217, pejanovic@polj.uns.ac.rs

ABSTRACT: Today, cities function as places where the population density determine space, economic activities are located in the same area or nearby, providing an opportunity for the production and consumption of goods and services, and tourism is one of the major service activities. A large number of tourists are traveling motivated by the desire to learn about the historical and cultural heritage of cities, which represent achievements in various fields of art. The volume of tourist traffic in cities depends on the wealth of cultural and historical monuments, environmental, events and other various contents which are concentrated in them. This paper analyzes all religious objects and events that are located in the municipality of Novi Bečej (Serbia) and have importance for tourism development in order to create tourist values of these objects. 100 tourists were interviewed to determine the motives for visiting the municipality of Novi Bečej and to assess the significance of religious objects and events for tourism development from demand side. Based on the survey results, a SWOT analysis was made in order to provide direction for the further development of tourism in the municipality of Novi Bečej. Based on the evaluation of all the elements (tourist and geographical position, artistic value, ambiance, attractiveness, construction and fitting of tourism sites) and performed valuation, it was found that the municipality has a very good quality of cultural sites which distinguish the broader regional importance.

KEYWORDS: city; religious objects; events; tourism; municipality of Novi Bečej (Serbia).

INTRODUCTION

Cultural attractions are elements of the offer which often decisive influence on the choice of a destination. Culture exists since the society and has left traces of their existence as a cultural heritage. The cultural heritage of a society is consisted of monuments, stories, songs and folk dances that are transmitted from generation to generation. Heritage includes the material and spiritual culture of one nation.

Cultural tourism includes such type of tourism in which tourists visit museums, galleries, concerts, or is related to different forms of material heritage.

Tourism has been and remains the main means of cultural exchange, because it provides tourists experience related not only to the past but also contemporary cultural and social life of destination that tourists visit.

From the interactions that occur in the tourist encounters with the local population leads to new ways of communicating, new knowledge and new values. From that kind of impact, of the tourists to locals and vice versa, depends the success of the development of tourism in the destination. The main challenge in cultural tourism is therefore included in finding ways to revive and activate the cultural potential of the local community.

This paper analyzes the potential of Novi Bečej for the development of cultural tourism using potential of religious facilities and religious events. The tourist evaluation of these tourism resources was done, survey among tourists was conducted about the possibilities of development of this type of tourism in Novi Bečej and SWOT analysis was made in order to overcome the shortcomings and boost positive aspects by developing cultural tourism in this city.

THEORETICAL FRAMEWORK

CITY AS A RESOURCE IN TOURISM

Urbanization is a global process, the main force of development of cities, where people live, work and buy. Cities function as places where the population concentration is determined by space, economic activities are located in the same area or nearby, providing an opportunity for the production and consumption of goods and services. Cities provide different social, cultural and economic activities that attract people, and tourism is one of the main service activities.

About 46% of the world population lives in cities and according to the forecasts, it is considered that in 2030 this number will increase to 61%. These results show an increase in the importance of urban places for tourists' consumption (Page and Hall, 2003).

City tourism can be characterized as tourism which in general takes the form of cultural trends, and this is precisely the most massive form of the cultural movement of tourists, as the urban areas are complex cultural or anthropogenic tourist values. The volume of tourist traffic in cities depends on the wealth of cultural and historical monuments, environmental, manifestational and other diverse cultural events which are concentrated in them (Table I).

City tourism trends are characterized by relatively short stays, and it reaffirms their cultural landmark, as cultural tourism needs are met in a relatively short time - observing, watching, learning about it and experiencing. According to the author Richards (2009):

“Culture and tourism are the two main growing industry of the twentieth century, and by the end of the century a combination of these two sectors in the “cultural tourism” has become one of the most desirable option for developing countries and regions around the world”.

The main (basic) pull factors	Specific pull factors
Rarity and interestingness	A lot of things to be seen; interesting places; unique experience
Cultural attractions, sightseeing	Good repercussions; interesting architecture; importance for the history; excellent museums and galleries; interesting locals; different cultures and ways of life; local customs and tradition
Entertainment	Exciting nightlife; exciting shopping; live music; theater and art; popular festivals and events
Food and accommodation	Good hotels, sophisticated restaurants, a typical gastronomy

Table I Attractive factors for visiting city
Source: Page, Hall, 2003.

Attractions in the form of heritage such as: built attractions (monuments, historical buildings, archaeological sites); religious attractions (churches, cathedrals, temples, etc.); industrial heritage (mines, factories, etc.); literary heritage (birthplaces or homes of famous writers); artistic heritage, and various cultural attractions in the form of traditional festivals, events, folklore, attracts many visitors. Visits to the important religious sites and events are carried out to encourage participants to travel more to strengthen their faith. This means that the main motive of these trips is satisfying spiritual or religious needs of people.

Characteristics of a segment that is interested in modern heritage tourism are as follows (Berki and Csapo, 2008):

- Represented mainly by tourists with higher education;
- Specific consumption of these tourists is higher than average;
- Tourists come from urban areas and from more developed “western world”;
- Most of the tourists are in their middle ages and without children;
- According to the length of stay it may be concluded that in the case of cultural tourism the time allotted for the trip is shorter, while the frequency of the trips is higher.

Products of cultural tourism will be able to survive and to attract more and more tourists - of course taking into account the basic principles of sustainable tourism – by using competitive product development of cultural tourism,

which is mainly based on the quality, uniqueness, creativity and economic benefits (Ontario Cultural and Heritage Tourism Product Research Paper, 2009).

CITY OF NOVI BEČEJ (SERBIA)

The municipality of Novi Bečej is located in the center of Vojvodina province (Serbia) (Map 1), and is one of the five municipalities in the middle Banat region. The municipality comprises of four settlements, which are: Novi Bečej, Novo Miloševo, Kumane and Bočar.

Novi Bečej is situated on the left bank of the river Tisza on the 66th kilometers from its confluence with the Danube River, and is the only town on the Tisza whose center is on the river. With regard to the national position (considered in relation to Belgrade, as the capital city of the Republic of Serbia), municipality is characterized by favorable. Belgrade is the strongest tourist market and good connections can affect on the intensive tourist excursion. Good relations with Belgrade and a good tourist geographic position within Vojvodina spreads emitting area of Novi Bečej, which in this case has about 4 million inhabitants.

Map 1. Position of Novi Bečej in the Republic of Serbia

On the basis of the census from 2011, in the municipality of Novi Bečej live 24.455 inhabitants. In the ethnic structure of the population, most notable are the Serbs (69.94%) and Hungarians (19.22%).

In the area of Novi Bečej, diverse economies are developed. Among the industries dominate agriculture and industry, and in the last few years, increasing attention is paid to transport, trade, catering and tourism.

The municipality of Novi Bečej is an area with a long history, and therefore has a very large number of religious buildings. The municipality has seven Orthodox religious objects, four Catholic religious sites and the remains of a medieval Romanesque churches. Some of the most important religious sites for tourism development in Novi Bečej are:

- Chapel “Monastery” was built in the eighteenth century as a single-nave building with a semicircular apse and a tower above the western part of the temple. The greatest value of Novi Bečej's chapel is a moving material preserved from the old temple. Particularly interesting is a triptych from the beginning of the eighteenth century (preserved in 1965), which bears on the central field of play Sv. George Killing the Dragon, while the side wings displayed scenes from the saint's life. At the chapel, protection works were carried out in 1969, 1975, 1979 and 1987, and the work was undertaken by the Institute for Protection of Cultural Monuments of Zrenjanin city.

- The Catholic Church of St. Clara of Assisi is a catholic chapel built in 1747 from adobe, the place where today's Catholic Church in Novi Bečej is. The current Catholic church was built in resources from Klara in the period from

1804 to 1809. The new church at the request of donors was dedicated to Clara of Assisi, and to a former patron of the former chapel, St. Valentine, is dedicated a special altar.

- The remains of the medieval Romanesque churches Arača - there are no data that reliably establishe the time of occurrence of this church. Since the beginning of the eighteenth century, when the Turks left from Banat, was in ruins. The basis of this impressive church and spatial distribution is characteristic of the Franciscan church (semi-circular, shallow pointed harbor and narrow, semicircular windows), suggesting that it was built in the late twelfth or early thirteenth century. During excavations in 1879 in Arača, was discovered tombstone with the performance of the saints and donors, decorated interweave three-member band, which has been dated to the XII century. Recent archaeological research confirms that on the north side there were many residences and tombs.

Religious events are held in the municipality every year, such as “Velika Gospijina”, “Sveti Ilija” and church celebration ,,St. Stefan”. Religious tourism events are those that have an attractive religious content and significance. They may be associated with certain religious holidays (Christmas, Easter) or places designated for performing religious rites and events from the history of the church, marking significant dates of the prophets, apostles, saints. Religious and historical events are those that besides religious and ethnographic character, have historical significance. On this occasion worship takes place, performing the ritual with usually important church dignitaries. In church or in front of it is a kind of national parliament, within which are held applications based on folklore and traditions of the city or region (Bjeljac, 2006).

Serbian Orthodox Church celebrates the feast of the Assumption. It belongs to the immovable church holidays (at the 28th August). Assumption fame as a village celebration of Novi Bečej has started to be held in 1994. For this celebration, the city of Novi Bečej has combined different cultural and entertainment events: the traditional and the modern, culture and sport, past and future.

METODOLOGY

The subject of this paper is to analyze all the religious objects that are located in Novi Bečej and events that are associated with religious holidays and religious objects, which can provide a great opportunity for development of the cultural and religious tourism.

The aim of this paper is to present all religious sites in Novi Bečej, to point out to their inestimable value, as well as to highlight the elements that would lead to the valorisation of religious buildings, and the development of tourism in this area. The tasks of this paper are as follows: become familiar with the natural and social characteristics of Novi Bečej, become familiar with the basic concepts of cultural tourism, its division, elements and importance within the tourist industry, to become familiar with the concept of religious tourism, to analyze to what extent is possible to develop of cultural tourism in this area, analysis and valuation of religious facilities.

The paper used several methods of research: historical, statistical, comparative, descriptive, survey, graphic and SWOT analysis.

RESULTS AND DISCUSSION

Tourist valorization presents a detailed assessment of natural and anthropogenic values of importance to the development of tourism at one site, in one center, a place, geographical region or country as a whole. Novi Bečej with its natural and anthropogenic characteristics has the ability to develop different forms of tourism.

Among all anthropogenic tourist values, religious buildings occupy an important place in their number, but also for its values. Using qualitative and quantitative comparative method, it can be displayed in its tourist value of this continent, and their need for conservation.

On the basis of analysis of the basic elements of tourist valorization, assessment of these elements is the next step, and all this in order to form the tourist value of the same. For comparison, religious objects in Novi Bečej were taken (Table II).

The evaluation was performed for each unit individually, as follows:

- score 1 - insufficient quality, it is not for the tourist presentation,
- score 2 - quality satisfies, a local tourist importance,
- score 3 - good quality, regional character,
- score 4 - very good quality, a wider regional importance,
- score 5 - excellent quality, international tourist significance.
-

Cultural complex	Touristic position	Artistic value	Environment	Attractiveness	Degree of development	Incorporation	**General tourstic value**
Chapel “Monastery”	4	5	5	5	4	5	4,66
Church of St. John the Precursor	3	5	3	3	2	4	3,33
Church of St. Nikola	5	5	5	5	5	5	5,00
The Catholic Church of St. Clara of Assisi	5	4	5	3	3	4	4,00
The Catholic Church of St. Ištvan Kiralj	3	5	3	3	2	4	3,33
The remains of the medieval Romanesque churches Arača	4	5	5	5	1	2	3,66
The average value	4,00	4,83	4,33	4,00	2,83	4,00	**3,99**

Table II Valorisation of religious sites in Novi Bečej
Source: Personal assessment of the authors

Based on the evaluation of all the elements, a general assessment of their tourist value was made, which amounts to 3.99 indicating a very good quality, which means that religious sites in Novi Bečej have wider regional importance. In the general assessment, adversely affect low-value of the built environment and their arrangement, which have local significance. The highest values have artistic value and the incorporation of the tourist wealth and they are characterized by very good quality and a wider regional importance.

In this area there are the basic conditions for the development and presentation of the destination. It is necessary to take the needed measures in order to raise the quality of tourism, and to take advantage of the possibilities offered by these places of worship, because only well-preserved and protected objects represent real tourist value.

SWOT analysis is a technique of strategic management, which is identified by the strategic choices, bringing the bond strengths and weaknesses of the company with the opportunities and threats in the external environment (Table III).

Strengths	Weaknesses
- geographical position, - vicinity of the borders, - a favorable climate, - the attractiveness of natural factors, - wealth anthropogenic factors, - religious events, - multicultural environment, - Ramsar site, - the phenomenon of flowering in the Tisza river, - proximity to Corridor 10, - good tourist signaling in the municipality	- under-utilization of the Tisza and canals for tourism purposes, - the lack of a plan for tourism development, - lack of expertise of personnel employed in tourism, - a small number of accommodation facilities, - the poor quality of roads, - lack of tourist propaganda, - no monitoring of tourist traffic, - there is not a tourist product that would consolidate all the resources
Opportunities	**Threats**
- investment in infrastructure, - training and education of tourism staff, - raising awareness of local population about the cultural and historical significance of resources, - a significant proportion of hunting tourism in the overall tourist offer, - Development of small and medium-sized enterprises in this area, - Employment of local residents	- economic crisis, - lack of funds for the development of local and international infrastructure, - competition of similar cities (with similar characteristics, anthropogenic) in the environment, - more developed nautical traffic in the Hungarian part of the Tisza, - quality roads in neighboring countries

Table III SWOT analysis of religious facilities and religious events in Novi Bečej
Source: Authors

Advantages - Geographical position of Novi Bečej is very good, because it is located on the main road Kikinda-Novi Sad, Kikinda-Zrenjanin, and a new bridge at Ada connects the villages with Subotica (Bačka region). Very close is the Romanian border (about 25 km) and Hungary (70 km). The region's climate is very favorable for the development of cultural tourism, events, excursions and other forms of tourist movements, because all four seasons are represented in this region. The municipality has a very long history, and therefore has a lot of anthropogenic factors, which have already been mentioned in the paper. Religious events are events, which are recognizable in the region, and which offer the city the possibility for easier development and promotion of cultural tourism.

For visitors from abroad can also be very attractive motives like multiculturalism in the municipality, which currently has about a dozen nations. The Ramsar Convention was adopted in 1971, and is the action in the national and international context, with regard to the protection and wise management of wet areas and their resources (Salt Kopovo).

The phenomenon of Tisza blooming - a natural phenomenon that takes place on the banks of the Tisza around Kanjiža city almost every year, depending on water temperature and water level. People call this phenomen “blossom river”. It's not about water plant but about insect, called the flower prints or Palngenia longicauda whose mate is a natural phenomenon that occurs on the entire Tisa. Beside this, the city has a very good traffic signs and road signs.

Weaknesses - the river Tisza is still poorly used, or even untapped to tourism purposes. The municipality has a plan, which would be referred to the involvement of all the villages in the development of cultural tourism in this area, and on this plan works the Tourist Organization of the Municipality of Novi Bečej. In Novi Becej there is the tourism organization, where visitors could be able to inquire information about cultural resources. The municipality has a very small percentage of accommodation facilities (Hotel Tisa Flower, Hunter and Azucki).

In the road infrastructure is invested only when it is no longer safe for a safe trip. There is a site of the municipality of Novi Bečej, which provides basic information about the history, culture, and tradition. The number of visitors is omitted during a visit. In the municipality there is no a tourist product that would consolidate all the resources, and represented a complex entirety.

Opportunities - The development of tourism in Novi Bečej would attract foreign investors; investment in infrastructure; would have led to the development of small and medium-sized enterprises, which would continue to more local jobs; increasing the awareness of the local population on the importance of cultural assets located in the municipality; the inclusion of hunting tourism in the total tourist offer of the city.

Threats - Development of cultural tourism depends largely on the economic crisis and of the lack of money. Threats to the development of cultural tourism in the city of Novi Bečej are also the surrounding cities (Kikinda, Temerin, Mokrin) that much more invest in the development of tourism. Nautical traffic in the Hungarian part of the Tisza river is much more developed than in Novi Bečej, and when it comes to the land transport, neighboring countries have a much better infrastructure, which facilitates the development of tourism.

A survey research was carried out in Novi Bečej and 100 persons (tourists) were surveyed- of whom 42 were men (42%) and 58 women (58%). Of all the 100 respondents, from Novi Sad were 28 respondents (28%), from Belgrade 30 respondents (30%), from Subotica there were 22 respondents (22%), and from Zrenjanin city 20 respondents (20%).

Novi Bečej has the opportunity to develop cultural tourism according to 84 tourists (84%), while the remaining 16 people (16%) thought that the city does not have a large number of cultural resources, in order to develop cultural tourism, which in a way means that some respondents are not familiar with it what can be included in the development of cultural tourism in this city.

Tourists were asked if they visited a religious building in the municipality, and 80 respondents (80%) visited some religious object. Also, toruists were asked if they visited a religious event, and 94 participants visited religious event, while 6 respondents did not see a single event in the municipality. Most tourists visited Assumption days, followed by a village feast St. Ilija, and church main feast St. Stefan.

Opinion of respondents on the importance of religious buildings, that are located in the city, was divided - 21 respondents believe that religious buildings in the municipality have local significance (21%), 46 respondents believe that cultural goods have a regional character (46%), 18 respondents believe that cultural goods in the villages have national significance (18%), while 15 respondents believe that cultural goods of Novi Bečej have international importance (15%) (Figure 1).

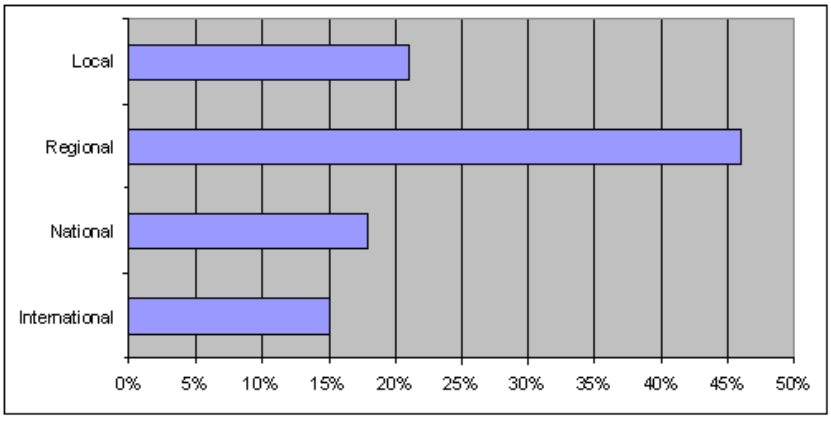


Figure 1. The importance of religious objects for tourism in Novi Bečej
Source: Authors based on processing data of the survey research

Of the 100 respondents, 91 respondents would like to municipality develop cultural tourism, while 9 respondents answered negatively to this question.

CONCLUSION

Thanks to centuries of human residence in the territory of Novi Bečej, today, still can be seen the remains of archaeological sites, fortresses, churches and castles, which have immeasurable value for the people of this region, and which speak about the rich history, culture, and traditions of this nation, and are attractive for tourists. Although

there are cultural assets that may be factors of promoting and developing cultural tourism in Novi Bečej, former tourism is at a low level of development.

Based on the evaluation of all elements (tourist and geographical position, artistic value, environment, attractiveness, degree of development and incorporation), and performed valuation, it was found that the city has a very good quality of cultural goods, which are characterized by wider regional importance. In this area there are basic elements for the development and promotion of cultural tourism. Based on survey research, it was found that most tourists are familiar with the concept of cultural tourism, as well as they agree that Novi Bečej has a great possibility for the development of this form of tourism. From the results, it was concluded that tourists are not satisfied with the existing level of affirmation of cultural assets and the quality of the organization of certain events. What is necessary for the further tourism development is to create an infrastructure that would allow adequate access to cultural property, then planning and arranging their immediate environment, investment in advertising materials, increase in the number of restaurants, and creating the image of the municipality, which will be unique and distinctive. All these elements will enable the improvement of living standards of the local population and raising awareness about the importance of the cultural and historical attractions of this municipality, will attract investors, thus will lead to the development of small and medium-sized enterprises.

REFERENCES

Berki, M. and Csapó, J. (2008). The Geographical Basis for the Development of Thematic Routes. In: Progress in Geography in the European Capital of Culture 2010. University of Geography – University of Pécs. Geographica Pannonica Nova 3. Pécs. pp.161-173.

Bjeljac, Ž. (2006). Teorijsko-metodološke osnove manifestacionog turizma (Theoretical and methodological bases of event tourism). Belgrade: Geographical Institute „Jovan Cvijić“ SASA.

Ontario Cultural and Heritage Tourism Product Research Paper (2009). Queen’s Printer for Ontario, 70. p.

Page, S. and Hall, C.M. (2003). Managing Urban Tourism. Harlow: Prentice-Hall.

Richards, G. (2009). Tourism development trajectories – From culture to creativity? Tourism Research and Marketing (27-42). Barcelona: Paper presented to the Asia-Pacific Creativity Forum on Culture and Tourism, Jeju Island, Republic of Korea.

TRACK 05

GOVERNANCE AND POLICIES: towards learning cities

Chair: Fernando Nunes da Silva, Universidade de Lisboa, Portugal

Scientific Committee: Eran Razin, The Hebrew University of Jerusalem, Israel
Maria Prezioso, University of Rome Tor Vergata, Italy
Rocky Piro, Denver Department of Community Planning and Development, USA
Sarah Coffin, Saint Louis University, USA

Being nowadays a concept widely used by economic and political institutions, governance is a set of mechanisms, processes, relationships and institutions through which citizens exercise their interests, rights and obligations (UNDP, 1997). The application of this concept to the territorial dimension is transposed by Davoudi (2008) to the concept of territorial governance: a complex set of values and resources, a political and economic fact or a social construction deriving from the collective action of groups, interests and institutions.

It is within this framework that learning strategies for regions and cities are drawn - involving communities and institutions - thus having a key role to play if decisions are made in a participatory way (UNESCO, 2013). Making use of their social capital, all stakeholders converge to an explicit commitment to placing innovation and learning at the core of development.

This track will address these cities strategies/policies, the models of cooperation and partnerships between players and their participation in the construction of development (governance).

COMPARING PUBLIC HOUSING REVITALIZATION IN THE US AND PORTUGAL

Session T5.1 | June 1 | 11:00 – 12:30

David P. Varady; Fatima Matos
University of Cincinnati, USA
david.varady@gmail.com

ABSTRACT: Little has been written about public housing revitalization in Portugal from a comparative perspective. Our paper tries to close this gap. Based on a comparison of HOPE VI and Special Relocation Program (PER) in the U.S. and Portugal we argue that despite major differences in context, there has been a convergence in regeneration strategies in the two countries. Nevertheless, there are some significant differences going beyond the fact that HOPE VI is usually implemented in the inner city whereas PER is often implemented in peripheral areas of Lisbon and Porto, the two largest cities: (1) PER shopping facilities have improved more than is true at HOPE VI sites, (2) displacement is more of an issue at HOPE VI sites than PER ones. However, the needs of multi-problem families are not being met by either HOPE VI or the PER either because they cannot move back to the site after revitalization (HOPE VI) or because macro-economic forces undercut efforts aimed at self-sufficiency (PER).

KEYWORDS: housing policy; relocation; HOPE VI; PER; public housing.

INTRODUCTION

On both sides of the Atlantic, policymakers are dealing with the question of how to house the poor while at the same time improving the quality of the neighborhoods where poor live. The U.S. Department of Housing and Urban Development's (HUD's) HOPE VI program is one of the most comprehensive policies that have been developed with respect to public and social housing regeneration (Cisneros and Engdahl, 2009; Turner et al., 2008). In Portugal, the Special Relocation Program (Programa Especial de Realojamento, PER), has been the largest public housing program ever developed in democratic Portugal, designed with the primary aim of eradicating slums in the metropolitan areas of Lisbon and Porto and rehousing former slum dwellers in council housing estates (e.g. Ferreira, 1994; Freitas, 2001; Guerra, 1999; Matos, 2004; Plano Estratégico da Habitação, 2008-2013).

PER was designed, as a program of social housing for rehousing the residents that living in very bad conditions. HOPE VI, on the other hand was not only aimed at redeveloping distressed public housing but also to create viable mixed income communities. Thus, PER can be understood as a regeneration social housing policy demolished really poor housing and rehoused the residents in new social housing neighbourhoods.

Policymakers who deal with questions of how to house the socioeconomically vulnerable households, and how to improve the quality of public housing neighborhoods, faces a difficult task, since there is little available knowledge about specific successful approaches. American and European academics have established a dialogue regarding these issues, but there has yet to be any coherent comparative approach (for two exceptions, see Beider, 2007, 2008, Dekker and Varady, 2011).

Possible approaches to neighborhood regeneration can be divided into three groups: redevelopment, where a neighborhood is rebuilt anew; rehabilitation, where the existing structures are preserved and upgraded; and integration, a combination of the first two approaches. Each approach can involve the rehousing of the population on the original site or their relocation to another part of the city. The new Athens Charter (2003) presented in Lisbon, presented as "enlightened urbanism" for the 21st century. It emphasized rehabilitation, good urban management, the creation of public-private partnerships and the participation and integration of residents. The following sections show how PER incorporated these concepts.

This paper inventories and analyzes the causes, strategies, and outcomes in the current policy discourse on public and social housing regeneration offered by academics and policymakers in the U.S. and in Portugal. Our aim is to compare and contrast the way Portuguese and American experts have approached the following two goals: (1) to create good quality neighborhoods, with high levels of social cohesion, that have a good reputation, and that are safe and manageable, and (2) to create places to live that support the residents.

Both countries employ similar means to reach these goals: public-private partnerships, mixed-income developments, a modest emphasis on relocation to non-deprived or mixed-income neighborhoods and promoting self-sufficiency among residents and relocates.

In order to contribute to the academic debate, we provide a systematic and comprehensive comparison of neighborhood regeneration strategies in the U.S. and in Portugal. We are not presenting original research material, but instead, based on desk research and visits to HOPE VI and PER sites we are evaluating and comparing

published research with a focus on the transferability of experiences between the two countries and the issues emerging from this cross-country comparison.

Needless to say, it is rather difficult to identify a one-and-only policy approach in each country, since policies tend to develop over time and are perceived differently by each policy group. In each country, the approaches towards public housing regeneration are based on a certain set of ideas, notions, and understandings of policymakers and academic researchers about the causes of the problems and solutions to deal with them. Nevertheless, we present an overview of the general policy discourse derived from current research in each country because we want to be able to compare these discourses. We are mindful of the diversity of opinions on public housing regeneration in each country, yet only by picturing the general - or mainstream - policy discourse in each country can we compare the differences between these countries and highlight the main commonalities and differences.

The next section considers the historical and political context in which the public housing policies in each country were formulated and then presents a systematic comparison of both countries' policies based on three key measures: neighbourhood revitalization, relocation of residents to non-deprived neighbourhoods, and promoting self-sufficiency. For each topic we explain the policy goals, the measures taken to reach these goals, and the effectiveness of these measures according to recent academic and policy evaluations. Based on this comparative literature review we derive lessons for not only Portuguese and American policymakers but policymakers in other developed countries as well.

A SYSTEMATIC COMPARISON ACROSS TWO COUNTRIES

Clearly, there are major differences in the welfare system and in social-economic context and patterns of urbanization between Portugal and the United States.

Esping-Andersen's typology of welfare regimes (1990) assigns Portugal, to the group of Mediterranean countries group (also known as the Southern Europe group, see Castles, 1995, 1998; Ferrara, 1996; Andreotti et al 2001; Silva, 2002; Allen et al, 2004; Hoekstra, 2013). These countries stand out based on their strong emphasis on familialism. That is, a disproportionately large number of the welfare tasks are carried out within the family and without much interference from the market or State (Barlow and Duncan, 1994; Santos, 1985, 1993).

According to Allen (2006), comparative analysis of housing systems have rarely included the Southern European countries, the particularities of their housing systems, and why they differ from the others European countries. However in the past two decades, some authors have tried to close this gap. In 1996, Castles & Ferrera (1996) identified Greece, Italy and, to a lesser degree, Spain as the only advanced nations in Europe where the degree of home ownership was extensive, although ownership rates have generally been rising in Northern European countries as well. The dominance of owner occupied housing, without a mortgage, and the relatively limited social rental sector have been reasserted as the distinctive characteristics of Southern European countries by numerous authors (Allen, 2006; Balchin, 2013; Elsinga & Hoekstra, 2005; Holdsworth & Irazoqui Solda, 2002; Priemus & Dieleman, 2002).

Elsinga and Hoekstra argue that the distribution of tenures in Southern Europe reflects policies which have strongly supported the growth of home ownership. Legislation discouraging renting has strongly favoured tenants at the expense of landlords. Similarly, Allen et al (2004) assert that in the southern countries public funding directly or indirectly promotes home ownership rather than rental social housing (which is far more prevalent in Northern Europe).

In sharp contrast to many other European countries Portuguese housing policies have not been at the core of political debate. Housing investment has been seen to be important primarily because of its effects on building activity (one of the most important employment and economic sector in this country) rather than because it is linked to a variety of social problems. Although Portugal guarantees the right to housing in its Constitution, social housing plays a residual role, in contrast to the central role it plays in Northern European countries like the Netherlands.

Some aspects of Portugal's economic development are relevant here i.e. the relatively recent urbanisation and industrialisation and the unique relationships between the urban-industrial spaces on the one hand and rural spaces on the other (Serra, 2002), giving rise to certain particularities in the housing market. Several authors (Allen et al, 2004; Ferreira, 1984; Serra, 2002) have noted that semi-peripheral societies had slower urban growth, which generated a housing stock that was essentially private and family oriented.

Several distinctive characteristics of the Portuguese housing market in the second half of the 20th century may be distinguished. The first was the wide-spread occurrence of self-help construction and the fact that the responsibility for solving housing problems fell largely on families. The reliance on families facilitated a surge in illegal construction

and informal settlement in the 1970s, particularly in Lisbon and Porto (Gaspar, 1981; Soares 1984; Ferreira, 1984; 1993; Matos, 1990; Matos and Salgueiro, 2005).

Secondly, inn Portugal, for various political and social reasons, there was no need to develop an extensive social rental sector, and housing policies have mostly supported owner occupation through both the formal (legal) and informal markets. However, it should be noted that Portugal adopted modern mortgage financial system when it joined the European Union in 80s.

Thirdly, and not surprisingly given the above, social housing in Portugal constitutes only about 5% of the total housing stock and is concentrated in the two metropolitan areas (Lisbon 12%, and Porto, 15%). Social housing includes units owned by the state, the municipalities and not-for-profit entities that have in common state funding, rules for house size and rental costs and rental burdens. Portuguese social tenants come from a variety of backgrounds, immigrants from ex-Colonies (Cape Verde, Angola, São Tomé e Príncipe e Guiné-Bissau), poor Portuguese and Portuguese Gypsies (Malheiros and Fonseca, 2011, Costa et al, 1999, Pimenta et al 2001).

The U.S., on the other hand, is often called a liberal society, because of its dependency on the market, restricted public goods and a strong role for the market in the production of welfare (Esping-Andersen, 1990). The US has promoted homeownership as a policy goal through mortgage- interest tax deductions and home loan insurance for lenders (Howard, 1997).

In the U.S. social housing constitutes about 5% of the total housing stock (the same as in Portugal). This includes units owned by public or not-for-profit entities as well as subsidized housing owned by profit-making companies and individuals who receive various types of public subsidies that reduce rents for residents. In the U.S., blacks and Hispanics are disproportionately represented among public housing tenants although West coast cities like Seattle have large numbers of Asian residents.

Urban poor Portuguese neighbourhoods are impacted by the concentration of socio-economic problems, the dependence of residents on governmental welfare, all resulting in an inter-generational cycle of poverty (Costa et al, 2008, Costa, 1998, Costa et al, 1999, Capucha, 1995). Similarly, the urban poor in U.S. neighbourhoods are impacted by a welfare and housing benefits system that, promotes an inter-generational cycle of poverty. Priemus et al. (2005:583) observe that “there is emerging concern about the possible negative impacts of the housing allowance on work incentives and on economizing on housing costs. The poverty trap has become more of an issue as a result of the accumulation of income-related programs”. Unfortunately, there has been little empirical research examining the influence of housing and income programs on the motivation to work.

Both countries feature low-income population concentrations (African American and Hispanic in the case of the U.S., immigrants, and Portuguese Gypsies, in the case of Portugal), identified as “marginal”, “in crises” or “troubled territories”. In both countries poor neighbourhoods are viewed by many as a threat to the well-being and social cohesion of the city.

In both counties there is considerable concern about anti-social and violent behaviour committed by people of different backgrounds, and a desire to prevent the emergence of “ghetto” conditions in certain parts of Portuguese cities, including large social housing complexes (Pinto and Gonçalves, 2000; Horta, 2007).

POLICY DISCOURSE COMMONALITIES BETWEEN PORTUGAL AND THE US

Policy discourse on public housing regeneration in the two countries, with its emphasis on housing diversification and poverty deconcentration, is remarkably similar. Furthermore, in both countries there has been an extensive debate about neighborhood effects of individual regeneration projects on surrounding neighborhoods. In fact in Portugal, in the beginning of the 2000s, the legislation and the technical and policy discourse instituted “urban rehabilitation” as a national imperative and new institutions and programs were put forward to favor it (see, e.g. Plano Estratégico da Habitação, 2008/2013, the document, Fazer Acontecer a Regeneração, fom Portugal Business Confederation, 2011 and the Estratégia Nacional para a Habitação 2015/2020). Although there are few if any specific references in the Portuguese discourses to American and Northern European projects, the policy challenges in both countries are so similar (i.e. how to revitalize distressed neighbourhoods while helping to promote better well-being among residents) that the need for cross-learning is obvious.

This study is not the first to compare housing policies across different countries. Beider, for example, compares the degree to which U.K. and U.S. housing typologies have been shaped by approaches to policy issues, housing affordability and racial segregation (Beider 2007, 2008). Van Kempen and colleagues (2005) compare how problems in large housing estates in ten different European countries are dealt with by policymakers. Friedrichs and colleagues (2003) contrast neighborhood effects in the U.S. and Europe. As as mentioned above there are some comparative

analysis of housing systems for the Southern European countries (Allen and al 2004; Castles and Ferrera, 1996; Elsinga and Hoekstra 2005, Balchin, 2013, Allen, 2006, Holdsworth and Irazoqui Solda, 2002, Priemus and Dieleman, 2002). Pedro and Boueri (2011), compared social housing in Portugal and Sao Paulo, Brazil, with an emphasis on the Controlled Cost Housing (CCH) program in Portugal and the "My Home, My Life" program (Minha casa minha Vida) in São Paulo. Matos (2012) compared the dynamics of the housing market in Portugal with other European countries and Matos et al. (2015) compared the impact of the economic crises in housing and in social vulnerability in Portugal and Spain. Finally, Dekker and Varady (2011) compared Dutch and American public housing regeneration. This paper employs the conceptual framework from the latter article and uses it to compare social housing restructuring policies in the Portugal and the U.S.

The remainder of the paper describes how the differences and similarities between the countries have played out with respect to public/social housing revitalization. The aim is not to show which of the two countries has been more successful but rather to show how each country can learn from the other. However, we first need to provide overviews of the history of public housing in the two countries.

THE POLICY DISCOURSES

UNITED STATES

America's public housing program was established in 1937 as part of the Roosevelt Administration's New Deal. For a more detailed discussion of the history of America's public housing program see (Schwartz 2010; Landis and McClure, 2010). Public housing's original mission was employment generation; slum clearance and meeting the needs of low-income families were added on later. Furthermore, public housing was originally designed for the "submerged middle class." Managers made sure that families were "sufficiently orderly" to qualify for public housing, and they were not shy about evicting unruly tenants (Vale, 2000). Beginning in the 1960s and continuing until the early 1990s, highest priority was given to the very lowest-income families, typically black and female headed. The increasing proportion of families in poverty is widely believed to have led to increases in the incidence of crime and other problems due to the absence of working adult men to serve as positive role models and the lack of bridging mechanisms to allow individuals to take advantage of opportunities in the larger society (Fuerst, 2005).

In 1993, the U.S. Congress, following the recommendations of the National Commission on Severely Distressed Housing, initiated the HOPE VI program to demolish and redevelop distressed public housing (NCSDH, 1992). "The fundamental themes of HOPE VI—integrating public housing and its residents into the mainstream, leveraging private sector investment, providing more effective planning and management of resources at the local level—have gained wide recognition in the nation's policy community" (Kingsley, 2009, p. 268).

While the HOPE VI is the most dramatic initiative in public housing in the last two decades it is not the only one. The Quality Housing and Work Responsibility Act of 1998 seeks to reduce the concentration of poverty in public housing by sharply limiting the number of extremely low-income households that can be admitted. Furthermore, whereas until recently, upwardly mobile families in American public housing had to leave when their income exceeded a maximum standard, HUD allows local housing authorities to use "ceiling rents", fixed rents based on unit size, to retain working families. Finally, HUD's "One Strike and You're Out" eviction policy mandates the eviction of those tenants whose housing units are the scene of criminal actions.

The Bush Administration attempted to eliminate all funding for the HOPE VI program, but Congress kept the program viable with annual, although significantly reduced, appropriations. Funding for HOPE VI fell from a peak of $755 million in Fiscal Year 1994 to just $100 million in Fiscal Year, 2008 (Crowley, 2009). The Obama Administration replaced HOPE VI with its Choice Neighborhoods Program a more comprehensive program focused on neighborhoods with a public housing or subsidized housing footprint.

The development and implementation of HOPE VI needs to be seen in the context of HUD's policy shift since around 1980 from supply-side programs (public housing, federally subsidized private housing) to demand-side programs (i.e. the Housing Choice Voucher Program, [Goetz, 2003]). HCVP recipients are required to pay 30 percent of their monthly-adjusted gross income for rent and utilities; the government subsidizes the balance of the costs up to a locally determined maximum, or payment standard (for additional details about HCVP, see Varady and Walker, 2007).

When HUD shifted to vouchers they were supposed to be part of a broader poverty deconcentration strategy that also included efforts to disperse federally subsidized private housing and scattered-site public housing to the suburbs, and to assist residents relocated through HOPE VI to move to better (i.e. low-poverty) neighborhoods. Publicity about two demonstration housing mobility programs (Gautreaux, race-based, and Moving to Opportunity, income based) has reinforced the image of HUD is pursuing a poverty deconcentration strategy (Briggs et al., 2010;

Rosenbaum, 1995; Rosenbaum, et al., 2002; Rosenbaum et al., 2005; Rosenbaum and Zuberi, 2010). However, deconcentration is not an explicit statutory goal for either HCV or HOPE VI, and is not inherent in the eligible activities of either program (see U.S. Department of HUD, 2006). Furthermore, local public housing authorities vary in the extent to which they encourage moves to low-poverty areas and available empirical research shows that the program has not in reality promoted deconcentration (Varady et al., 2010). this is certainly the case with respect to the use of vouchers for relocating HOPE VI residents.HUD's emphasis on income mixing is far more apparent in HOPE VI than the overall HCV program.

PORTUGAL

The beginning of the 20th century saw the emergence of the first, incipient programmes of public housing, introduced in response to a housing crisis in the 1910-1920 period, which responded to calls from hygienists to improve the living conditions of the urban poor. For a more detailed discussion of the history of Portuguese public housing program see; e.g. Cardoso, 1983; Gros 1982, 1994;Ferreira, 1984; Matos, 1994, 2001; Matos and Salgueiro, 2005; Serra, 2002.

In 1933 under Salazar's Estado Novo political regime the provision of public housing served mostly ideological aims, as it was tied to social selectivity and hierarchy. For instance the most important program of public housing, the Affordable Houses (Casas Económicas) were usually allocated to lower-middle class state employees who were members of corporative trade unions. The architectural model was the single-family house and the program operated under a rent-to-own system. The urban poor could only access schemes such as the Relocation Houses (Casas para Realojamento) or Houses for Poor Families (Casas para Famílias Pobres) usually pre-fabricated structures for rent. In the period between 1953 and 1973, with increased industrialisation and the labour force growth that drew immigrants to the two main cities (Lisbon and Porto), public provision was insufficient to meet housing needs. This result was an explosion of shanties and illegal construction in the two main cities, (but more in Lisbon than in Porto) during the late 1960s and early 1970s period (Cardoso, 1983; Ferreira, 1984; Matos, 1990; Serra, 2002).

From the 1950s to the 1970s, there was an enormous housing shortage, because of the rural to urban shift. In response government built multi-family housing blocks in large housing estates at the edges of Lisbon and Porto. For example, with the Porto Municipal social housing from the Porto Improvement Plan (Plano de Melhoramentos da cidade do Porto, 1956-67, the municipality built 6072 new housing units, on the periphery of the city between 1956 and 1964, for rehousing the people that lived in substandard houses, in the city center these were known as ilhas. The municipality also improved 285 ilhas, while 360 were demolished, (Matos, 2001). The Construction Plan of New Homes in Lisbon (Plano de Construção de Novas Habitações na Cidade de Lisboa, 1955-66) built the Olivais and Chelas neighbourhoods in the periphery of the city. The Integrated Plans (Planos Integrados, 1968-73) from the National Housing Development Fund (FFH), built big multi-family housing blocks, in the Lisbon Metropolitan area and in others industrial cities.

The institution of a democratic government in 1974 led to some new social housing programs, including the Mobile Service for Local Support (Serviço de Apoio Ambulatório Local - SAAL), a program of assisted self-building which sought to respond to severe housing shortages. For a more detailed discussion about SAAL see, for example, Bandeirinha, 2007.

In addition to SAAL the state also implemented two supply-side programs: the Housing Development Contracts (Contratos de Desenvolvimento Habitacional), a program which employed private construction companies and Loans to Municipalities (Empréstimos aos Municípios), which created new social rehousing neighborhoods all over the country but especially in the two metropolitan areas. In 1976 we see the emergence of the first State measure related to social housing rehabilitation, the Program for Regeneration of Degraded Buildings (Programa de Recuperação de Imóveis Degradados PRID), for the municipalities and private owners. Unfortunately, it had little impact due to changes in its financing (Serra, 2002). However, in general since 1977 these programs have strengthened the social housing based on functionalist principles (*urban* design strategies based on human proportions and in support of four functions of human settlement: *housing*, work, play, and transport), in homogenous neighborhoods at peripheral locations.

Social housing in Portugal is characterized by controlled costs, income and rent limits and the absence of ceiling rents. That is, families can remain in social housing even if their income rises. Because rents remain low, generations remain in the same without rent changes. Only recently has this changed with the new urban rental system (Law No. 31/2012), and the new system for rent help (Law No. 81/2014).

Beginning around 1985, there was an abrupt reduction in social housing production. This was due to a decrease in State financial support for rehousing and because the State's focus was on promoting home ownership for a range of income groups through credit subsidy. This policy shift from rehousing and the rental housing lack resulted in an

exponential increase in informal settlements, with a considerable influx of migrants from Portuguese former colonies, and a significant number of them settling in and expanding existing informal settlements. PER emerged in this context in 1993.

Following the proposals of the Housing National Meeting (1993) and other important restructuring strategies (the mandatory municipal plans), the Strategic Plan for Lisbon, the urbanization and detailed plans such as Expo-98 at Lisbon and the Lisbon European Capital of Culture 94 initiative, the Government undertook the PER initiative for the two metropolitan areas, providing the construction or acquisition of 48,416 social houses between 1993 and 2000 (Freitas, 2001; Matos, 2004; Plano Estratégico da Habitação, 2008). The PER addresses an "urgent need" and is a "measure priority" focused on solving the housing problem (Decree law 163/93). It is a program developed by the central government, but intended to be applied at the local level, by local authorities or social institutions. With the modification of PER (Decree law 271/2003) the rehabilitation of vacant houses became a permissible activity.

In parallel with the PER, the State created a new national funding program, the Financing Program for Access to Housing (Programa de Financiamento para Acesso à Habitação PROHABITA, 1996). In 2013, because of the economic crisis this program started to allow the rehabilitation of old neighborhoods and of buildings located in urban regeneration areas, a process that is not finished yet. In 2004 the Urban Rehabilitation Societies were created which to address and manage rehabilitation in the city. The new Strategic Plan for Urban Development, for higher level cities in each region (PEDU, 2015), has as its main objective the urban regeneration of disadvantaged communities and to improve the social cohesion.These initiatives and other programmes for urban regeneration highlighted the shift in social housing policy from new construction issue to the rehabilitation.

In fact with the Strategic Housing Plan (Plano Estratégico da Habitação, 2008), the new Housing Strategy (Estratégia Nacional para a Habitação, 2015) and the Financial Instrument for the Urban Rehabilitation and Revitalization (IFRRU 2020, a financial instrument set up under the Portugal 2020, in the framework of European funds for 2020) and the Rehabilitation for rent (Reabilitar para Arrendar), rehabilitation finally became the central objective for Portuguese housing and urban policy. At the moment, the academic and policy discussion in Portugal focuses on the hoped-for consequences of rehabilitation: improving neighborhood image, reducing maintenance costs, boosting the rental market, creating more social cohesion (partly through greater social mix), creating new enterprises and employment, attracting private investment, promoting community participation, and achieving greater support for neighborhood facilities.

Thus, despite contextual differences (e.g. a Mediterranean society versus a liberal one) there are sufficient similarities in discourses about HOPE VI and PER to warrant an investigation of what these programs are attempting to do, and what they have actually accomplished. We turn to these issues now. Our policy comparison focuses on: neighborhood revitalization, social change, relocation of residents, self-sufficiency, crime and safety and management. For each theme, we describe the approach (aims, interventions, outcomes) first for the U.S. and then for Portugal.

POLICY COMPARISON: NEIGHBOURHOOD REVITALIZATION

PHYSICAL CHANGE

In both countries urban revitalization policies aim to create attractive neighbourhoods. In the U.S., public housing revitalization emphasizes physical change—demolition of the rented stock and its replacement with mixed-income housing following New Urbanism design principles. New Urbanism developments built in the U.S. include Crawford Square in Pittsburgh, City Place in West Palm Beach, Highlands Garden Village in Denver, Park DuValle in Louisville, City West in Cincinnati and Beerline B in Milwaukee (Steuteville, 2004).

HOPE VI has achieved important physical improvement successes. Tens of thousands of severely distressed housing units have been replaced by high-quality, mixed-income developments (Kingsley, 2009, Popkin et al., 2004). Housing prices have often risen (Castells, 2010, Engdahl, 2009b, Goetz, 2010b, Turner, 2009, Zielenbach and Voith 2010), revitalization in the surrounding communities has been stimulated, and HOPE VI developments provide significant net social welfare benefits for residents and relocatees (Zielenbach et al., 2010). However, because housing density is reduced and hence housing options for low-income families are restricted Sheila Crowley, a housing activist (2009) recommends that housing authorities provide assurance that HOPE VI will not lead to a loss of affordable housing in their jurisdiction.

Although there is broad consensus about the need to continue HOPE VI's strategy of replacing large family developments in high poverty areas with mixed-income developments (Sard and Fischer, 2008), there is a vigorous debate taking place about the future role of demolitions in HOPE VI. (Note however, that HOPE VI has been replaced by the Choice Neighborhoods Program.) Gentry (2009) notes that 90 percent of the public housing stock is now in

reasonably good shape. While demolition is warranted for some developments "preservation generally now would be the more efficient approach (p. 269)." Unfortunately, inadequate funding for operating and upgrading the stock has created strong incentives for demolition and vouchering out.

The retail sector remains an ongoing challenge for HOPE VI officials (Husock, 2010a, Rubin, 2009). Many otherwise successful HOPE VI projects lack a decent supermarket. Donohue (1997) using longitudinal data from 1957 to 1992 argues that the lack of supermarkets in the inner-city is attributable to the greater attractiveness of suburban locations to the supermarket chains, due to higher buying power and the greater availability of space for larger stores. Urban crime and metropolitan racial patterns are only weakly related to service levels (i.e. the availability of supermarket shopping). In addition, Pothukuchi (2005) asserts that local governments have to take action in order to attract supermarkets to inner cities, but very little has been done to achieve this goal unless these areas have experienced some degree of gentrification.

Whether physical renewal is leading to an improved image for these HOPE VI areas is another matter entirely. Historically, American public housing has been stigmatized due to physical deterioration as well as large concentrations of blacks and welfare recipients, and high rates of crime and drug dealing.

Branding has been used to change the identity of American HOPE VI neighborhoods. For example, the Cincinnati Metropolitan Housing Authority (CMHA) used HOPE VI funds to replace Lincoln Homes and Laurel Court, two crime-ridden projects in the city's West End, with City West, a mixed-income, New Urbanism development while the Atlanta Housing Authority used a similar approach to restructure Techwood, adjoining downtown, and close to Coca Cola's headquarters and Georgia Tech, into Centennial Place (Brown, 2009).

The outcomes of rebranding activities are yet to be born out, since poor reputations are easily created and reinforced through a single incident. Changing poor reputations into positive ones takes time and endurance. Turner (2009) asserts without any empirical evidence that HOPE VI has contributed to a changed, more positive image for cities.

Similarly, the aim of Portugal urban rehabilitation is to create more attractive neighbourhoods through mixed-income housing along with upgrading the existing stock and public spaces. In the case of PER the process was to demolish informal settlements on the periphery and build new social housing, more dispersed and more integrated into the urban structure, with urban and architectural projects closer to the market ones. The urban social and architectural model for PER draws from lessons learned from previous social housing models (for a discussion about this issue e.g. Sociedade e Território 1994, Freitas, 2001, Guerra, 1999, Instituto Nacional da Habitação, 1997, Cidades. Comunidades e Territórios, 2000, Matos, 2001, 2004).

The public space around these developments was redesigned: green areas were usually reshaped to function as meeting places, sports and recreational areas, and playgrounds. Previously the inadequacy of public spaces had been one of the factors that contributed to the poor reputation of social housing programs, i.e. construction delays, the homogeneity of the spaces, and the overall deficit of facilities.

Modern buildings were constructed and public spaces were added and/or modernized. New roads linked the city centre helped to create more attractive neighbourhoods. Two good examples of this are (1) Alta de Lisboa, and S. João in Porto. The former is a mixed-income neighborhood with 3 060 PER rental apartments and 4 691 units for ownership, with a number of green spaces, recreational and sports facilities and shopping areas (Antunes, 2015). Alta de Lisboa, is the result of the urbanization plan Alto do Lumiar, a planning process which began in 1986. It´s a public – private partnership model between the Lisbon Municipality and the private consortium SGAL (Management Society of Alta de Lisboa).

S. João in Porto, has 55 rental apartments, 3 commercial areas, social equipment for children and a square with green spaces (Matos, 2004, Fraguito, 2009). The latter PER received an award from the Instituto da Habitação e Reabilitação Urbana (IHRU), in 2004 for its construction and architectural quality. Other PERs have received the same award.

The PER is the largest public housing program ever developed in democratic Portugal. It has achieved important physical improvement successes; most notably, high-quality developments replacing severely distressed housing ones. Thirty thousand dwellings were built under the PER, costing 1.2 billion euros – 600 million in direct investments and 600 million in credit lines for municipal authorities (IHRU, 2007, pp. 142-145).

Whether PER-based physical renovation has improved the image of these areas is another matter. Historically, Portuguese public housing has been stigmatized due to physical deterioration as well as by large concentrations of poor people and immigrants, by high crime rates and drug dealing and negative reports in the media. Reporters have called particular projects "the black islands"; "underground spaces"; "underclass neighborhoods"; "Africans villages"

or “powder kegs”. (e.g. “Legalização, Racismo e Gangs”, O Público, 27 Dec. 1993; “Minorias Étnicas na Grande Lisboa. Um barril de pólvora”, O Público,13 Nov. 1993; “Cerco aos Guetos”, Expresso, 31 Jan. 1998; “Gangues Armas e violência”, Jornal de Notícias, 14 Dec., 2009). There is little evidence that this stigmatization has changed.

Branding has been used to change this negative image of social neighborhoods, for example, the Lisbon municipality used PER to replace Musgueira Norte, Musgueira Sul, Quinta Grande, Quinta do Levy, Calvanas and Charneca, degraded social neighbourhoods and informal settlements, with the urbanization plan of Alto do Lumiar, renamed Alta de Lisboa (Antunes, 2015). The reader will recall that the Cincinnati Metropolitan Housing Authority (CMHA) used HOPE VI funds to replace Lincoln Homes and Laurel Court, two crime-ridden projects in the city’s West End, with City West. Because the problems of social housing are long-standing in both Portugal and the US and because these re-branding efforts have only been in effect for a few years, their impact remains uncertain.

With the PER the Portuguese government aims to achieve safety, diversification models and sites, improve the image for social housing, and to achieve social cohesion. This is not easy, because land is scarce government officials were pressed to act quickly, PER buildings were often located next to the other peripheral social housing neighborhoods thus increasing poverty concentration (Plano Estratégico da Habitação, Matos, 2004).

SOCIAL CHANGE

Social cohesion is a term used more frequently in the European context and has been defined as the 'glue that keeps society together' (Forrest and Kearns, 2001). At the neighborhood level, social cohesion refers to social networks, communal values and norms, and neighborhood attachment (Dekker and Bolt, 2005). Social inclusion and social cohesion are in the forefront of research and policy agendas for restructuring projects in Northern Europe.

At a number of HOPE VI sites in the US, the aim of policy efforts has been to bring different groups together, or to build community, but the prospects for these efforts is uncertain. Engdahl (2009a) reports that the budget for New Holly in Seattle, Washington (one of the most ethnically diverse HOPE VI sites in the U.S) includes funding “for a full-time ‘community builder’ charged with getting residents of all socioeconomic and ethnic backgrounds involved in common activities and communicating across cultural divides. Community events such as the multi-cultural New Year’s celebration and community potlucks aim to introduce residents to one another’s culture.” (p.106) Community building has been difficult to achieve in lieu of the community’s diversity (to our knowledge no attempt has been made to measure changes in community cohesion). “Non-English speakers say that they participate less in [community] events because they are busy or embarrassed by their inability to communicate.” (Engdahl, 2009a, p.107)

Although many experts believe that citizen participation is a key prerequisite for a socially cohesive development, but our literature review offers very limited evidence of greater cohesion resulting from ‘real’ participation in HOPE VI. Sheila Crowley (2009) asserts that all of the HOPE VI programs she knew of had held informational meetings but many did not engage residents in actual decision making processes. According to her, residents were lied to when they were told that public housing residents would live in new homes and would have new opportunities for economic betterment. In reality only about a third were able to move back. Similarly, Mark Joseph (2010) notes that prior to HOPE VI, Chicago public housing residents were able to work through Local Advisory Councils (LACs) to influence the redevelopment process; there is no formal role for the LACs in the new mixed income developments. Finally Allen and Goetz (2010) criticize the Minneapolis Housing Authority for not recognizing Hmong (Indochinese) preferences for extended family living arrangements, a major cultural difference between Hmong and other immigrant groups that is often not recognized by municipal planning departments in the U.S.

In contrast to HOPE VI in the US, in Portugal, the term social mix is not “an operational concept for action nor a political or legislative principle for spatial intervention” (Menezes and Almeida, 2006: 4). This is partly due to the fact that ethnic segregation is less evident in Portuguese metropolises, when compared with the US. In the PER case, the aim of policy efforts has been cohesion, integration, and social inclusion. How these terms are related, if at all, to social mix is uncertain. PER projects do mix social buildings for rent with buildings containing units for sale with controlled prices, or with tenancy agreements with option to buy e.g. PER sites in Maia municipality in the Porto Metropolitan area (Matos, 2004).

These ownership buildings are built by local private enterprises, or economic housing cooperatives, which bring in middle-class households. This social mix at the block but not the building level is supposed to be good for increasing mutual tolerance between groups, and for enhancing liveability in the neighbourhood. There exists little empirical research to assess whether this type of mix has beneficial effects. Further, it should be noted that although housing tenure mix and social mix are used as synonymous, they are linked to different realities. For example, changing the housing tenure mix in a neighbourhood may not lead to changes in socioeconomic mix.

We can see examples of this particular type of social mixing in the case of Alta de Lisboa, and in some PER sites in the Porto metropolitan area. In Porto city the municipality buys some buildings in the city center and rebuilds them for PER families, e.g. the Salgueiros and Fontaínhas neighborhoods (Matos, 2004). There is a lack of evidence that this type of mixing has achieved social cohesion, however this term is defined. However, it should be mentioned that some local non-profit organizations are trying to "empower" local residents. For example, the community group of Alta de Lisboa, the program K'CIDADE – a Community Urban Development Program and the Bip-Zip program (which operates in 67 social neighborhoods or priority intervention areas, defined by the Lisbon Housing Local Plan) has as its mission contributing to social and territorial cohesion. However, to our knowledge, there has been no research on whether these community efforts bring owners and renters together and if so, whether this co-participation has any positive or negative impacts.

RELOCATION

The second major policy effort dominating the urban revitalization discourse is the relocation of residents. The ways this happens differs between the two countries.

United States. It is widely believed that in the U.S., HOPE VI promotes the restructuring of inner-city "projects" as mixed-income communities as part of a broad poverty deconcentration strategy which includes providing some families with housing vouchers with the goal of moving many to lower-poverty neighborhoods. The reality, however, is that deconcentration is not a statutory requirement. Families are not required to make desegregative moves and few do.

To many American low-income activists like Sheila Crowley (2009) HOPE VI "is a case study in how badly a government program can run amok" (p. 229). The reason is that so few residents have been able to benefit by moving back, instead (according to her) they have been forced to relocate and as a result, have been hurt by the process (see also Bennett, et al., 2006) Some who are qualified to move back choose not to do so either because of concern about the employment requirement at the HOPE VI site (discussed in the next section), or having moved once prefer not to move again. Empirical research and case studies of particular cities provides a more complex and nuanced picture, however concerning relocation.

The HOPE VI Panel Study (Popkin and Cunningham, 2009) showed (1) that for most original residents of HOPE VI sites overall; HOPE VI has meant relocation, not living in a new, mixed-income community." (p.195), (2) that most relocates experienced improved housing and neighborhood conditions although utility costs did rise, (3) that there were no improvements in employment for private renters, returnees to HOPE VI sites and for those who remained in traditional public housing (this is discussed in more detail below) and (4) that 'hard to house' residents (including those with a criminal record) were less likely to experience improvements in quality of life and were more likely to move into traditional public housing. Other recent articles have produced similar results (Clampet-Lundquist, 2004, Curley, 2010; Goetz, 2010a, 2010b, Joseph 2010, Kingsley, 2009, Kingsley et al., 2003, Oakley et al., 2010, Popkin et al., 2004, Venkatesh et al., 2004).

Existing research shows the importance of high-quality counseling and supportive services in addressing relocation (Kingsley, 2009, Polikoff 2010, Rosenbaum and Zuberi 2010). However, even with this assistance voucher recipients may decide not to move to distant, low-minority suburbs. However, the housing mobility program associated with the Thompson v. HUD desegregation case in Baltimore shows that high-quality pre- and post-move counseling can help poor families who move to the suburbs stay there. (Boyd et al., 2010, Briggs and Turner, 2006, DeLuca and Rosenblatt, 2009, Tegeler, 2007)

The Atlanta Housing Authority's seeming success in relocating families via housing vouchers reflects its use of a private firm to provide long-term (three to five years) individual development services including counseling and relocation help to former project tenants who are spread over the entire metropolitan area (Husock 2010a, 2010b, see also Glover, 2009). Chicago's HOPE VI program highlights the challenges to handling relocation issues, for example, convincing residents to return to the HOPE VI site in lieu of CHA's strict tenant selection criteria. The case of Seattle illustrates how a successful site-wide counseling effort can prepare residents for relocation (Kleit and Manzo, 2006). Minneapolis's Hollman mobility program (a part of the city's HOPE VI effort) shows a relocation strategy explicitly focused on racial and poverty deconcentration will not necessarily benefit refugees such as the Indochinese Hmong (Allen and Goetz, 2010).

In Portugal, an explicit aim is to reduce the concentration of low-income households in deprived areas. This obviously involves relocating residents to neighbourhoods with better houses, although no use is made of housing vouchers. But the lack of affordable housing in better neighbourhoods, prevents poor households from moving into non-deprived neighbourhoods.

In the case of PER all families who are displaced due to demolitions, are relocated within the PER neighborhoods, but as mentioned above at many PER sites there were originally substandard social housing neighborhoods that were clustered together. This resulted in the concentration of poor populations and may have contributed to other negative externalities (although there is little empirical research on this subject.)

A variety of strategies are being implemented to achieve the social and economic inclusion of relocated families in PER neighborhoods. Existing writings highlight the importance of an integrated approach to the various problems (social, health, diversity due to immigration and unemployment, violence, anti-social behavior) of the rehoused population, as well as the inclusion and involvement of the population and other local actors (municipalities, NGOs and local associations) in the neighborhoods' social development and management. To some scholars this means creating a "co-responsible community" (Ferreira, 1994; Guerra, 1994; Freitas, 2001).

In some PER sites the municipality makes an effort to implement this strategy. That is the case in Cascais, municipality of the Lisbon metropolitan area (Freitas, 2002). Other municipalities have implemented other strategies including: (1) preparing the population for relocation through counseling about destinations (2) providing information about available and needed supportive services (3) providing information about rules and procedures regarding the maintenance of common spaces and buildings and (4) educating residents about the development of interpersonal relationships skills (Matos, 2004). Despite these efforts to improve the housing and the living conditions of the rehoused families, some analyses point to ongoing problems among some rehoused tenants e.g. anti-social behavior, vandalism of public spaces, and juvenile delinquency. The incidence of social problems is particularly high among immigrants and ethnic minorities (Pinto and Gonçalves, 2000).

PROMOTING SELF-SUFFICIENCY

Self-sufficiency refers to the state of not requiring any outside aid, support, or interaction, for survival. The term refers to becoming economically independent of state subsidies, which is clearly important for both the government and the citizens.

In the U.S. promoting self-sufficiency means fostering employment opportunities and moving individuals from dependency on welfare. Through its Community and Supportive Services (CSS) component, HOPE VI seeks to promote residents' self-sufficiency by offering services such as computer education, job search support and child care assistance (Popkin, 2010, p.46; see also Engdahl, 2009b). Curley and Kleinhans (2010) argue that the U.S. Department of HUD's Community Support Services overambitious goals constitute a fundamental obstacle to progress. Emphasizing employment outcomes may pull resources from fundamental obstacles which limit progress toward self-sufficiency such as poor physical and mental health and parenting problems. We wonder, however, whether the rhetoric of self-sufficiency may play a necessary and meaningful role in promoting self-improvement even if full self-sufficiency is not feasible in the short-run for all residents.

HUD's Family Self-Sufficiency (FSS) Program is an employment and savings incentive program for low-income families that have Housing Choice Voucher Program (HCVP) vouchers or live in public housing. Enacted in 1990, FSS includes both case management services to help participants pursue employment and escrow accounts into which the PHA deposits the increased rental charges that a family pays as its earnings rise. Families that complete the program may withdraw funds from these accounts for any reason after five years. FSS is currently underutilized. Fewer than five percent of families with children in the public housing and HCVP currently participate in FSS (Sard, 2004).

The Jobs-Plus Community Revitalization Initiative for Public Housing Families (Jobs-Plus) combines on-site employment-related services, new rent rules to allow residents to keep more of their earnings, and a neighbor-to-neighbor outreach strategy to share information about employment opportunities (Verma et al., 2005). A sophisticated national evaluation and studies at four specific sites show that this strategy has substantially improved earnings (Riccio, 2008). A key finding from research on "Housing Plus' is that residents' progress towards goals can take a long time (Bratt, 2008, p.104).

In cities like Atlanta, Chicago, and Seattle, at least one adult must be working 30 hours a week or more for the family to be able to move back to the HOPE VI site. The work requirement has been linked to an increase in the employment rate at HOPE VI sites in Atlanta (Husock, 2010 a) and Seattle (Engdahl, 2009a). However, it is unclear whether the rise in employment reflects people feeling impelled to get a job as a result of the work requirement, people being helped through counseling or supportive services or simply people being dropped from public housing eligibility because of failure to meet the work requirement.

As indicated above, the work requirement for living in HOPE VI developments has been quite controversial in cities like Chicago and activists have called for its elimination. Gentry (2009) argues that, to the contrary, more should be

required of public housing residents. He believes that the old entitlement mentality, which historically has resulted in the warehousing of the poor in public housing, harms both residents and their long-term prospects. That mentality also works to the detriment of the surrounding population and the likelihood that it will offer political support to public housing over the long term. Consequently, a quid-pro-quo approach toward residents [e.g. a work requirement] is not unreasonable. (p. 218).

Nor would the idea of a time limit be excessive to some experts. Charlotte, North Carolina's time limit on residency in public housing resembles the welfare system's time limit (Barnett and Gabel, 2005, Husock, 2000, Minter, 1999, Nolan, 1999). According to Husock, the time limit feature underscores the fact that families are not "entitled" to public housing over their lifetime, emphasizing welfare reform's message of self-sufficiency.

A key reason why the HOPE VI program has been far more successful in addressing distressed buildings than the distressed residents of such buildings is that the program does not address the fundamental causes of poverty including weak family structure (Crowley, 2009; Goetz, 2010a, 2010b, Joseph, 2010, Utt, 2009). How to help those, for whom self-sufficiency is not a realistic goal, is a particular challenge. Under a case management approach currently being tested in the U.S. housing authorities might offer modest assistance "to people who need just a little boost to become self-sufficient and more intensive, longer-term services to those who have multiple problems." (Kingsley, 2009, p.289; see also Popkin, 2010).

Most of the residents of HOPE VI sites are black, single mothers with children (Popkin and Cunningham, 2009). In order to ratchet up its self-sufficiency effort America would need to address weak family structure—especially within the black community. Daniel Patrick Moynihan, in his famous 1965 Department of Labor report, argued that the unstable black family was "a principle source of most of the aberrant, inadequate, or antisocial behavior that did not establish, but now serves to perpetuate the cycle of poverty and deprivation" (Wilson, 1987, p.172, quoted on page 207 of Turner et al., 2008). Currently, most HOPE VI social services focus on the needs of black women and their families but a few small programs have been created to incorporate the black father into to the family (Harris, 2008, Holzer, 2008). Unfortunately, there appears to be little political commitment for strengthening the black family.

In Portugal promoting self-sufficiency means fostering employment opportunities and moving individuals from dependency on state subsidies, but this is very difficult to achieve because of continuing high levels of unemployment. However, some aspects of self-sufficiency can be found in neighbourhood social-economic development projects and back-to work programs. Economic development in social neighbourhood policies aims to create a better match between employment needs of residents and employers. Programs include efforts to help unemployed people to create small business or to help them to find jobs, literacy courses, back-to-school programs, and intensive training programs for youngsters, immigrants and long-term unemployed. Some PER sites and social neighbourhoods have centers for youth and children that help parents deal with problematic youth behaviour, and in preventing juvenile delinquency or teenage pregnancies. This centers are very important for working mothers (single or not) with children. Because of the economic crises and the rise of poverty, the government created a Social Emergency Program, with various measures, but the most emblematic was the creation of an Emergency Food Program. The latter has expanded the Social Canteens Network and food aid to the poor families, many of them living in social housing.

In general Portugal faces a challenge in adopting America's strict approach toward economic self-sufficiency; adopting that goal is difficult when there are so few jobs available.

CRIME AND SAFETY

United States. Physical changes have been undertaken at HOPE VI projects aim to reduce crime and enhance safety; New Urbanism townhouses with private entrances have replaced mid-and high-rise buildings with communal hallways that tended to attract outsiders and criminals. Strict management techniques have been crucial in reducing crime rates and levels of incivility (Baron, 2009). Multi-problem families (ones that exhibit problems of paying rent, that are unable maintain basic housekeeping or childrearing and who are unable to maintain workable relationships with neighbours with or without help or supervision, Scobie, 1975; Vale, 2000, pp. 331-332; Popkin et al. 2004) are either evicted or not allowed to return after restructuring (Zielenbach and Voith, 2010). In some cases – Atlanta, Chicago, and Seattle, for example—housing authorities require tenants to have jobs before moving back. HUD's "One Strike and You're Out" policy, initiated in 1996, was designed to encourage public housing authorities (PHAs) to be more aggressive in rejecting applicants with criminal histories and in evicting tenants involved in criminal activities. Most sites have experienced sharp declines in crime (Engdahl, 2009a, 2009c, Glover, 2009, Turner, 2009).

As mentioned above in Portugal there is considerable concern about anti-social and violent behaviour committed by people of different ethnic backgrounds, a lot of this concern centers on social housing neighborhoods. The

Portuguese approach to crime aims at both the perceptions and the reality of crime but the measures taken are somewhat different from the American ones.

In the last decade, the EU has officially recognized Crime Prevention through Environmental Design and Planning (CP-UDP, called CPTED in the US) as a usefull, effective, very concrete and feasible strategy to prevent crime. Experts consider a pro-active crime prevention philosophy and an important first step in solving the crime problem (Saraiva, 2008). In Portugal, the earliest discourses on CP-UDP date back to Heitor (2001, 2007) about Lisbon urban spaces and Saraiva (2008) wrote the first major comprehensive review of CP-UDP theories and principles, as well as the first 'best practice manual' in the Portuguese language, and tested CP-UDP principles in several locations in Porto. One of these locations was a social neighbourhood.

In Portugal in 2011, Portuguese public authorities became officially concerned with CP-UDP. The General Direction for Territorial Management and Urban Development published a special issue on 'Public Safety and Urban Development', introducing CP-UDP and discussing the literature timeline, the general concepts, international case-studies and the role of the police (DGOTDU, 2011). In 2013, the Direção Geral da Adnministração Interna (DGAI) published the first official Guidebook/Best-practice manual and achieved a great breakthrough for introducing and promoting CP-UDP at the municipal level (DGAI, 2013). Despite these initiatives CP-UDP is still mostly an unknown subject and not implemented to a significant degree despite interest in CP-UDP among academics and policymakers crime and incivilities remain a problem inside buildings and in outdoor spaces. The most common measures are the preventive ones by creating a more visible police presence. An example is the intensive police presence at Alta de Lisboa. This effort is a product of the Alta the Lisboa neighbourhood's Community Group - the project A Safer Alta de Lisboa (PML, 2010).

Another example of preventive actions concerns strict management. The strict regulations of Domus Social (Porto Enterprise of Social Housing Management) also illustrate this strategy. Families with criminal histories are rejected as applicants for a social housing and there are rules of behaviour, for preventing conflicts, vandalism and anti-social actions. (Private companies that manage HOPE VI sites in the US administer similarly strict management rules). The centers for youth and children's, as mentioned above, the local social services, the schools, local sports associations and community groups are very significant partners for preventing juvenile delinquency.

Another important political measure for reducing criminality is Local Safety Agreements; these are an essential tool for strengthening the security goal and increased populations, confidence, through joint action between the police and the community (Sistema de Segurança Interna, 2015).

The preceding indicates that whereas the crime problem is more serious in American than Portuguese cities there is nearly as much concern about crime in Portugal as in the U.S. Portuguese politicians want to prevent current levels of crime from rising and they want to avoid the "ghetto" conditions found in many American cities.

MANAGEMENT

Public-private partnerships play an increasingly important role at HOPE VI sites across the US. Chaskin and Joseph (2015) describe Chicago's Plan for Transformation, the most massive HOPE VI effort in the US, and how it is being implemented in Bronzeville (the South Side) and in the Near West Side. Both private-for profit firms and for for-profit developers are involved in the process at different sites.

Development teams experienced substantial logistic, legal and economic obstacles in recruiting low-income renters and middle-income homeowners. Although the CHA issued bold statements about its general screening policy including a work requirement, drug testing, criminal background checks and credit checks, working groups at the three sites modified these requirements leading to the admission of "borderline" families with social problems.

In Portugal the management of social housing is highly controversial (e.g. Ferreira, 1984, 1994; Guerra, 1994; Vilaça 2001; Plano Estratégico da Habitação, 2008). Some policymakers believe in public-private partnerships, others want to rely on public model, but must should be more articulated and planned at the supra-municipal level. The PER provides the opportunity to try out these models, but this type of experimentation is not taking place.

With the Law No. 58/98 it became possible for municipalities to create Municipal Housing Enterprises, whose functions include the maintenance and rehabilitation of the municipal social housing, the selection of candidate families and the economic and financial management of the social neighborhoods and relationships to local social programs and local associations. In an important sense management is being assigned to a new type of municipal entity, one with greater flexibility and autonomy than before. Several municipalities have created these companies, but because they are stung by reduced budgets, increased social housing requests and the lack of a more articulated

and planned action at the supra-municipal level, efforts to improve the quality of life for residents is a complex challenge to achieve.

CONCLUSION

In recent decades changes in housing and urban policy in Portugal have led to a narrowing of differences in public housing revitalization policy between Portugal and the United States. Our aim was to show this by comparing and contrasting the way Portuguese and American experts have approached two goals: (1) creating good quality neighborhoods, with high levels of social cohesion, that have a good reputation, and that are safe and manageable, and (2) creating places to live that support (rather than constrain) the residents.

Our literature review from both countries highlights many commonalities, but also some obvious differences. The most obvious difference is that US revitalization occurs in the inner city whereas Portuguese revitalization typically occurs on the periphery. American and Portuguese policymakers share a common comprehensive outlook toward revitalization, which includes an emphasis on both physical and social improvement, to some extent, an emphasis on self-sufficiency as well. Although the measures are different, the outcomes (where they are available) are generally similar. Another question that is pertinent for both countries is if the improvement of the housing and neighborhoods, is a sufficient condition for change the quality of life, of the relocated families.

What policy recommendations can we draw from these findings? Maybe Portuguese policymakers could learn from America's stricter approach to management, which has led to dramatic improvements in safety at HOPE VI sites. Marketing and positive news stories may also play a role in promoting positive images at Portuguese revitalization sites but these efforts can only be effective in conjunction with attempts to improve the social climate of these areas by screening out multi-problem, anti-social families. This would not, however, be acceptable to many Portuguese politicians or policymakers. American policy experts such as Susan Popkin are seeking ways to house multi-problem families in supportive housing developments, but there are no easy solutions to this complex issue.

Portuguese policymakers could benefit from America's experience in trying to link public housing revitalization with housing mobility to enable them to move to healthier, low-poverty areas. However, it might be difficult to transfer this American rhetoric to Portugal because of the desire of many residents of restructuring areas to remain close to family and familiar social institutions and also because of their dependence on cheap social housing.

Housing mobility is, however, no poverty panacea in the US. Many "hard to house" families have difficulty using vouchers in the housing market and vouchering-out may lead to reclustering and in turn, the transfer of social problems from merely one location to another (i.e. negative neighborhood spillovers). Efforts to monitor geographical shifts are needed as well as programs to address reclustering-related problems such as increased crime when they occur. Pre- and post-move relocation counseling will also be necessary to insure that families move to and remain in, low-poverty neighborhoods and that they benefit from these moves. However, this type of high quality counseling can be helpful in Lisbon and Porto just as it is in American cities.

Integrating ethnic immigrants, gypsies and poor families is a hot button issue in Portugal, yet America's experience with policies explicitly focused on racial integration suggests that ethnic dispersal or benign quotas is fraught with political and legal controversies. Two basic dilemmas stymie consensus: How is it possible to promote de-segregation when patterns of segregation partly reflect multiple factors? And how is it possible to generate support for de-segregation policies that promote more choices for ethnic minorities? Developing politically viable desegregation strategies will not be easy in either country.

Up to now, American policymakers have become more serious in promoting self-sufficiency as part of revitalization but HOPE VI efforts to address distressed residents have not been as successful as efforts to handle distressed buildings. Helping residents to leave welfare and get good jobs will require programs to strengthen families - which in the American context may often mean encouraging black non-custodial fathers to rejoin their families. As this is being written, the unfavorable economic climate in the U.S. and the large number of blacks in prison, are making this goal of strengthening the black family nearly unachievable. Helping residents to leave welfare dependency and get jobs in Portugal is a major challenge, because of the economic crisis and the rise of unemployment. Future research is urgently needed on how to effectively link social services with social housing restructuring so as to promote upward social mobility. This research should be longitudinal in nature, and should employ a mixed-methods approach, as in the Moving to Opportunity Demonstration (Briggs et al., 2010). Where possible, European and American scholars should employ similar questions and methods so as to foster cross-national learning.

America's HOPE VI represents an attempt to privatize public housing. Day-to-day management is being transferred from local housing authorities to private companies or non-profits. The imposition of private market management standards to former public housing residents is creating sharp tensions between homeowners and subsidized renters

on the one hand, and former public housing residents on the other (Chaskin and Joseph, 2015). In Portugal the management of social housing is one of the most controversial problems. PER projects provide a good opportunity to try new management models, but this hasn't happened yet.

REFERENCES

Allen, J. (2006). Welfare Regimes, Welfare Systems and Housing in Southern Europe. International Journal of Housing Policy, 6, 3, 251-277.

Allen, J., Barlow, J., Leal, J., Maloutas, T. & Padovani, L. (2004). Housing and welfare in Southern Europe. (Oxford: Blackwell Science)

Allen, R. & Goetz. E. G. (2010). Nativity, ethnicity, and residential relocation: The experience of Hmong refugees and African Americans displaced from public housing. Journal of Urban Affairs 32 (3), 321-44.

Andreoti, A., Garcia, S.M. , Gomez A. , Hespanha P. , Kazepo Y. Kazepo & Mingione, E. (2001). Does a Southern European Model Exist? Journal of European Area Studies, 9 (1), 43-62.

Antunes, G. (2015). Da Musgueira À Alta de Lisboa. (Lisboa: Chiado Editora).

Balchin, P. (2013). Housing policy in Europe. (London: Routledge)

Bandeirinha, J.A. (2007). O Processo SAAL e a arquitectura no 25 de abril de 1974. (Imprensa da Universidade de Coimbra).

Barlow, J. & Duncan, S. (1994). Success and Failure in Housing Provision. European Systems Compared. (Oxford: Pergamon)

Barnett, J. & Gabel, T. (2005) Public housing reform, National Center for Policy Analysis (NCPA) http://www.ncpa.org/pub/ba507 (accessed July 20, 2009).

Baron, R.D. (2009). The evolution of HOPE VI as a development program. In: H. Cisneros & L. Engdahl (Eds.) From despair to hope: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 31-48.

Beider, H. (2008). Similar problems, different solutions: Race, housing and renewal in the United Kingdom and the United States. In M. A. Turner, S. J. Popkin, & L. Rawlings (Eds.) Public housing and the legacy of segregation, (Washington, DC: Urban Institute Press), 69-78.

Beider, H. (Ed.) (2007) Neighbourhood renewal and housing markets: Community management in the U.S. and U.K. (Oxford: Blackwell Publishing

Bernnett, L., Smith, J.L. & Wright, P.A. (eds), (2006). Where are poor people to live? Transforming public housing communities. (Armonk, N.Y.: M.E. Sharpe).

Boyd, M. L., Edin, K. ,Clampet-Lundquist, S. & Duncan. G. (2010). The durability of gains from the Gautreaux Two residential mobility program: A qualitative analysis of who stays and who moves from low-poverty neighbourhoods. Housing Policy Debate 20 (1), 119-46.

Bratt, R. G. (2008). Nonprofit and for-profit developers of subsidized rental housing: Comparative attributes and collaborative opportunities. Housing Policy Debate 19 (2), 323-65.

Briggs, X. D. & Turner, M. A. (2006). Assisted housing mobility and the success of low-income minority families: Lessons for policy, practice, and future research. Journal of Law and Social Policy 1 (1), (Summer), 25-61.

Briggs, X.D., Popkin, S.J. & Goering, J. (2010). Moving to Opportunity: The story of an American experiment to fight ghetto poverty (Oxford: Oxford University Press).

Brown, R. (2009). Atlanta is making way for new public housing. New York Times, June 21, p. 16.

Capucha, L. (1995). Le visible et l'invisible: modes de vie de la pauvreté au Portugal. Espaces et Sociétes, 79, 43-60.

Cardoso, Abílio (1983). State Intervention in Housing in Portugal 1960-1980. (Reading: School of Planning Studies), PhD Thesis (not published).

Castells, N. (2010). HOPE VI Neighbourhood spillover effects in Baltimore. Cityscape: A Journal of Policy Development and Research 12 (1), 65-97.

Castles, F (1995). Welfare state development in southern Europe. West European Politics, 18(2), 291-313.

Castles, F (1998). Comparative Public Policy: patterns of Post-war Transformation. (Cheltenham: Edward Elgar).

Castles, F. & Ferrara, M. (1996). Home ownership and welfare state: Is southern Europe different? South Europe Society and Politics 1, 2, 163-185.

Chaskin, Robert J., & Joseph, M. L. (2015). Integrating the Inner City: The Promise and the Perils of Mixed-Income Public Housing Transformation. (Chicago IL: University of Chicago Press).

Cisneros, H. & Engdahl, L. (2009). From despair to hope: HOPE VI and the new promise of public housing in America's cities. (Washington DC: Brookings Institution).

Clampet-Lundquist, S. (2004). HOPE VI relocation: Moving to new neighbourhoods and building new ties. Housing Policy Debate 15 (2), 415-447.

Confederação Empresarial de Portugal (2011). Fazer Acontecer a Regeneração Urbana, Propostas. Retrieved from: http://www.regeneracaourbana.cip.org.pt/irj/go/km/docs/site-manager/www_regeneracaourbana_cip_org_pt/documentos/pt/estudos/informacao/RUrbana_propostas.pdf

Costa, A. B. (1998). Exclusões Sociais. (Lisboa: Gradiva)

Costa, A. B., Baptista, I., Carrilho, P., Perista, P. (2008). Um Olhar sobre a Pobreza Vulnerabilidade e exclusão social no Portugal contemporâneo. (Lisboa: Gradiva).

Costa, A. F., Almeida J. F., Capucha, L.; Machado F. L., Nicolau I., Reis. E. (1992), Exclusão Social. Factores e Tipos de Pobreza em Portugal. (Oeiras: Celta Editora).

Costa, A.B., Cardoso. A., Baptista, I., Rasgado, S. (1999). Pobreza e Exclusão Social, A Área Metropolitana do Porto. Prospectiva e Planeamento, 5,121-173.

Crowley, S. (2009) HOPE VI: What went wrong. In: H. Cisneros & L. Engdahl (Eds.) From despair to hope: HOPE VI and the new promise of public housing in America's cities: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 229-48

Curley, A. & Kleinhans, R. (2010). Combining forced residential relocation with supportive services: What can Dutch housing associations learn from the HOPE VI program? Journal of Urban Regeneration and Renewal 3 (4), 340-384.

Curley, A. (2010). Neighbourhood institutions, facilities, and public space: A missing link for HOPE VI residents' development of social capital. Cityscape: A Journal of Policy Development and Research 12 (1), 33-63.

Dekker, K. & Bolt, G. (2005). Social cohesion in post war estates in the Netherlands: Differences between socio-economic and ethnic groups, Urban Studies 42 (12), 2447-2470.

Dekker, K. & Varady, D. (2011). A comparison of Dutch and US public housing regeneration planning: the similarity grows? Urban Research &Practice, 4 (2), 123-152.

DeLuca, S. & Rosenblatt, P. (2009). Leaving the ghetto: Residential mobility and opportunity in Baltimore. Paper presented at the annual meeting of the American Sociological Association, San Francisco, California, August 8.

DGAI (2013). CPTED – Prevenção Criminal através do Espaço Construído – Guia de Boas Praticas. (Lisboa: Direçãoo Geral das Actividades Economicas),

DGOTDU (2011). Segurança Publica e o Desenvolvimento Urbano. Política de Cidades. (Direcção Geral do Território)

Elsinga, M., & Hoekstra, J. (2005). Homeownership and housing satisfaction. Journal of Housing and the Built Environment, 20(4), 401-424

Engdahl, L. (2009a). New Holly, Seattle. In: H. Cisneros and L. Engdahl (Eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities: HOPE VI and the new promise of public housing in America's cities, Washington DC: Brookings Institution, 93-120.

Engdahl, L. (2009b). An overview of HOPE VI revitalization grant projects. In: H. Cisneros and L. Engdahl (eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 85-91.

Engdahl, L. (2009c). The villages of Park Duvalle. In: H. Cisneros & L. Engdahl (Eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 121-44.

Esping-Andersen, g. (1990). The Three Worlds of Welfare Capitalism. (Cambridge: Polity Press)

Ferrara, M. (1996). The Southern Model of Welfare in Social Europe, Journal of European Social Policy, 6, 1, 17-37.

Ferreira, A.F. (1984). Por uma nova Política de Habitação. (Porto: Afrontamento)

Ferreira, A.F. (1994). Habitação Social: Lições e Prevenções Para o PER. Sociedade e Território, 20, 8-10.

Ferreira, A.F. (coord.) (1993). Livro Branco sobre a Política da Habitação em Portugal. (Lisboa: Encontro Nacional de Habitação).

Fraguito, J.G. (2009). Políticas de habitação: implementação e avaliação de Programas de habitação na Cidade do Porto. FEUP, Master Thesis. Retrieved from: https://repositorio-aberto.up.pt/bitstream/10216/60525/1/000136594.pdf

Freitas, M. J. L (2002). Aprendizagens num Percurso de Autonomias e Poderes O Processo de Realojamento em Cascais. Cidades- Comunidades e Territórios 4, 19-32.

Freitas, M. J. L. (2001). Habitação e Cidadania - no trilho da complexidade de processos relacionais generativos. PhD Thesis, (ISCTE, LNEC).

Friedrichs, J., Galster, G. C. & Musterd, S. (2003). Neighbourhood effects on social opportunities: the European and American research and policy context, Housing Studies 18 (6), 797-806.

Fuerst, J. S. (2005). When public housing was paradise: Building community in Chicago (Chicago: University of Illinois Press).

Gaspar, J. (1981). Aspectos da Urbanização Ilegal nos Países da OCDE. 1ª Jornadas Nacionais sobre Loteamentos Clandestinos, Seixal.

Gentry, R.C. (2009). How HOPE VI has helped reshape public housing. In H. Cisneros & L. Engdahl (Eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities, Washington DC: Brookings Institution, 205-28

Glover, R. L. (2009).The Atlanta Blueprint: Transforming public housing citywide. In: H. Cisneros & L. Engdahl (Eds), From despair to hope: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 145-68

Goetz, E. G. (2003). Clearing the way: Deconcentrating the poor in urban America (Washington, DC: Urban Institute Press).

Goetz, E.G. (2010a). Better neighbourhoods, better outcomes? Explaining relocation outcomes in HOPE VI. Cityscape: A Journal of Policy Development and Research 12, (1), 5-32.

Goetz, E.G. (2010b). Desegregation in 3D: Displacement, dispersal and development in American public housing, Housing Policy Debate 25 (2), 137-58.

Gros, M. (1994). Pequena História do Realojamento em Portugal. Sociedade e Território, 20, 80-90.

Gros, M. C. (1982). O Alojamento Social sob o Fascismo. (Porto: Afrontamento).

Guerra, I (1994). As Pessoas não são Coisas que se Ponham em Gavetas. Sociedade e Território, 20, 11-16.

Guerra, I. (coord.) (1999). Diagnóstico sobre a Implementação do Programa PER nos Municípios das Áreas Metropolitanas de Lisboa e Porto. (Lisboa: Instituto Nacional de Habitação)

Harris, K.E. (2008). Fathers from the family to the fringe: Practice, policy and public housing. In: M.A. Turner, S.J. Popkin, & L. Rawlings (Eds), Public housing and the legacy of segregation (Washington DC: Urban Institute Press), 203-220.

Heitor, T. V. (2001). A vulnerabilidade do espaço em Chelas: uma abordagem sintáctica. (Lisboa: Fundação Calouste Gulbenkian e Fundação de Ciência e Tecnologia).

Heitor, T. V. (2007). Insegurança em meio urbano: o espaço na mediação de oportunidades delituosas. Psicologia, 21 (29), 31-44.

Hoekstra, J. (2013). Housing and the welfare state: changing perspectives and a research agenda. Annual Conference ENHR 2013 Overcoming the Crisis, Integrating the Urban Environmentt, Tarragona. Retrieved from: uuid:900c0043-b86a-411b-b4a7-ae83dd0af9a7

Holdsworth, C., & Irazoqui Solda, M. (2002). First Housing Moves in Spain: An Analysis of Leaving Home and First Housing Acquisition. European Journal of Population / Revue européenne de Démographie, 18(1), 1-19.

Holzer, H.J. (2008). The employment problems of black men in segregated urban areas. In: M.A. Turner, S.J. Popkin & L. Rawlings (Eds), Public housing and the legacy of segregation (Washington DC: Urban Institute Press), 237-46.

Horta, A. P. B. (2007). Le ghetto imaginé: Nouvelles spatialités et marginalisation sociale dans les quartiers de la périphérie de Lisbonne, Sud-Ouest Européen Revue, 24, 75-86.

Howard, C. (1997). The Hidden Welfare State: Tax Expenditures and Social Policy in United States (Princeton, NJ, Princeton University Press.

Husock, H. (2000). How Charlotte is revolutionizing public housing. City Journal 10 (4), 52-59.

Husock, H. (2010a) .Atlanta's public housing revolution. City Journal 20, (4), 74-81.

Husock, H. (2010b). Reinventing public housing: Is the Atlanta model right in your city? Cities on the Hill, The Manhattan Institute for Policy Research http://hiphoprepublican.com/opinion/2010/06/06/reinventing-public-housing-is-the-atlanta-model-right-for-your-city/. Accessed December 5, 2010.

Instituto da Habitação e Reabilitação Urbana - IHRU (2007). Atlas da Habitação de Portugal. (Lisboa: IHRU) Retrieved from: https://www.portaldahabitacao.pt/opencms/export/sites/ihru/pt/ihru/docs/publicacoes/atlas_habitacao_portugal.pdf

Instituto da Habitação e Reabilitação Urbana (2015). Estratégia Nacional para a Habitação 2015/2020. Retrieved from: https://www.portaldahabitacao.pt/opencms/export/sites/portal/pt/portal/habitacao/EstNacHabitacao/Estrategia-para-a-habitacao.pdf

Instituto Nacional de Habitação (1997). III Encontro-Reflexão sobre Programas de Realojamento. (Estoril: INH).

Joseph, M. L. (2010). Creating mixed-income developments in Chicago: Developer and service provider perspectives. Housing Policy Debate 20 (1), 91-118.

Kingsley, G. T., Johnson, J. & Pettit K. L. S. (2003). Patterns of Section 8 relocation in the HOPE VI program. Journal of Urban Affairs 25 (4), 427-47.

Kingsley, G.T. (2009) Taking advantage of what we have learned. In: H. Cisneros & L. Engdahl (Eds.), From despair to hope: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 263-98.

Kleit, R. G. & Manzo, L. C. (2006). To move or not to move: Relationships to place and relocation in HOPE VI. Housing Policy Debate 17 (2), 271-308.

Landis, J. D. & McClure, K. (2010). Rethinking federal housing policy. Journal of the American Planning Association 76 (3), 1-30.

Mallheiros, J. & Fonseca, L. (2011) (coord.). Acesso à Habitação e Problemas Residenciais dos Imigrantes em Portugal. (Lisboa: Observatório da Imigração).

Matos, F. L. (1990). A construção clandestina em Vila Nova de Gaia-o caso dos bairros do Picão e da Madalena Nascente. Revista da Faculdade de Letras da Universidade do Porto-Geografia, 1ª série, VI, 149-280.

Matos, F. L. (1994). Os bairros sociais no espaço urbano do Porto: 1901-1956. Análise Social, XXIX (127), 3, 677-695.

Matos, F. L. (2001). A Habitação no Grande Porto uma Perspectiva Geográfica da Evolução do Mercado e da Qualidade Habitacional desde finais do séc. XIX até ao final do milénio. FLUP, PhD Thesis, Retrieved from: http://hdl.handle.net/10216/14995.

Matos, F. L. (2004). Algumas reflexões sobre o PER no Grande Porto, Actas V Congresso da Geografia portuguesa Territórios e Protagonistas, Retrieved from: http://www.apgeo.pt/files/docs/CD_V_Congresso_APG/web/CidadeseDinmicasUrbanas.html

Matos, F. L. (2012). Recent dynamics in the Portuguese housing market as compared with the European Union. Bulletin of Geography. Socio-economic Series, 18, 69-84.

Matos, F.L. & Salgueiro, T.B. (2005). Habitar nas cidades portuguesas: caracterização do parque habitacional e estratificação social da habitação. Geografia de Portugal. Sociedade, paisagens e cidades, vol. II, (Porto: Afrontamento), 313-338.

Matos, F.L., Carballada, A.M, Marques, T.S., & Ribeiro, D. (2015). Housing in a time of crisis: Portugal and Spain an overview, in European Network for Housing Research, Annual Conference ENHR 2015 Housing and Cities in a time of change: are we focusing on People? Lisbon, Retrieved from: https://repositorio-aberto.up.pt/handle/10216/80155

Menezes, M.; Almeida, A. (2006). Direito à Cidade - Reflexão em Torno da Incidência do Termo Mistura Social na Politicas Habitacionais e Urbanas Portuguesas. (Lisboa: LNEC).

Minter, J. (1999). Lifetime residency may end. Charlotte Post, July 20<http://www.evolvedsites.com/charlottepost/8_19_news2.html>. (accessed August 19, 2009).

National Commission on Severely Distressed Public Housing (1992). Final Report to Congress and to the Secretary of Housing and Urban Development (Washington, D.C.: Commission).

Nolan, C. (1999) Public housing agencies experiment with time limits. Stateline.Org (Pew Center for the States) November 9

http://www.stateline.org/live/ViewPage.action?siteNodeId=136&languageId=1&contentId=13845 (accessed July 20 2009).

Oakley, D., Ruel, L., E., Reid, L. & Pell., C. (2010). A conflicted epitaph? The end of public housing in Atlanta: Implications for people and policy. Paper presented to the meeting of the American Sociological Association, Atlanta, August 14-17.

Pedro, J. B., Boueri, J.J. (2011). Social Housing in Portugal and in the Municipality of São Paulo: Comparison of Space Standards. International Journal for Housing Science, 35, 4, 233-242.

Pimenta, M., Ferreira, L. V., Ferreira J. A. (2001). Estudo Sócio-Económico da Habitação Social. (Porto: Câmara Municipal do Porto).

Pinto, T. C. & Gonçalves, A. (2000) - Os bairros sociais vistos por si mesmos: imagens, conflitualidades e insegurança. Cidades - Comunidades e Territórios, 1, 101-111

Plano, Estratégico da Habitação, 2008-2013. Relatórios, 1, 2 and 3. Retrieved from: https://www.portaldahabitacao.pt/pt/ihru/estudos/plano_estrategico/documentos_plano_estrategico_habitacao.html

PML (2010). Relatório de progresso do Policiamento Comunitário - Alta de Lisboa Mais Segura. Núcleo de Desenvolvimento Estratégico Polícia Municipal de Lisboa.

Polikoff, A. (2010). Overview: Three remaining HOPE VI challenges. Housing Policy Debate 20 (1), 147-51.

Popkin, S. J., Levy, D. K., Harris, L. E., Comey, J., Cunningham, M. K. & Buron, L. F. (2004). The HOPE VI program; What about the residents? Housing Policy Debate 15 (2), 385-414.

Popkin, S.J. (2010). A glass half empty: New evidence from the HOPE VI Panel Study. Housing Policy Debate 20 (1), (February), 43-63.

Popkin, S.J., & Cunningham, M.K. (2009). Has HOPE VI transformed residents' lives. In In H. Cisneros and L. Engdahl (Eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities. (Washington DC: Brookings Institution), 191-204.

Pothukuchi, K. (2005). Attracting supermarkets to inner-city neighbourhoods: Economic development outside the box. Economic Development Quarterly, 19(3), 232-244.

Priemus, H., & Dieleman, F. (2002). Social Housing Policy in the European Union: Past, Present and Perspectives. Urban Studies, 39 (2), 191-200. Retrieved from http://usj.sagepub.com/content/39/2/191.short

Riccio, J.A. (2008). Subsidized housing and employment: Building evidence of what works. In: N. Retsinas and E. S. Belsky (Eds) Revisiting rental housing: Policies, programs and priorities (Washington DC: Brookings Institution), 191-224.

Rosenbaum, J. & Zuberi, A. (2010). Comparing residential mobility programs: Design elements, neighbourhood placements, and outcomes in MTO and Gautreaux. Housing Policy Debate 20 (1), 27-41.

Rosenbaum, J. (1995). Changing the opportunity by expanding residential choice: Lessons from the Gautreaux program. Housing Policy Debate 6 (1), 231-269

Rosenbaum, J., DeLuca, S., & Tuck. T. (2005) Crossing borders and adapting: Low-income black families in suburbia, In: X. D. Briggs (Ed.) The geography of opportunity: Race and housing choice in metropolitan America (Washington DC: Brookings Institution), 150-175

Rosenbaum, J., Reynolds, L. & DeLuca. S. (2002). How do places matter? The geography of opportunity, self-efficacy and a look inside the black box of residential opportunity. Housing Studies 17 (1), 71-82.

Rubin, V. (2009). Retail development in changing neighbourhoods, In: M. A. Turner, S. J. Popkin, & L. Rawlings (Eds). Public housing and the legacy of segregation (Washington DC: Urban Institute Press), 47-56.

Santos, B.S. (1985). Estado e Sociedade na semiperiferia do sistema mundial: o caso português. Análise Social, XXI (87-88-89), 869-901.

Santos, B.S. (1993). O Estado, as relações salarias e o bem-estar social na semiperiferia: o caso português. In B.S. Santos (Org.) Portugal. Um Retrato Singular. (Porto: Afrontamento), 17-54.

Saraiva, M. (2008). Planeamento e Concepção dos Espaços Públicos na Óptica da Prevenção da Criminalidade. Integrated Master's degree in Civil Engineering FEUP: Porto, Retrieved from: https://repositorio-aberto.up.pt/bitstream/10216/58494/1/000129399.pdf

Sard, B. & Fischer W. (2008). Preserving safe high quality public housing should be a priority of federal housing policy. Center on Budget and Policy Priorities, October 8 http://www.cbpp.org/9-18-08hous.htm, (accessed July 20, 2009).

Sard, B. (2004). Family Self-Sufficiency program imperiled by HUD's fiscal year 2005 budget request. March 24 http://www.cbpp.org/3-23-04hous.htm (accessed July 20, 2009).

Schwartz, A. (2010). Housing policy in the United States: Second edition (New York and London: Routledge).

Serra, N. (2002). Estado, Território e Estratégias de Habitação. (Coimbra: Quarteto)

Silva, P. A. (2002). O modelo de Welfare da Europa do Sul. Reflexões sobre a utilidade do conceito. Sociologia, Problemas e Práticas, 38, 25-59

Sistema de Segurança Interna, (2015). Relatório Annual de Segurança Interna. Retrieved from: http://www.portugal.gov.pt/media/18859123/20160331-rasi-2015.pdf

Soares, L.B. (1984). Urbanização Clandestina e Política Urbana. Sociedade e Território, 1(1), 18-28.

Steuteville, R. (2004). The new urbanism: An alternative to modern, automobile-oriented planning and development. In Urban News Publications http://www.newurbannews.com/AboutNewUrbanism.html, (Accesses November 11, 2010).

Tegeler, P. D. (2007). Connecting families to opportunity: The next generation of housing mobility policy, In: B. Smey & A. Jenkins (Eds.), All Things Being Equal: Instigating Opportunity in an Inequitable Time (New York: New Press).

Turner, M.A. (2009). HOPE VI: Neighbourhood recovery and the health of cities. In: H. Cisneros & L. Engdahl (Eds) From despair to hope: HOPE VI and the new promise of public housing in America's cities (Washington DC: Brookings Institution), 169-90.

Turner, M.A., Popkin, S.J. & Rawlings L. (Eds.) (2008). Public housing and legacy of segregation (Washington DC: Urban Institute Press.

Utt, R. D. (2009). The conservative critique of HOPE VI. In: H. Cisneros & L. Engdahl (Eds.), From despair to hope: HOPE VI and the new promise of public housing in America's cities, (Washington DC: Brookings Institution), 229-48.

Vale, L.J. (2000). From the Puritans to the projects: Public housing and its neighbours. (Cambridge, MA: Harvard University Press).

Van Kempen, R., Dekker, K., Hall, S. & I. Tosics, I. (Eds.) (2005). Restructuring large housing estates in Europe (The Policy Press, Bristol).

Varady, D. P. & Walker, C. C. (2007). Neighbourhood choices: Section 8 housing vouchers and residential mobility (New Brunswick, NJ: Center for Urban Policy Research).

Varady, D. P., Wang, X., Wang, Y., & Duhaney, P. (2010). The geographic concentration of housing vouchers, blacks, and poverty over time: A study of Cincinnati, Ohio, USA. Urban Research and Practice 3 (1) (March), pp. 31-62.

Venkatesh, S. A., Celimli, I., Miller, D., Murphy, A. & Turner, B. (2004). Chicago public housing transformation: A research report (New York: Columbia University Center for Urban Policy Research).

Verma, N., Riccio, J. A., Bloom, H. S. & Walter, J. (2005) Raising hope with Jobs-Plus." MDRC http://www.mdrc.org/publications/416/overview.html (accessed July 20, 2009).

Vilaça, E. (2001). O Estado da Habitação' Medidas sem Política num País Adiado, Cidades Comunidades e Territórios, 3, 83-92.

Zielenbach, S, &. Voith, R. (2010). HOPE VI and neighbourhood economic development: The importance of local market dynamics. Cityscape: A Journal of Policy Development and Research, 12 (1), 99-131.

Zielenbach, S, Voith, R. & Mariano. M. (2010). Estimating the local economic impact of Hope VI. Housing Policy Debate, 20 (3), 485-522.

(HOW) CAN INSTITUTIONAL DESIGN OF URBAN GOVERNANCE PROMOTE LEARNING CITIES?

Session T5.1 | June 1 | 11:00 – 12:30

E. R. Alexander
University of Wisconsin-Milwaukee, USA/APD, Tel Aviv, ISRAEL
eralexander96@gmail.com

ABSTRACT: This track's theme: cities' "models of cooperation and partnerships" implies the institutional design of urban and regional governance. Cities must cope with complex problems; another challenge: framing cities' governance to generate policies that reflect their "commitment to innovation and learning". This paper addresses the questions: how should institutional design frame cities' governance to enable their effective action, and can institutional design do this? First I define institutional design; then I discuss issues of urban and regional governance

that suggest some criteria for institutional design. Next I review five cases of institutional design of urban and regional governance. Finally, I develop their implications to answer the original questions.

KEYWORDS: institutions design urban regional governance planning.

INSTITUTIONAL DESIGN

What is institutional design: To understand institutional design, we have to define institutions. Institutions are:

> *"the rules of the game in society…the humanly devised constraints that shape human interaction…complexes of norms and technologies that persist over time by serving collectively valued purposes…some have an organizational form, others exist as pervasive influences on behavior." (North, 1990: 3).*

Institutional design, then, means designing institutions: devising and realizing rules, procedures and organizational structures to enable and constrain behavior and action and conform them to held values, achieve desired objectives or execute given tasks (Alexander, 2006: 4). Implementation often involves institutional design: when policy implementation demands new organization or reorganization, legislation, regulation or new routines and procedures, institutional design will be needed.

Institutional Design – where and who? Three "levels" are associated with different types of institutional design. At the highest level institutional design is applied to whole societies or addresses significant macro-societal processes and institutions. This is sometimes called "constitution writing" (e.g. the U.S. Constitution and the evolutionary but deliberate design of the EU and its institutions). But it also includes major national reorganizations and innovative strategic political-administrative programs, from the Justinian legal code to Roosevelt's New Deal. The people engaged here are statesmen (if they succeed) and politicians (if they do not) and their advisors, usually administrators and lawyers.

The next level involves policy and implementation structures and processes. This includes establishing and operating interorganizational networks, creating new organizations and transforming existing ones, and devising and applying incentives and constraints in the form of laws, regulations and resource deployment to develop and implement policies, programs, projects and plans. This is the level associated with substantive policy and program fields: economic development, energy, land-use planning and development control, housing, transportation and infrastructure, environmental policy, education, health and other social and human services.

At the lowest level we find intra-organizational institutional design, addressing organizational sub-units and small semi-formal or informal social units and processes: committees, teams, task forces, work groups etc. This occurs in every field, from the global corporation's "matrix" organization to the weekly poker club in Brady's Bar. Intended to ensure effective and timely task performance, this level engages anyone involved in initiating and managing an activity or process in an administrative-managerial role.

Knowledge and practice: Applying theoretical knowledge to institutional design is problematic, for four reasons. 1) Ignorance: because institutional design is a relatively new concept, it can only have a limited and eclectic knowledge-base borrowed from other disciplines and practices, and untested in realistic terms. 2) The intrinsic nature of design, for which abstract scientific models or simple technologies are useless. 3) The ecological fallacy, which makes mechanical application of universal abstract knowledge problematic. 4) The multi-party nature of institutional design: often the first challenge is to get all the involved actors to agree on their common purposes. For these reasons and others the "Handbook of Institutional Design" will never be written, and it will be useless if it is.

Nevertheless, there are some concepts and areas of knowledge that may be helpful to the practitioner. One concept is governance, where institutional economics can be a useful tool for institutional analysis. Williamson's (1975, 1985, 1995) transaction cost theory offers a repertoire of forms of governance that reflect transaction related adaptations of the "perfect" market (Alexander, 2001). At the meso-level the concept of interorganizational coordination structures (Alexander, 1995) also presents some institutional design options. At the intra-organizational micro-level, agency theory (Miller, 1992: 67-177) provides concepts and models that are essential for informed intra-organizational institutional design (Alexander, 2006: 8-12).

The fact that institutional design is a relatively new concept is responsible for the paradoxical contrast between the usefulness of theoretical knowledge (discussed above) and the wealth of applied institutional design experience. The practitioner can share some of this experience through relevant case-studies (Alexander, 2006: 12-24). Some cases of institutional design of urban and regional governance are briefly reviewed later, focusing on their implications for promoting learning cities.

INSTITUTIONAL DESIGN CRITERIA

Crises, problems and challenges: Social, economic, demographic and technological change over the last decades are confronting cities and regions with unprecedented challenges. These trends can be summarized as global urbanization. The results show in the growth of megacities and conurbations and their associated problems and opportunities. Globalization is accelerating global integration and interdependency, when instant communication and spreading network linkages shrink time, and free flows of capital with shifting production supply chains shrink space. Multiscalar interactions, the dynamics of change and growing complexity have increased uncertainty. Traditional models of governance cannot cope, and crises are forcing their adaptation and transformation.

At the national and international scales we can illustrate this with two examples of such crises: global warming and EU economies. The threat of climate change and its predicted effects has stimulated the evolution of international cooperative networks and the adaptive transformation of institutions. These processes have filtered down to the subnational level, with the development and institutionalization of regional and local climate change adaptation planning and action (Alexander, 2015).

Another case is the present EU situation and ongoing economic recession. With the EU's evolution from a loose association of sovereign nation states towards an "ever closer union", the financial crisis of the euro exposed the inadequacy of EU institutions to address the problems of interdependence between member states and economies. The flaw in the EUs institutional design is the absence of a mechanism for mutual financial support and shared fiscal responsibility between nations. Only now this is under improvised development, with the allocation of new powers and resources to the EU central bank (Alexander, 2012).

At the subnational level – regional, metropolitan and local – problems are also widespread. They are less newsworthy than global and international crises, except when they explode as disaster death-tolls due to poor and criminal construction or the threat of epidemic after the breakdown of barely existent waste-management systems. These problems vary widely between towns, cities and regional conurbations, but all are symptoms of shortfalls in urban and regional governance. They include social polarization and segregation, environmental degradation, crime, poverty and functional breakdowns in services. Observable impacts include traffic congestion, open sewers, slums and homelessness, illiteracy and unemployment.

Issues in urban and regional governance: The problems discussed above present challenges to urban and regional governance, which traditional institutions are often ill equipped to meet. Limited resources may be part of the problem, but poor performance may also be linked to institutional design flaws. One relevant question is the distribution of functions between levels and scales of government and governance, ranging from national to local. Here distribution of functions subsumes the assignment of authority and/or responsibility coupled with allocation of resources, or the capacity to mobilize or raise needed resources.

Another set of institutional design questions – also relating to interscalar governance – concerns relations between the public and private sectors and civil society: state agencies, firms and NGOs. How to identify the parties among these, which are relevant to the particular issue at hand, and how to structure positive interaction between them are questions institutional design has to answer. Here the issues are improving urban and regional governance performance in general and promoting "learning cities" in particular.

One source for answers is knowledge about models of urban and regional governance, which is accessible in a vast literature. US experience, for example, offers a repertoire of models of city government (involving relations between mayor and council, appointed officials and independent commissions), and metropolitan-regional governance (from Special Districts to regional governments) that have been studied and evaluated. Learning from such experience can be useful, but its applicability is limited by constraints of context: what worked well in one place may not fit another context at all.

Other answers may come from "best practices": innovative models and processes devised to overcome the limitations of existing institutions. For urban and regional governance, one exemplar is participative budgeting. Invented in Porto Allegro, Brazil, at the end of the 1980s, it spread through Latin America and Europe, and has been adopted by several thousand cities (Sintomer, Herzberg and Röcke, 2008). Complementing traditional municipal institutions, participative budgeting gives ordinary citizens more say over cities' policies, projects and services, vis a vis prevailing power structures. Budget priorities are set by citizens' assemblies, which also elect delegates to a Citizen Board that monitors their implementation. Fair distribution of funds between neighborhoods and districts is ensured by a transparent budget allocation formula that includes equity criteria (Cabannes, 2004; Wampler, 2007). This is a striking case of innovative institutional design to address perceived flaws in urban governance.

Toward criteria for institutional design: Usable criteria for institutional design of urban and regional governance are limited. Generalizations about "good" institutional design are impossible, except at a relatively high level of abstraction. Existing information, experience and research stress the importance of "goodness-of-fit". So, institutional design has to be context- and case-specific, limiting the validity of all criteria except those that can apply to any context and case within the broad category of the issue at hand: effective urban and regional governance.

For the same reason, we cannot focus on promoting learning cities through appropriate institutional design. Even if we knew, in general, what factors in cities' governance made them "learning cities" or predisposed them to turn into "learning cities", we could not translate this into case-specific institutional design prescriptions. That is because, again, appropriate institutional design would vary between different contexts and cases, depending, for instance, on the city's political, institutional and cultural context, its resources and economic development.

Consequently, new or transformed models of urban and regional governance should meet the following general criteria:

Effectiveness: Collaboration between all involved and affected parties through multidimensional and interscalar networks, for effective policy- and decision making, management and implementation.

Authority: Legitimating institutions by maximizing democratic participation gives governance the authority it needs.

Accountability means transparency and publicness, with monitoring and control to enforce responsible practices and rule-of-law.

CASES: LEARNING FROM EXPERIENCE

Below five cases of institutional design of urban and regional governance are reviewed. The first is the Amsterdam metropolitan region in the Netherlands. A comparison follows of the (1929) Regional Plan for New York, USA, with the recent SEQ2000 regional planning process for South East Queensland, Australia. Finally, metro-regional governance of Shanghai, China, and Chicago, IL, USA are analyzed and compared.

The Amsterdam metropolitan region (NL): In the Netherlands the institutional design of metro-regional government is constrained by cultural-constitutional considerations, which recognize only three levels of government: national, provincial and local. These have prevented the addition of a regional level, besides the traditional Provinces.

In 1972, growth in Amsterdam and its surrounding area, and the need to coordinate regional functions (e.g. transportation and housing) pushed 25 municipalities to join in creating a consultative body: IAO. This happened in spite of the usual city-suburban conflicts, which the IAO's informality should overcome: a group of representatives of the member local governments met periodically to address common regional issues and problems. The IAO had no staff; its members (mainly Amsterdam) provided staff backup, and decisions on common policies or collective action were by consensus.

But into the 1980s something more concrete was wanted. A better platform to coordinate metropolitan-regional planning would produce more effective policy (Amsterdam's interest) and reduce municipalities' dependence on state funding – the government's interest. Amendments to the national law on local government enabled the transformation in 1986 of the IAO into the ROA, which was governed by the mayors of its member communities, chaired by the mayor of Amsterdam. Though now a statutory organization, the ROA had only a small professional staff, housed in the Amsterdam municipal offices.

In 1987 the Province ceded some of its planning powers to Amsterdam, and proposed decentralizing Amsterdam's municipal government by breaking the city up into separate communities. This added to ROA's strength, setting the stage for enhanced regionalization by limiting the city's power, a precondition for the other communities to participate in regional governance. A new law that turned the ROA into a formal statutory body, symbolized by its new name: Regionaal Orgaan Amsterdam, left the ROA relatively weak: its organization and staffing were not much different from before.

Still, this was just preliminary to a more radical change planned by the national government, which was actively promoting the creation of City-Provinces. But these were not inevitable: there was opposition to both of their main components – elected metropolitan-regional government, and the break-up of the central cities. In 1995 opponents in Amsterdam and Rotterdam demanded referenda on the proposals, with results that killed the trend towards formal metro-regional government for a decade (Alexander, 2002).

Only in 2006 new national legislation revived the idea as City-Regions, and the ROA became Stadsregio Amsterdam that included 16 local governments with a population of ~1.5 million, governed by a board made up of

representatives of its member local governments. Its remit includes infrastructure, transportation and traffic (running the regional-local transit: metro, busses and trams), youth care and other social services, and the environment. Today Stadsregio Amsterdam is a full-fledged metropolitan-regional government and planning agency that channels all national government funding for the region and its communities, and with a budget of ~ EUR 350m.

My case study was done in 1998, so I cannot explain why what failed in 1995 succeeded in 2006. I can only surmise that two differences may explain the different outcomes. The 1995 proposal mandated the creation of City Provinces, though local governments could later opt out, as Almere did from the ROA. In the following referenda, voting on an all-or-nothing project effectively mobilized all the opposition. The 2006 legislation was not mandatory: it only enabled the designation of City-Regions by participating communities' request and prior agreement. This included consensus on their institutional design, so that a smaller core of cooperating municipalities could initiate a City-Region. This is what apparently happened when the ROA became Stadsregio Amsterdam with 16 local governments.

This case has one clear lesson: the importance of goodness-of-fit. In spite of the well-known Dutch consensual culture, in 1995 citizens resisted an imposed institutional design that broke down their traditional community identities. Ten years later the same communities accepted another institutional design (though for the same purposes and tasks) that made the form of collaboration conditional on their mutual agreement.

Metropolitan-Regional Planning in New York and Queensland: Comparing the institutions that were set up for planning the metropolitan regions of New York (USA) and S. E. Queensland (Australia) offers some enlightening lessons. The subjects of this comparison are the evolution of the New York Regional Plan Association in developing the 1929 Regional Plan of New York and its Environs, and the institution and operation of a complex intergovernmental structure for the SEQ 2001 plan for the South East Queensland metropolitan region.

New York: In the first case, the personal initiative of a prominent banker, Charles Norton, established the Committee on the Regional Plan of New York. It was charged with developing a plan for the metropolitan region's projected growth: locating urban expansion and developing a transportation network for needed accessibility.

The Committee was an extragovernmental body representing primarily business and financial interests, supported by a professional (planner) head with a small (foundation funded) staff. Its isolation from its environment is the most striking thing about it. There were no formal linkages to other important actors: relevant governments and public agencies (e.g. City and NY State government agencies), special purpose agencies, and other interests such as labor, social and housing advocates, etc. The only effort at broadening its base – a "Regional Council" of "250 prominent citizens" – was a failure.

The Committee's staff developed its plan applying the rational (professional-technocratic) planning model. Its outside interactions were never institutionalized in any way: dialogue with relevant public agencies was limited to informal consultation and information exchange between officials and staffs. Consequently, rather than the Committee's emergent proposals influencing other planning in progress, outside plans and projects modified its metro-regional plan.

The result was a plan that was more a collage of existing proposals than an integrated vision of its own. The Committee's leaders' skepticism on the feasibility of their aspirations: to prepare a rational-scientific plan and implement it through informal influence and the persuasion of professional expertise, proved to be a self-fulfilling prophecy in the face of reality. In retrospect, the plan's failure can be attributed to the flaws in the institutional design of the planning process and its agents. After the plan was completed, the Committee disbanded to create the NY Regional Plan Association (NYRPA) as its successor, reproducing its ancestor's organizational model. Though it is quite a prestigious actor in the state (and perhaps national) planning arena, the NYRPA is just a respected academic think-tank: apparently no lessons were learned from its predecessor's experience.

Queensland: The SEQ2001 project, by contrast, shows a successful application of institutional design. Here the challenge was to organize and carry out a planning process to resolve the actors' concerns about the distribution of power, in a "cooperative partnership" between the participants in the regional planning effort. The conference founding this partnership included 20 local governments, the existing regional organization, State and Commonwealth government agencies, and community and business groups.

The institutional design product was a complex (but effective) coordination system (Alexander, 1995: 253-263) composed of several interlocking organizational structures. Governance and policy direction was by an interorganizational group set up by the State, the Regional Planning Advisory Group (RPAG), representing all the primary actors and stakeholders, which was backed up by a more broadly-based Advisory Council. The RPAG was a new planning agency with its own professional staff seconded from participating agencies.

Overlapping the RPAG was another new organization: S.E. Queensland Organization of Councils (SEQROC) – a formal association of all the region's local governments – and its sub-regional affiliates. These provided the local government input to the regional planning process, through ad-hoc working groups of local government officials and professional staff. Thus, while the RPAG provided the "top-down" integrating element of the planning process, SEQROC was the "bottom-up" component providing the essential interaction with the relevant social and institutional environment.

Planning was highly interactive, unfolding over several years. The first stage included 19 reports and concluded with a plan and regional development policy: RPAG 1993. This plan became the subject of formal negotiations with the local governments, ultimately producing the final plan SEQ2001. Interestingly, though one of the main purposes of the regional planning process was to avoid a binding statutory regional plan, the SEQ2001 plan was formally adopted by all the relevant governments through a binding Memorandum of Agreement. This was achieved by enlisting local governments' active engagement in the planning process (together with some other sectoral interests and stakeholders) and instituting a very open process of intensive consultation and participation.

Comparison and discussion: These two cases followed very different conceptual models, each in its respective place and time. The 1929 NY Regional Plan was conceived as a technical-professional planning exercise, following the textbook rational model that prevailed at that time. Begun in the early '90s, the SEQ2001 planning process played itself out in another time and place. By then Australia had its present model of democratic governance with multiscalar participation and collaborative planning modeled on communicative practice.

Two factors account for these cases' different outcomes: Queensland's success and New York's failure. First: openness to – and interaction with the environment. New York's Committee on the Regional Plan and its staff had no formal interaction with their environment at all. The Committee did not include any others besides the business interests represented by its "citizen" members, and there was no provision for staff interaction with any of the actors in its institutional environment. Survey and research for technical planning were the main sources of information on the world outside.

By contrast, the SEQ2001 project was structured to be open to its environment and to interact with and get input from all relevant outside interests and actors. One channel was SEQROC and its sub-regional branches, the project's "bottom-up" planning arm. The other was the extensive network of specialized teams and working groups, which included co-opted members representing a wide array of actors, interests and constituencies in the region and the project's institutional environment.

The second institutional design factor is recognizing stakeholders and affected interests, and enabling their effective participation. This was totally absent in the preparation of the 1929 Regional Plan for New York, which involved "civic" (business) interests alone, supported by professional expertise. Again, the SEQ2001 project aspired to develop a plan which would be "owned" by all stakeholders and affected parties, as a result of their active involvement in its preparation. Evidence of its success is the plan's adoption by all the region's local governments.

Shanghai and Chicago: metropolitan-regional governance and planning

Shanghai: Like all China's metropolitan regions, the Shanghai area has three levels of local administration. At the regional level is the municipality: the City of Shanghai, covering approximately the whole (functional) metropolitan area and a population of ~ 24 m. This area has 16 administrative Districts, with District 8 including the central city (~ 10m residents and some adjacent communities. At the lowest level, each community has its own local administration and planning bureau.

Formal planning in China is also hierarchical. There are five scales of plans (not completely corresponding to administrative territories) ranging from the regional Urban System Plan through the municipal City Master Plan (a broad-stroke but statutory plan), the District Master Plan, the Regulatory Plan (a detailed plan with statutory status) to the final site plan for development and construction. Though both governments and plans are strictly hierarchical, with higher levels prescribing lower level decisions, for actual planning and development processes this is only partly true. In fact, plans at lower levels are often amended, and local projects (nonconforming to higher level plans) are proposed and promoted by local government agencies. The results on the ground are the products of negotiated compromises between the involved parties – state officials and public planners at different levels of government, and often also public and private developers.

The hierarchical system of governance and planning breaks down under the limits of state power. In reality the flow of resources – funding for local development and services, and local governments' budgets that include officials' and staff salaries – is not all top-down, because state funding does not cover all these costs or meet local demands and

officials' aspirations. Institutionalized state capitalism turns local governments into land developers, when profits from their projects (which include commercial development and market housing) become an important source of revenue.

Chicago: Formally, the US is much more complex than China, and Chicago is no exception. There are three levels of general government: federal, State and local. At the local level there are two types of government. The county is at the higher scale, covering all unincorporated land, i.e. the territory between the lower scale local governments: municipalities (cities) and townships. This is complicated by many sectoral-functional governments (special districts and authorities, with their own boards and taxing powers) at various scales. At the local level, school districts are ubiquitous; at the sub-regional and regional levels special districts and authorities manage and operate infrastructure and related services e.g. transportation, sewerage, water supply and energy, as some do at the interstate level, e.g. the NY-NJ Port Authority.

In the Chicago metro-region (population ~ 10m.) there are important regional agencies such as CMAP (Chicago Metro. Agency for Planning) and the N.E. Illinois Transportation Authority. Local general governments include 7 counties within which are the City of Chicago (population ~ 2.7m.) and other suburban municipalities and exurban townships. The city of Chicago contains 77 neighborhood communities (Wards), which elect one city councilor each.

Clearly, government here has less hierarchy and is much more fragmented than in China. Metro-regional governance is even more complex, due to the roles of additional governmental and nongovernmental actors. These include public federal and State agencies, such as DHUD and the Illinois DoD through housing programs, and the US and Illinois DoTs for transportation infrastructure funding. Also, private market and civil society actors are heavily involved, formally (through statutory and program-related participation and procurement requirements) and informally: firms, banks, sectoral interest NGOs e.g. Chambers of Commerce, unions, "greens" and community organizations.

"Chicagoland"'s planning institutions are a complex network, rather than Shanghai's simple hierarchy. On the sectoral side (transportation and energy facilities and infrastructure, urban redevelopment and housing) federal, State and regional agencies are involved in planning through their relevant programs and funding. For general comprehensive regional planning, CMAP was created in 2005, as a platform for collaboration between regional agencies and local governments to integrate land-use and transportation planning. CMAP is governed by a board of local government representatives (proportional to their share of the region's population) with a professional staff.

In turn, local governments have their planning agencies and commissions producing their comprehensive plans and zoning plans and codes. For example, governance and planning in the City of Chicago – making policy, planning and plan adoption, review and approval of submitted plans and projects and permitting – involve diverse officials and staff interacting with developers, businesses, NGOs and citizens. Officials in the City Council, the Planning & Zoning Commission, and Ward councilors, work with staff from the Housing, Economic Development, and Buildings Departments and the Planning Commission.

The planning system is complex too. CMAP does regional planning, coordinating sectoral plans and projects. Its indicative (not mandatory) plans offer integrative schemes for regional urbanization and development policy. At the same time, responsible government agencies produce sectoral plans (highways, sewerage, mass transit, airports etc.) for public investments in strategic infrastructure networks and facilities. At the local scale, counties, cities and townships make their comprehensive plans and zoning. Regulatory planning at the local level respects higher-level sectoral plans (because it must) but adopts regional planning advice or not at its political pleasure.

At the region's center, the City of Chicago has a complex, not hierarchical, planning system that produces its regulatory zoning plan and code, and detailed project plans (area, corridor or site) for development. These plans are the negotiated results of recursive interactions between elected and appointed officials, agencies' professional staff, developers and other interests. Projects are often initiated by developers; then negotiations over submitted plans and the city's regulatory powers produce needed public improvements such as parks and affordable housing.

Analysis - comparing Shanghai and Chicago: Systematic comparison reveals the differences between the two regions' governance and planning and suggests some factors to account for them. Shanghai is relatively simple and hierarchical, except when the top-down flow of state direction and public resources is reversed. Then local "state-capitalism" produces a bottom-up stream of development proposals, which the governance/planning system resolves by political bargaining between state authorities, local governments (City of Shanghai and Districts) and development interests.

In the Chicago area urban governance and planning involves complex networking. Actors need to be smart local activists, or political, professional or economic insiders to really work the system. With formal government that is decentralized and fragmented, governance consists of partly institutionalized, partly informal networking between public/state agencies, private/market firms and NGOs. A complex decentralized planning system produces a mix of

indicative and mandatory plans at various scales, down to detailed development plans and projects. Planning and development decisions emerge from dynamic networking interactions, simultaneously at all levels, between the actors involved in the region's urban governance.

What factors might account for these differences? Their divergent histories and different cultures have produced very different contexts for urban-regional governance in China and the USA. Perhaps some contextual factors may be responsible for the observed differences between Shanghai and Chicago. One likely factor is the formal institution of government. China's government is organized as a unitary modified hierarchy; the USA is a federal state with decentralized and fragmented government. Another is the two countries' different socio-economic systems. China is a transitional command economy with emerging private and state capitalism. The USA is a capitalist market economy with state support and regulation.

What can we learn from this analysis, for institutional design of urban governance? What do these cases show, when metro-regional urban governance includes planning and urbanization-development policy (besides management, administration and service delivery) that involves intervention in land-property markets and development decisions. Planning in China is a mix of hierarchical planning initiatives with regulation of a limited market, modified by negotiated decisions dictated by state capitalism. In the US where urban development is essentially a lightly regulated private market, planning combines formal state regulation with incentives to mobilize and direct development in the public interest.

Clearly, urban governance works very differently in these two societies, which demands very different institutional design for programs that involve urban governance if they are to fit their respective contexts. These cases emphasize the importance of "goodness-of-fit" as a critical criterion for institutional design if it is to succeed.

DISCUSSION: INSTITUTIONAL DESIGN FOR LEARNING CITIES

General – institutional design of urban governance and planning: None of the cases here involves "learning cities", but they can teach us something about institutional design of urban governance in general and when it involves planning in particular.

The evolution (almost by trial-and-error over four decades) of Amsterdam's present effective metro-regional governance shows the importance of its socio-political and cultural context. Forms that did not fit (like the first City-Provinces) failed, proving how "goodness-of-fit" is a necessary (but not sufficient) criterion for feasible institutional design. The comparative analysis of Shanghai and Chicago urban governance in their radically different contexts of China and the USA confirms this conclusion: again, the importance of "goodness-of-fit" to each case's specific context in time and space.

In the S.E. Queensland and New York cases the critical difference, producing their different outcomes (success and failure), was the planners' openness to and interaction with their environment. New York's Commission for the Regional Plan failed, as a closed system where planning was essentially a technical-professional task. Not designed for interaction with its environment, its planning had little impact on its environment either. The SEQ2001 project succeeded due to its deliberate institutional design for openness, planning through an interorganizational coordination system structured to facilitate planners' interaction with the relevant environment.

We can apply the lesson of these cases to add expand our first general criteria for the institutional design of urban governance. With two new criteria, the list is as follows:

- Effectiveness collaboration networks between stakeholders and affected parties.
- Authority: legitimate institutions by maximizing democratic participation.
- Accountability: transparency, publicness, monitoring and control.
- Openness: maximize positive interaction with relevant environment.
- Goodness-of-fit: compatibility with social, political, cultural and institutional context.

Urban governance for learning cities: Coming back to our basic topic, what are the answers to our original questions about institutional design for learning cities? Before we can say anything about institutional design, however, we must ask: what do we know about urban governance for learning cities? The answer is: very little. Potentially useful concepts and models for promoting creativity and innovation, such as SOHO-like "creative cities" or innovation clusters like Silicon Valley are too contested and empirically vague to be the basis for any categorical generalizations, and anyway we don't really know what, in urban governance, if anything, made these exemplars happen or could replicate them elsewhere if it did.

There is another possible source of knowledge on how to deploy existing or modified instruments of urban governance to promote learning cities: successful cases where that was done. Such exemplars have potential for institutional design, but have their limitations. They cannot be the basis for generalizations or broad prescriptions, because case- and context-specific factors qualify their applicability. This is especially true for institutional design, because of the importance (as we have seen) of goodness-of-fit. On the other hand, these exemplars constitute a repertoire of successful cases – the lessons of experience that can be drawn upon to imitate or replicate when and where it is appropriate.

Institutional design of urban governance for learning cities: Now we can ask again: can institutional design of urban governance promote learning cities, and if it can, how? One answer is clear: there are no general prescriptions for what the institutional design of urban governance should be to enable or facilitate cities' "learning" and promote creativity and innovation in their territories. Nor could there ever be, even if our knowledge improved on what makes for "learning cities".

That is because talking about institutional design in general (not only for "learning cities") is impossible, except in the abstract: effective institutional design for real life can only be issue- case- and context-specific. Any useful prescriptions for actual and concrete situations can only be contingent and limited, qualified by relevant similarities in issue- case- and context-characteristics. For the purpose of this discussion, though it addresses a common issue - urban governance for learning cities – the variation between particular cases and the differences between real contexts are so great as to make any general statements meaningless.

Nevertheless, applying institutional design of urban governance might help cities to transform themselves into "learning" polities supporting communities' creativity and innovation. That is largely through consciousness-raising, including institutional design considerations in their approach to this issue. How to do this depends on the situation and case at hand: in Os trom's (2005) terms, what is the action arena? This depends on answers to several questions.

1. **Place:** Where is it? Contexts differ between cities – say Sheboygan (WI, USA), Cali (Cauca, Colombia), Abidjan (Cote d'Ivoire), Yogjakarta (Java, Indonesia) or Lisbon. These are in different continents, countries and cultures, some are capitals while others are smaller, secondary cities. The institutional design approach for each of these might have to be radically different to fit its context.
2. **Time:** When is institutional design needed? At what stage in the progress from idea to action? In the beginning we're talking about institutional design of the planning process itself; if planning is at an early stage: institutional design for developing policies; if planning is in progress: institutional design for implementation – if early, of policies, if more advanced: of plans, programs and projects.
3. **Agency:** Who is the initiator or active agent addressing the issue in the case at hand? This can be an individual, group, or organization, from various areas of city-regional governance. They may be political officials, legislatures, state or public agencies within government, or other agencies/institutions/NGOs involved in city-regional governance. The Sheboygan WI Chamber of Commerce might want to turn their town into a "learning city", a smaller Madison (the state's capital and university city) or even start a little Silicon Valley there. Abidjan's Director of Planning might propose to the city council a project: "Abidjan – learning city" with her Planning Department as the lead agency; Lisbon's Mayor might consult the university's Geography Department on whether to make Lisbon a "learning city" and how to develop and effect municipal policies to promote creativity and innovation.

Triangulating these dimensions sets the parameters of institutional design as an integral part of a planning process for urban-regional governance to promote "learning cities". In the course of this process, institutional analysis should identify the appropriate action arena and recognize the relevant actors: critical stakeholders, affected parties and interests, and the institutions, agencies and actors making up the policy-issue set in this particular context.

Then the challenge is to devise, implement and operate interactive structures, tools and processes that deploy the involved actors as effectively as possible. The institutional design response can draw on the lessons of experience, searching out exemplars that may be transferable or adaptable to the case at hand. Again, this sounds academic and abstract, but it cannot be otherwise. We have to be situated in the reality of the specific case to understand what these terms mean in practice. Meanwhile, institutional design experience and case studies can help, and successful institutional design exemplars and "best practices" offer a repertoire of possible solutions.

REFERENCES

Abbott, J. (2009) Planning for Complex Metropolitan Regions: A Better Future or a More Certain One? Journal of Planning Education & Research 28 (4): 503-517.

Alexander, E. R. (1995) How Organizations Act Together: Interorganizational Coordination in Theory and Practice. Amsterdam: Gordon & Breach.

Alexander, E. R. (1997) Transferability in cross-national planning and urban policy research: a mapping method and pilot demonstration. Geography Research Forum 17: 37-53.

Alexander, E. R. (2001) A Transaction-cost Theory of Land Use Planning and Development Control. Town Planning Review 72 (1): 45-75.

Alexander, E.R. (2002) Metropolitan-regional planning in Amsterdam: a case study. Town Planning Review 73 (1): 17-40.

Alexander, E.R. (2006) Institutional design for sustainable development. Town Planning Review 77 (1): 1-28.

Alexander, E.R. (2009) Symposium Discussion: Planning in Complexity – Institutional Design Implications. Journal of Planning Education & Research 28 (4): 518-524.

Alexander, E.R. (2012) Institutional design for value capture and a case: the Tel-Aviv metropolitan park. International Planning Studies 17 (2): 163-178.

Alexander, E.R. (2015) Extreme events evaluation and Vulnerability Assessment in Planning: The Institutional Design of Climate Change Planning and Policy. Presented at IX International Workshop on Evaluation in Planning, Bari 16-17 March 2015

Alexander, E. R. **(2016)** Effectuating Public Values by Institutional Design,**in J.Bryson, Cosby & Bloomberg (eds.) Creating Public Values in Practice**, N.Y.: Routledge.

Cabanes, Y. (2004) Participative budgeting: a significant contribution to participatory democracy. Environment and Urbanization 16 (1): 27-46.

Florida, R. (2002) The Rise of the Creative Class. New York, NY: Basic Books.

Glaeser, E.L. (1999) Learning in cities. Journal of Urban Economics 46 (2): 254-277.

Grodach, C., N. Foster and J. Murdoch III (2014) Gentrification and the artistic dividend: the role of the arts in neighborhood change. Journal of the American Planning Association 80 (1): 21-35.

Larsen, K. (1999) Learning cities: the new recipe in regional development. OEDC Observer No.217/218. www.oecdobserver.org/news/archivestory.php/ald/5.7/ accessed 29/4/16.

Miller, G. J. (1992) Managerial Dilemmas: The Political Economy of Hierarchy. New York: Cambridge University Press.

North, D. C. (1990) Institutions, Institutional Change and Economic Performance. Cambridge UK: Cambridge University Press.

Ostrom, E. (2005) Understanding Institutional Diversity. Princeton: Princeton University Press.

Sintomer, Y., C. Herzberg and A. Röcke (2008) Participative budgeting in Europe: potentials and challenges. International Journal of Urban & Regional Research 32 (1): 164-178.

UNESCO (n.d.) Global Network of Learning Cities. Learningcities.uil.unesco.org/home accessed 29/4/16.

Wampler, B. (2007) Participative Budgeting in Brazil: Contestation, Cooperation and Accountability. College Park, PA: Penn State Press.

Wang, L. and C. Hoch (2013) Pragmatic rational planning: comparing Shanghai and Chicago. Planning Theory 12 (4): 369-390.

Williamson, O. E. (1975) Markets and Hierarchies. New York: Free Press.

Williamson, O. E. (1985) The Economic Institutions of Capitalism. New York: Free Press.

Williamson, O. E. (1995) Transaction Cost Economics and Organization Theory, pp.207-256 in O.E.Williamson (ed.) Organization Theory: From Chester Barnard to the Present and Beyond. New York: Oxford University Press.

CITIZEN ENGAGEMENT IN INDIAN URBAN PLANNING: A JOURNEY FROM CITY DEVELOPMENT PLAN TO SMART CITY PLAN

Session T5.2 | June 1 | 14:00 – 15:30

Aditi Chaturvedi
Researcher (Masters of Urban and Regional Planning)
Center of Environment Planning and Technology, Ahmedabad, INDIA
Email: aditi.chaturvedi.mplan14@cept.ac.in

ABSTRACT: "India's population is 1.21 billion, of this 30% lives in urban areas or cities and the rate of urbanization increases at 2.4% every year" (India Demographics Profile, 2013). This population is comprised of people of all kinds, types and sizes who are extremely different in their social statuses, jobs, cultures, religions, beliefs, food, clothing, temperaments, etc. This massive urbanization has in turn produced a huge strain on the availability of resources and infrastructure in urban centres. To accommodate this populace, India needs to find smarter ways to manage complexities, reduce expenses, increase efficiency and improve the quality of life depending upon citizen's need. However effective urban planning intervention can result in sustainable future which can be achieved by considering the citizens voice in decision making. The past trends of citizen engagement in urban planning for Indian cities like legislation before year 1900, town planning acts and changes in citizen participation from 1900-1950 and 1950 to 1992 demonstrates various strategies used by government to increase public satisfaction. The main consent for citizen participation introduced with 74th constitutional amendment act in cities of west Bengal, Kolkata, Chennai etc which has shifted the trend of top down planning process to involve people in decision making.

Meanwhile for betterment in living conditions of urban areas various city concepts are being introduced globally like intelligent city, sustainable city, digital city, global city and now smart city. So in order to have a city equipped with basic infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions government of India identified 98 cities to be converted as smart city. Concern is expressed by researchers, authors, academicians etc that citizen engagement could be effective if the authorities develop a framework overcoming the threats of exclusion and bringing together various communities on a single platform. So Smart City Mission is mandating citizen participation in development process (MoUD guidelines on smart cities, June 2015).

In Indian context the smart city implies to city planning based on economic, social, environmental and culturally sensitive policies that allow everyone to improve economically as the physical area improves. But in between the growth and development to achieve smartness; the question of inclusiveness arises i.e. how the citizens could be engaged in policy making, development plan and proposed projects. Cities need planning which recognizes that every individual has the right to full and equal participation in the built environment and they can shape their own environment to meet their own needs. In order to fulfil citizens need, their participation plays very important role. So smart city mission is engaging public to give their opinion on each and every project and the study is to analyze citizen engagement in smart city planning and implementation.

The paper explores past to present trends of citizen engagement in Indian urban planning process in order to analyse the dramatic change in citizen involvement from City Development Plans and Master plans to Smart City Plans based on Sherry R. Arnstein's ladder of participation. The methods adopted are both qualitative and quantitative to analyse the total number of citizen participation through all mediums. Out of the 20 cities selected in the first phase to be converted as smart city, ranking given by central government on 'mygov.in' Indore is selected as good facilitator for citizen engagement. So the study will focus on citizen participation in one of the selected smart city development plan to review the performance of public engagement.

KEYWORDS: smart city; citizen engagement; top down approach; bottom up approach; ladder of participation.

INTRODUCTION

India is having diverse culture and cities are planned with very high influence with it. For example the traditional heritage cities like Varanasi, Amravati etc. The change in physical landscape of Indian cities can be seen suddenly after independence. The growth needed city development plans because of high rate of rural to urban shift (three-fourths of Indian cities functioning without a Master Plan, 2012). Development plans mainly demarcate land for different uses and design cities with the viewpoint that people will fill them, use them according to the laws provided and adapt accordingly. This is in fact almost difficult to believe as history has proved and common sense dictates that cities only exist because of people living in them. The growth trends of Indian cities shows that time to time as the new concept of modifying cities came up, increased poverty and inequality and ultimately results in unsatisfied citizens. Similar arguments have been made on recently launched Indian smart city mission by researchers and writers like Shruti Ravindran, Steve Poole etc. Indian cities need planning which recognizes that every individual has the right to full and equal participation in the built environment. But very often the fear of ending smart cities project as gated community for elite class, the concern expressed by Rahul Mehrotra(2015), Ayona Datta(2016) etc. Alberto Vanolo, for his article "Whose smart city?" (opendemocracy.com) has presented his worries about citizens being disregarded, and the development of smart cities to be of interest only to the IT sector companies like IBM and CISCO. Mathew Idiculla's article "Will Smart Cities stifle local democracy?" (opendemocracy.com) pointed out that the smart cities would have selective citizenship, as they would be monitored majorly through online platform.

So with the introduction of smart cities it's time to formulate an improved model of democracy that includes more elements and embraces the meaning and importance of citizenship. As a result there is a need to understand citizen participation in urban planning process and more importantly its sustainability for long term civic satisfaction. For having accountability and transparency, engaging citizens in making of development plans is very important. India has a representative form of government, which means that the government is elected by the people of the country. But, due to the large and varied population in the country, it becomes very difficult to address the needs and aspirations of the entire country at once. In his paper "Varieties of Participation in Complex Governance", Archon Fung argues that "typically elected representatives or administrative officials is somehow deficient as they may lack the knowledge, competence, public purpose, resources, or respect necessary to command compliance and cooperation". Thus it is essential to work on the gaps between the government and the public. This gap can be address and resolved by the implementation of citizen engagement practices. Basic human rights including freedom of speech, expression and the press; freedom of religion; freedom of assembly and association; and the right to due judicial process are critical in supporting a political culture where citizens are willing and able to participate in public debate. In order to have national growth through cities which are addressed as 'engines of economic growth' by Mahatma Gandhi, the government of India has announced two programs that deal with the realm of urban planning and aims at urban transformations; the two programs are:

- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
- Smart city mission (SCM)

While AMRUT aims at urban transformation of 500 cities listed from all around the country, the smart city development project was planned for development of 100 cities in the countries as smart cities, out of which 98 cities have been selected for the project. Out of those 98 cities 20 are shortlisted to be converted as smart cities in the first phase (Smart city mission, India).

Ever since the announcement of the development of the smart cities in India, there has been an argument prevalent that, these smart cities would result in an anti democratic environment. Since, there is no clear definition for the concept of smart city; planning process and the governance of these cities have been creating anxiety amongst the public along with excitement. But looking up the overall history of urban planning from conventional planning methods to new urban development methods, Smart City Mission is probably the first urban intervention which has adopted 'Bottom Up' approach for the first time. In order to implement the project government of India formulated Special Purpose Vehicles for each city (MoUD guidelines on smart cities, June 2015). There are a lot of arguments that states that development and governance through SPVs would result in general public losing their say and the decisions that would be taken would be inclined towards the interest of the private body or the SPV. But, since the SPVs aren't at place yet it would be impossible to look at this aspect. But the approach to making of the plans for the smart city is an important part to be assessed. Globally smart cities like Barcelona, Amsterdam, Singapore and others boast the idea of citizen sourcing, participatory decision making and co-creation. Thus citizen engagement is the central to any smart city development. India traditionally has ignored citizen's engagement in urban planning process and allowed very limited participation like 'raising objections' to JNNURM workshops to now MyGov. The smart city guidelines for cities in India mandate citizen engagement in the smart city plan making process. The urban local bodies for the participating cities are required to develop the vision and the plans for the development by incorporation citizens and their aspirations and expectations. All cities adopted their own methods for formulation of the plan, though they were guided time to time by the ministry of urban Development.

CITIZEN ENGAGEMENT

Engaging citizen is two way interaction between citizens and governments or the private sector that give citizens a stake in decision making with the objective of improving development outcomes. Citizen engagement requires transparent and effective mechanisms by government for responding to citizen's voice. It can be done at community level, local district level, sector level, national level, global level depending on type of process that influences engagement and its objectives. Irvin, A. and Stansbury, J. in their paper "Citizen Participation in Decision-Making: Is it Worth the Effort?" tries to look at the factors that affect the efficiency of the process, they mention, that the involvement of citizens in the planning process should be of advantages to both the parties involved in the decision making process, the citizens as well as the government. The ideas behind development plans changes from time to time, but the power, money and expertise remained in the hands of the rich countries. Also, development for the power-holders in developing countries meant becoming more modern, rational, industrial and westernized – even if at high cultural and environmental costs. Hence, the development indirectly becomes a superficial word equivalent to the power-holding game and in no sense reaches out for the people for whom it matters most.

CITIZEN ENGAGEMENT IN INDIA

India, which is claimed to be the largest democracy in the world, has a representative form of government. The terms democracy implies that the government is of the people, for the people and by the people. Thus, the representative form of government, yet there is a huge gap between the theory and the existing situation in the country. A democratic society is based on the 'doctrine of popular sovereignty', which means that, the people are the supreme or the final authority is vested in the people (A. Hussain, 2007). Willingness to participate among citizens needs to be developed and promoted for the sake of the democracy. The government hence needs to provide 'push and pull' factor to the citizens for their involvement in the socio-economic development. Hence, re-invention of government is required in its whole sense to shift it a step forward from representative government.

CITIZEN ENGAGEMENT GLOBALLY

BHUTAN

The democracy in Bhutan changed with the fourth king who made several changes. In the years 1980s and 1990s the powers are decentralised. The media landscape was introduced and first written constitution was endorsed in the year 2008. Although it was considered that Bhutanese were described to have embraced democracy very reluctantly, only obeying the order of the King to vote (Sengupta 2007; Dorjee 2012: 52). The citizen participation is done through various modes including online and offline techniques. In the early days the television broadcasting was done. The participation is encouraged through internet. Bhutan's statistical data on internet and mobile usage shows that the new communication methods are spreading rapidly in urban areas. Now 92.8 % of Bhutanese own a mobile phone, 16.8 % of households own a computer, and 11 % use the Internet daily. More than one out of five mobile phone owners use their phone to access Internet (Suhonen, 2014). So the major platforms used to improve citizen engagement in planning process are; use of internet or online engagement, formation of civil society organizations which were recognized in the year 2010 and at present there are 38 registered CSOs. Other initiative is school of citizenship where citizens can learn cooperation and coordination with government.

PORTO ALEGRE, BRAZIL

Participatory Budgeting in Porto Alegre demonstrates decentralization in governing regime and encouraging citizen participation in urban government gave this city international recognition for transparent and accountable government. In Brazil numerous municipalities have been practicing participatory budgeting for extended periods. Allocated larger share of funding of sanitation, health care etc for holding capital budgets constant. Workers party won elections in 1988 the citizen engagement has become the important aspect in decision making. This increased opportunities to engage in policy making. Before 1970s and 1980s in former military regime some of municipalities under Brazilian Democratic Movement adopted participatory policies to create pressure on federal and state levels which were under military. Brazil runs by dictators for over 20 years (1964-1985). After the end of dictatorship in 1980s protest parties formed opposition as workers party which has become a creative experiment to engage citizens in city budgets. Participatory Budgeting was first tested in this period with limited success. The city hall created innovative solutions to formulate municipal budget. Today participatory budgeting is known by 60% of the population. 70 cities in Brazil established participatory budgeting with the increase in online voting of 8.2%.

NEIGHBORLAND

Neighborland is a civic engagement platform that empowers organizations to collaborate with their stakeholders in an accessible, participatory, and equitable way. They provide real-world design tools and a web-based communications

platform. As a social enterprise, Neighborland has worked with hundreds of civic organizations in the U.S. including city agencies, universities, foundations, and local non-profits. The main aim is to improve the way city agencies, local organizations, universities, and foundations collaborate with their communities. The agency is working with over 200 organizations in the U.S. who have engaged over 500,000 residents. As per their report low civic participation is not so much an awareness problem as a motivation one. In fact, a whopping 48.9 percent of adult Americans are aware of the issues affecting the people and places around them; they just aren't moved to action. There is an equation that could improve the odds of something like voting, attending a meeting, or sharing an opinion, cutting into time usually reserved for watching TV and "other stuff." It's called the Calculus of Civic Engagement and it goes something like this:

$$PB + D > C$$

Where P is the perceived probability that the individual's action will affect an outcome, B is the benefit to the individual if the outcome is favourable, and D is a sense of civic dutyor, more broadly, a sense of being part of something bigger than oneselfand C is the cost of taking action. Now, part of the point of online engagement is to reduce the C, but the real challenge is pumping up the left side of the equation. If P and C are about utility and rationality, B and D are about values, beliefs, and identity, and where opportunity lies.

Connecting to these individuals could take the form of explicit pleas for specific kinds of engagement. So the idea of connecting people worked in the following ways:

1. They have relevant personal and professional experience
2. Their personal interests are at stake
3. They want a emotionally fulfilling experience

There are number of government agencies, NGO's, urban planning and design consultants, universities, foundations, advocacy organisations are connected with Neighborland.

JANAAGRAHA, BANGALORE

The Janaagraha Centre for Citizenship and Democracy is a non-profit organisation based in Bangalore, India. Janaagraha is working in improving the quality of citizenship as one of their varied services. Engage urban citizens participating in local communities. Encourage citizen as well as government to assemble two way interactions from both ways bottom up and top down approach.

The main project is based on Janaagraha-Brown citizenship index which was conceived in the year 2012. The focus areas of this initiative are as follows:

1. Construction of various measures of citizenship, including a citizenship index - a measurable statistical index assessing the quality of citizenship across individuals within a city
2. Examination of the determinants of basic service delivery in urban centres

As per the Janaagraha-Brown citizenship index (Citizenship in urban India: evidence from Bangalore), 4000 households were engaged to take out the survey in the year 2012 and the key findings are:

1. People are not active in between elections
2. Bangalore citizens have more vertical understanding or citizenship than horizontal understanding.
3. Effective citizenship is unevenly distributed
4. Poor people have less effectiveness on decision as they have less effective citizenship despite it matters more to them.
5. Inequalities can be seen but Bangalore is lesser in inequalities than other Indian cities.

ARNSTEIN LADDER OF PARTICIPATION

Sherry R. Arnstein's paper on public participation was published in the year 1969 and to date is one of the most cited papers on public participation. This paper is also the basis of the analysis for this very research dissertation. This paper analyses the decision making systems which claim to be participatory in nature. She analyses the role of the citizens in the decision making process and the degree of authorities that the citizens hold. She further classifies the participants into two categories, the powerholders and the have-nots. Arnstein's paper was written in context to the Public participation in the United States, yet can be put to use for all the countries which are democratic, so is useful in case of India too. The have-nots that were identified in case of the Unites States were the blacks, the Mexicans, the Indians and all the communities which were generally overlooked in the decision making processes of the country. In India, these have-nots would comprise of the marginalized communities, like the slum dwellers, the poor

section of the society and in many cases, the females in the society. The power holders are those who in reality affect the decisions of the government, these are the experts, the Citizen Representatives, like the MLAs and MPs, these would also comprise the rich, the industrialists and the influential people of the society. The bottom two rungs that Sherry Arnstein describes are the “Manipulation” and “therapy” are the participation means mere presence of these have-nots in the decision making processes, where they might have a voice, but that isn’t taken into account. The motive here, of their presence, is only to earn on their face values. These two were identified as the bottom two rungs, which she identified as “non participation”. The rungs 3, 4 and 5 are, informing, consultation and placation, which she identified as “tokenism” as here, the have-nots had voices, but their effect in the decision making was barely visible as shown in Table 1.

8	Citizen Control	**Degrees of citizen power**
7	Delegated Power	
6	Partenership	**Degrees of tokenism**
5	Placation	
4	Consultation	
3	Informing	**Non power**
2	Therapy	
1	Manipulation	

Table 1: Arnstein’s ladder for public participation

The rungs 6, 7 and 8 are partnership, delegated power and citizen control, which were identified as “citizen power” where the citizens, even the have-nots held substantial powers and responsibility and were “have-nots” anymore.

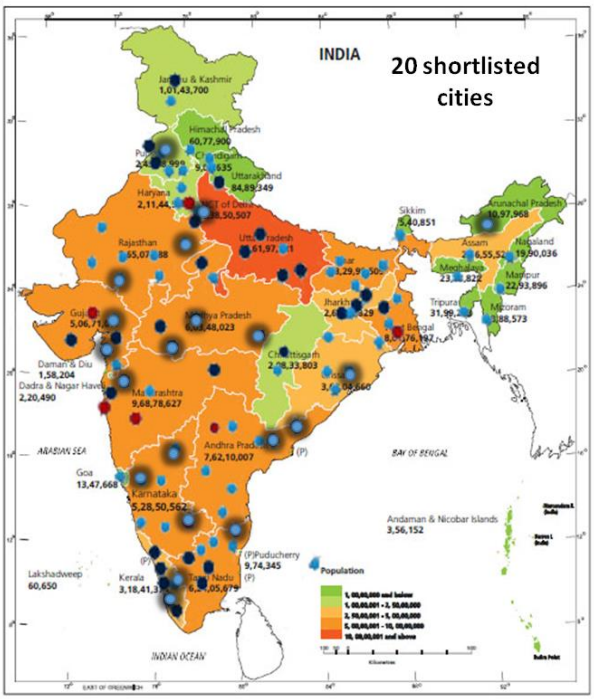
CASE STUDY

INDORE CITY

Indore is located in South-West part of Madhya Pradesh on Agra Mumbai NH3. It is a tier 2 city (census of India, 2011) and one of the major commercial cities of the state of Madhya Pradesh. The projections calculated for increase in population are as follows:

- Population in year 2015: 26.45 lakhs
- Projected population in year 2021: 32.00 lakhs
- Projected population in year 2041: 60.00 lakhs

Indore has been shortlisted by the Ministry of Urban Development as one of the 100 cities under Smart city mission, Government of India. “Smart City Mission emphasizes the development of the Smart City Proposal as a co-creation process, resulting in the evolution of a Plan which reflects Citizen’s consensus and support for the vision and goals enshrined in the plan” (www.MyGov.in). There were total 98 cities selected to be converted as smart cities in the first phase of development. Out of those 98 cities, 20 are shortlisted in the first phase to be converted as smart city. The shortlisted cities are shown in map.



1. Bhubaneshwar, Odisha
2. Pune, Maharashtra
3. Jabalpur, Rajasthan
4. Surat, Gujarat
5. Kochi, Kerala
6. Ahmedabad, Gujarat
7. Jabalpur, Madhya Pradesh
8. Visakhapatnam, Andhra Pradesh
9. Solapur, Maharashtra
10. Davangere, Karnataka
11. Indore, Madhya Pradesh
12. NDMC
13. Coimbatore, Tamil Nadu
14. Kakinada, Andhra Pradesh
15. Belgaum, Karnataka
16. Udaipur, Rajasthan
17. Guwahati, Assam
18. Chennai, Tamil Nadu
19. Ludhiana, Punjab
20. Bhopal, Madhya Pradesh

Map: 20 shortlisted cities in the first phase of smart city mission

Source: www.MyGov.in

Based on the responses received in the first two rounds of citizen consultation for smart city proposal, which included the following:

- Total engagement: 612003 (27.8% of the total population)
- Citizen engagement in Round 1
- Total interactions: 253780
- Citizen engagement in Round 2
- Total interactions: 173989
- Citizen engagement in Round 3
- Total interactions: 184832

Over 125 meetings with School Students, College Students/Youth, Working Professionals, Housewives, Service Providers, Senior Citizens, Businessman &Industrialists, Traders, Shop Owners, Merchants, Teachers, Doctors, Lawyers, IT Professionals, Educationists, Sports Persons, Automobile Fraternity, Professional Club Members, Journalists, nature enthusiasts, Ward Level Consultations and Elected Representatives of Indore.

ANALYSIS

The urban development plans in India follow a particular procedure from initiation to implementation. Town and country planning departments follow procedures to make master plan showing full development of the town at some particular future date. The city development plans are physical, social and environmental planning of an urban environment. Recently introduced smart city plan is following the development of a selected pocket within the city to be converted as smart sector followed by the future projects selected by the similar procedure.

The formulation and implementation of master plan follows the various stages shown in table 2 below.

1.	Identification and definition of problem	
2.	Defining the objectives	
3.	Data collection (Studies and surveys)	
4.	Data analysis	
5.	Forecasting	
6.	Design	
7.	Fixing the priorities	
8.	implementation	
9.	Review, evaluation and feedback	Self surveys

		Interviews Direct inspection Observers Participation

Table 2: Planning process of Master plan

The formulation and implementation of city development plan follows the various stages shown in table 3 below.

1.	Planning department of local government	
2.	Specialized planning organization	
3.	A consultant	
4.	Role of state town planning department	
5.	Data collection	
6.	Preparation of draft plan	
7.	Views from experts and public	Local level consultancy
8.	Preparation of revised plan	Voluntary organization
9.	Determination of sequence of plan implementation	Awareness programes through mass media

Table 3: Planning process of City Development plan

The formulation and implementation of smart city development plan follows the various stages shown in table 4 below.

1.	Baseline study: City profile	
2.	Citizen consultation round1	Selecting Stakeholders
3.	Priorities of citizen shortlisted	
4.	Citizen consultation round2	Consultation with all stakeholders
5.	Draft smart city proposal	
6.	Citizen consultation round3	Ward level citizen engagement Multiple means of communication Physical consultation Online engagement

Table 4: Planning process of Smart City Development plan

The following chart is showing the comparative analysis of Master Plan, City Development Plan and Smart City Plan in reference with Sherry R. Arnstein's ladder of participation.

Type of Participation	**Level of engagement**	**Master Plan**								
		1	2	3	4	5	6	7	8	9
Citizen Control	Degrees of citizen power									
Delegated Power	Degrees of citizen power									
Partenership	Degrees of tokenism									
Placation	Degrees of tokenism									
Consultation	Degrees of tokenism									
Informing	Non power									
Therapy	Non power									
Manipulation	Non power									

Table 5: Comparative analysis of Master plan with Arnstein's Ladder (Stages as per table)

Type of Participation	**Level of engagement**	**City Development Plan**								
		1	2	3	4	5	6	7	8	9
Citizen Control	Degrees of citizen power									
Delegated Power	Degrees of citizen power									
Partenership	Degrees of tokenism									
Placation	Degrees of tokenism									

Consultation	Degrees of tokenism									
Informing	Non power									
Therapy	Non power									
Manipulation	Non power									

Table 6: Comparative analysis of Master plan with Arnstein's Ladder (Stages as per table)

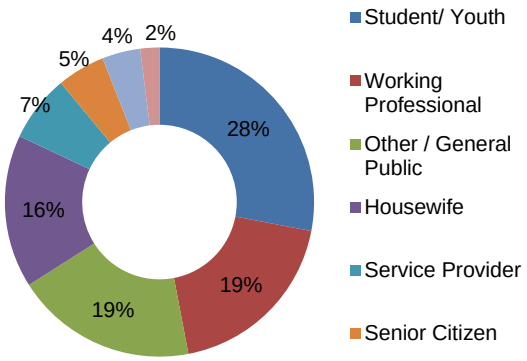
Type of Participation	Level of engagement	Smart City Plan								
		1	2	3	4	5	6	7	8	9
Citizen Control	Degrees of citizen power									
Delegated Power	Degrees of citizen power									
Partenership	Degrees of tokenism									
Placation	Degrees of tokenism									
Consultation	Degrees of tokenism									
Informing	Non power									
Therapy	Non power									
Manipulation	Non power									

Table 7: Comparative analysis of Smart city plan with Arnstein's Ladder (Stages as per table)

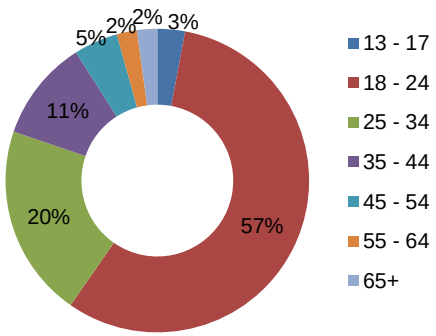
The comparative analysis of Master Plan, City Development Plan and Smart City Plan in reference with Sherry R. Arnstein's ladder of participation shows that in Master Planning process the participation of local public was not done in the initial stages. Manipulation and Therapy is done in third stage to educate them in order to have maximum support. The document is available to be reviewed by citizen at the end of the process. In City Development planning process the citizen are involved at the fourth stage but once the formulation of the plan is done the document is available to the local public. Also the information is provided through newspapers, radios and other means. The major participation is done after the preparation of draft plan. So CDP can lie on fouth and fifth rung i.e. the degree of tokenism on the ladder. While in Smart City Plan after the baseline study the main identified stakeholders are consulted which lies in the first second and third rung of the ladder and after short listing the priorities of the citizens the second round of citizen consultation is done which lies in degree of tokenism rung of the ladder. And finally third round of citizen consultation lead it to parternership. The international best practice like participatory budgeting was initiated by public so created substantial changes in Porto Alegre. Included neighbourhood assemblies, "thematic" assemblies, and meetings of delegates for citywide coordinating sessions. By this practice is over basic three rungs of ladder. Government's accountability and transparency created degree of tokenism and the rungs of consultation, placation and participation are fulfilled. The overall power is to the citizen so the final rung of delegate power is best suited in this case. The NGOs like Neighborland and Janaagraha following the similar approaches which has been practiced in Brazil and Europe. The problem identification and initiation is through the public or citizens residing there. The surveys and data collection done after this process and consultation and placation is done to check the feasibility of the project. But the future sustainability is not sure and the citizen consultation is not described throughout the project cycle as the power shifted to governing bodies like ULBs or state governments. In Smart City Plan after the baseline study the main identified stakeholders are consulted which lies in the first second and third rung of the ladder and after short listing the priorities of the citizens the second round of citizen consultation is done which lies in degree of tokenism rung of the ladder and finally third round of citizen consultation lead it to parternership.

ANALYSIS OF TYPES OF CITIZEN ENGAGEMENT IN INDORE SMART CITY PLAN

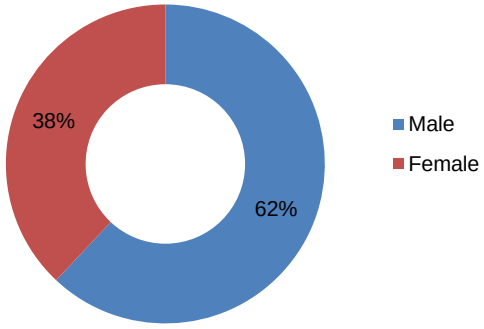
Inclusion of citizen's engagement process



Age group wise distribution



Sex wise distribution of citizen's engagement process in Indore smart city plan



The data shows a considerable mix of males and females in the voting process which is 62% and 38% respectively. The number of smart phone users and internet users are majorly affected the overall voting scenario for smart city area based development proposals. Here we can see in table the citizens engaged are majorly of the age group of 18 to 24 years old which is 58% is and secondly of 25 to 34 years old which is 21%. Majority of people engaged are youth or students and working professionals as per the analysis of inclusion shown in table. The data drawn is from both the modes i.e. online voting and offline voting. But the arguments could be made that the online voting and including internet and smart phones in the decision making process could result in elite dominance, generation gap, gender gap as well as literate vs illiterate voting issues. So the better alignment between citizen's preferences and policies can be made by having equal or respectable distribution of physical consultation and online consultation in Indian context.

Online modes	Engagement	Offline modes	Engagement
Poll	87738	**Consultation meetings**	87165
MyGov (website)	121662	**Essay competition**	306
Whatsapp	36732	**Painting competition**	6500
Twitter	1437	**Paper-suggestions**	6500
Smart city Indore (Website)	141700	**Missed calls**	3910
Youtube	2220		
Facebook	59952		

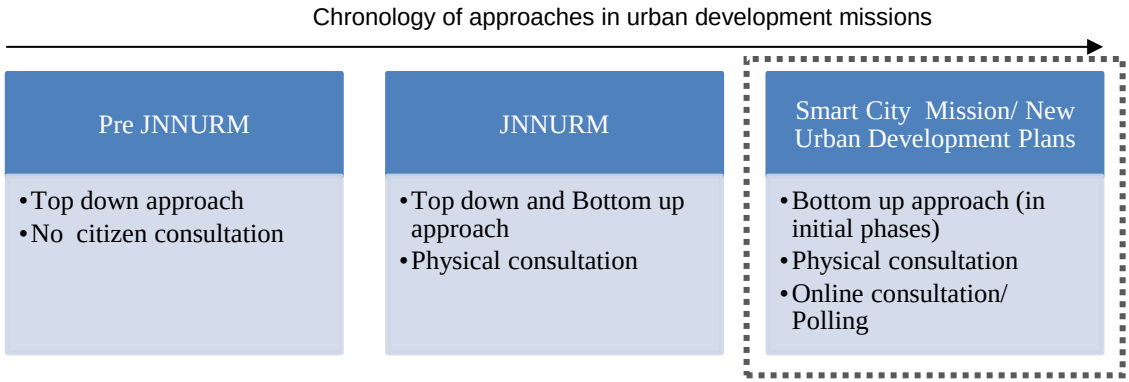
Table 8: Online and Offline modes of citizen consultation

The overall percentage can be split in two i.e. online and offline engagement in smart city proposal. Indore used various online platforms like facebook, twitter, smart city web portals etc and offline modes like marathon, essay competitions, physical consultation etc. The total online engagement is of 451441 people while people engaged through offline mode are 104381 in numbers.

RESULTS AND CONCLUSION

SIGNIFICANCE OF SMART CITY PLAN

The citizen engagement process in urban development plans has been physically done before new urban development plans and strategies have been adopted. As far as information and communication technologies are concerned, India is still on the way to learn and adopt them with the pace of other developed countries. The smart city mission is the first ever intervention in India which involved citizens through online means with the use of information and communication technologies.

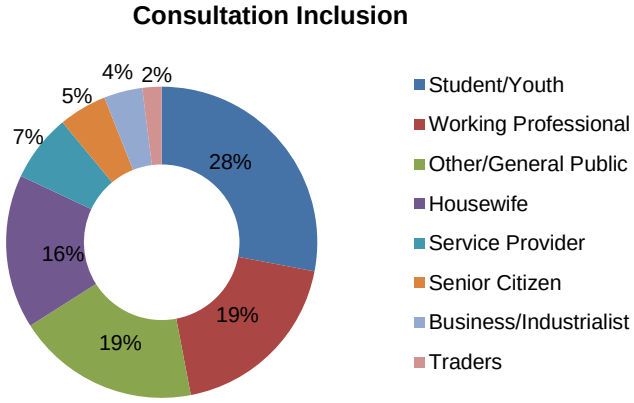


Before the introduction of Jawaharlal Nehru National Urban Renewal Mission the top down approaches are adopted for development plans and after the commencement of eleventh five year plan the formulation of JNNURM focused on the efficiency in service delivery mechanisms, community participation and accountability of ULBs or parastatal agencies towards citizen. But the physical consultation was limited to stakeholders and ULB representatives and is resulted as a big gap between the service providers and users. The smart city plan on the other hand in order to overcome this problem created open data platform and engaged citizens using online as well as offline modes. This step significantly increased the participation rate and awareness among the local public. Additionally open data helps in coordinating among various departments and integrate services and their outcomes at the local level as well as at the state and national level.

SOCIAL INCLUSION OF SMART CITY PLAN

The survey shows the percentage split of citizen engaged in finalizing the area based proposal as shown in Figure.

Percentage of different types of people included in consultation



This is concluded from the survey that the involvement of the youth/ students in the decision making for area based development is the highest i.e. 28% and of working professional is 19%. As per the annual report prepared by Tata Consultancy Services on Indore's teenager's and youth, almost 30% of them daily post on social networking sites and mobile applications. This indicated the population more exposed to the internet options such as social media like facebook, twitter, whatsapp and smartphone users have influenced the results. Another influential part is of housewives which is 19% of the total engagement. This engagement is crucial because convincing and making them to vote or use online mode for giving opinions is important to balance the demand of working as well as non working population.

The other shortfall of the decision making process after hearing citizens voice in Indore smart city development plan is that it is not mentioning about the residents who are below poverty line. The access of poverty pockets to physical consultation and online consultation is not mentioned and there is no share of percentage in the final result. The area short listed for ABD is including the Khan River where largest poverty pocket of the city resides having number of slums 27 with slum population of 28625.

Inclusive smart city plan meant to be for all citizens residing there. They have the right to take part in long term planning and development. Thus, they should be obliged to contribute with data necessary to researchers in order to draft plans and they should be also checking progress of planning by getting involved in ongoing debates and local

policy making. So the elite capture doesn't happen ULBs should ensure the involvement of BPL and poverty pockets in the development plan.

SUSTAINABILITY OF SMART CITY PLAN

The consultation done in first phase does not give surety for the citizen involvement during the implementation process. The process of citizen engagement should be iterative rather just to limit it to achieve initial requirements in the selection process. There should be certain service level benchmarking in order to have sustainability in the planning and implementation process. Otherwise the selection of 20 cities in the first phase followed by 40 cities in the second phase will become confined to fulfil the central government's promise. The improvement in the citizen consultation process is bringing added value to Indian urban development planning process but the major question in sustainability of smart city plan is where and how the citizen consultation is placed in further stages of implementation till completion.

If India has to achieve the objectives of mission smart cities it clearly needs to strengthen the following areas of citizen engagement which are social inclusion, multi-stakeholder negotiation and sustainable efforts in citizen engagement. Probably ever smart city now has to create a full citizens engagement office.

REFERENCES

Caragliu, A. et. al. (April 2011), Smart Cities in Europe, Journal of Urban Technology, Vol. 18 No. 2.

Cynthia E. Smith et. al.(2011), Smithsonian Institution, Design with the other 90%, New York, Cooper-ewitt National Design Museum.

Department for business innovation and skills, (October 2013), Chapter3: Challenges faced by cities and need for smarter approach, Smart Cities background paper.

Duany, A. et. al. (2010), The Smart Growth Manual, New York, New Delhi, Singapore, Sydney, Mc Graw-Hill.

European Institute of Public Participation, (2009) Public participation in Europe an international perspective.

Eszter Hartay, (2011), Publication on best practices: citizen participation in the Western Balkan countries and the EU member states, KCSF.

European Community Organizing Network , (2012), Handbook on Citizen Participation, Community organizing as a tool of citizen participation.

Francisco, S.and Martim, S. (November 2000), Urban Spatial Segregation: Forces, Consequences, and Policy Responses, Land Lines Newsletter, Cambridge, MA: Lincoln Institute of Land Policy.

G. Gina, et. al., (2002), Citizen Participation Handbook: People's voice project International centre for policy study.

Gilderbloom, J. I., et. al. (2008). Amsterdam: Planning and Policy for the Ideal City? Draft Number 48, June 18, 2008

Mahadevia, D. and Sarkar, S. (2012), Handbook of Urban Inequalities, Oxford University Press.

Mahizhnan, A. (1999), Smart Cities: The Singapore Case, Cities, Vol. 16, No. 1, Page no. 13–18.

Margerum, Richard D. 2002. Collaborative Planning: Building Consensus and Building a Distinct Model for Practice. Journal of Planning Education and Research.

Pateman, Carole. 1970. Participation and Democratic Theory. Cambridge: Cambridge University Press.

Ranjan, J., (March 2015), What Shade of Smart? Business World Smart Cities, Page no. 22.

Ravindran S. (May 2015), Is India's 100 Smart Cities project a recipe for social apartheid? The Guardian.

Renee A. et. al., Citizen participation in decision making: Is it worth effort?

Rourke, Francis E. 1984. Bureaucracy, Politics and Public Policy. Boston: Little, Brown & Company.

Rocco Papa, Carmela Gargiulo, Adriana Galderisi, (April 2013) Towards an Urban planner's perspective on Smart cities, TeMA Journal of Land use, Mobility and Environment.

Sidhwani, P. , Spatial Inequalities in Big Indian Cities, Center for policy research, New Delhi, Review of Urban Affairs, Economic & Political Weekly May 30, 2015 vol. no. 22

Singh Preeti, (2015), Mission 600, Business World Smart Cities, May 2015, Page No. 32.

S. Kala et. al., Public Policy Research, State of Indian cities: An assessment of urban condition in four mega cities.

CITIZENS' ENGAGEMENT IN DRAWING STRATEGIES/PRIORITIES TOWARDS IMPROVING URBAN QUALITY OF LIVE

Session T5.2 | June 1 | 14:00 – 15:30

Lurdes Barrico; Helena Freitas; Paula Castro*
Centre for Functional Ecology, Department of Life Sciences, University of Coimbra, PORTUGAL
lbarrico@iol.pt; hfreitas@ci.uc.pt; pcastro@ci.uc.pt
*contact person

ABSTRACT: The quality of life is increasingly considered as an essential element for the development of cities, since a good it is crucial for attracting and retaining a skilled labour force, businesses, students, tourists and, most of all, residents. This study analysed the citizens' perception about the services provided by the municipality of Coimbra, contributing to the overall quality of life perceived by each one. Most of the 382 respondents reported they were satisfied with the quality of life provided and agreed that Coimbra was a good place to live. Overall, the respondents expressed a high level of satisfaction regarding the economic and socio-cultural conditions offered. Nevertheless, several areas should be prioritized by local authorities in the future, focusing on the economic and social strategies. The socio-demographic profile of respondents showed to significantly influence their opinion.

KEYWORDS: urban ecosystem; urban quality of life; citizens' perception; sustainable development.

URBAN ECOSYSTEMS

Urban areas constitute a particular type of ecosystem that contains organisms, physical conditions and entities, and the interactions between them. Urban ecosystems are open and very dynamic systems, and in constant evolution (Savard et al., 2000; EEA, 2010). They develop and adapt as well as interact with other ecosystems. Although cities are highly artificial and dominated by humans, they can only survive and deliver quality of life by using basic services provided by nature (EEA, 2010). They include the provisioning services such as food, water, wool, fertile soils, timber, and medicines (de Groot et al., 2002; MEA, 2003). They play an important role in regulating the environments in which humans live by regulation of drought, land degradation, disease as well as by ensure the flow of clean water and protection from flooding or other hazards like soil erosion and landslides. They also are relevant in supporting services such as soil formation, nutrient cycling, and primary production. They can even contribute with cultural services such as aesthetic, recreational, educational, and spiritual well-being (MEA, 2003, 2005).

URBAN QUALITY OF LIFE

Quality of life is not a simple term that has a clear or an agreed definition but is a complex concept increasingly recognized as warranting interdisciplinary study (Marans, 2012; El Din et al., 2013). Quality of life encompasses the fulfilment of all human needs such as a satisfactory standard of material life, health, education, security, the satisfaction of living in a clean environment as well as the enjoyment of the aesthetic and the spiritual. In short, it relates to the general well-being of the population. The purpose of the quality of life is to enable people, as far as possible, to achieve their goals and choose their ideal lifestyle. In that sense, the quality of life concept goes beyond the living conditions approach, which tends to focus on the material resources available to individuals (Alanbari and Aladhami, 2013).

The desire to improve the quality of life in a particular place or for a particular person or group is an important focus of attention for planners (Massam, 2002). Improving the quality of life in cities is no longer a simple matter of bricks and mortar, but the human satisfaction with different urban attributes such as transportation, quality of public spaces, recreational opportunities, land use patterns, population and building densities, and ease of access for all basic goods, services and public amenities (El Din et al., 2013). Urban quality of life is a multi-dimensional concept, so must be represented by a reticular relationship between various dimensions divided into basic principles that can be applied in various combinations to achieve quality of life for communities (Table I). It is a concept that indicates how

those dimensions might collectively be viewed and measured so as to provide an overall assessment of how well individuals are faring. Its distinctive feature is its attempts to move beyond one-dimensional views of the human personality towards a many-sided and more encompassing view. The quality of life must therefore specify the dimensions of human existence which they consider as essential to this broader view and the particular principles that best reflect those dimensions and are measurable in a reliable and valid way (Fahey et al., 2003).

URBANIZATION AND QUALITY OF LIFE

Human population is growing at an unprecedented rate presenting major challenges for national and local governmental officials. The global human population has grown exponentially since the Industrial Revolution in the late 1700s, rising from 1 billion around 1800 to 7.2 billion in 2014 and is expecting to continue growing (United Nations, 2014). This is a worrying fact given that much of this growth has been take place in cities. Nearly 55% of the world citizens live in urban areas, and this is expected to surpass 66% by 2050 (United Nations, 2014). According to United Nations (2014), urban dwellers represent the overwhelming majority of the European population, about 73% in 2014 and is expected to exceed 80 % in 2050.

The increasing tendency for living in the city is one of the main incentives to expand an independent movement on life quality researches (Lotfi and Solaimani, 2009). Cities are the place where both the most complex and the most common problems are concentrated (social exclusion, spatial and ethnic segregation, housing shortages, insecurity, drugs, pollution, contaminated former industrial sites, traffic, unemployment, lack of competitiveness, poverty, and demographic changes), but it is also the place where the future is built as intellectual centres (European Parliament, 2005).

Urban quality of life dimensions	Basic principles
Environmental urban quality of life	1. Promote the access to clean air, water, land and non toxic materials in order to protect people and maintain biodiversity. 2. Preserve resources and minimize energy demand by taking energy saving technologies. 3. Give the ability to enjoy natural landscape by providing a range of green areas distributed within the neighbourhood. 4. Provide appropriate ways to control and manage wastes.
Physical urban quality of life	5. Neighbourhood should be compact, pedestrian friendly and mixed use. 6. Provide the access to adequate services and facilities that fulfil people's needs. 7. Provide the access to adequate eco-buildings and housings that fulfil people's needs and national building code. 8. Provide well-defined streets and open spaces by a well- structured building layout. 9. Provide a hierarchy of complete street networks based on pedestrian and vehicle load. 10. Take into account projected management, maintenance and repair policies to ensure the sustainability of neighbourhood.
Mobility urban quality of life	11. Provide alternatives to using car in order to reduce traffic load, minimize air pollution and conserve energy. 12. Provide activities of daily living and transit stops within walking distance to allow independence to elderly, young and who do not drive. 13. Provide fine network interconnecting streets to encourage walking. 14. Provide streets friendly with pedestrian, cycle and vehicle.

Social urban quality of life	15. Promote social justice and equity by providing equal access to affordable housing, economic activities, services and facilities. 16. Remove all barriers that reduce the participation in daily life of certain social groups, such as those with disabilities, women, children and elderly. 17. Design of streets and buildings should reinforce safe environments. 18. Promote social integration by providing a broad range of housing types, tenure types and prices levels. 19. Promote good relationships and daily interaction between people by providing civic buildings and public gathering places. 20. Promote social participation in all the project processes. 21. Promote the liveability of streets by providing safe, comfortable, interesting streets and squares to the pedestrian. 22. Promote neighbourhood stability by ensuring secure tenure.
Psychological urban quality of life	23. Promote community identity by preserving heritage and historic remains, making architecture and landscape responding to their context. 24. Give the opportunity for people to have a place of their own by giving the ability to personalize the space. 25. Promote a pleasing milieu by enhancing urban-aesthetic character of the built environment.
Economical urban quality of life	26. Provide job opportunities and promote local business by supporting locally owned stores and business as well as by encouraging mixed use development. 27. Minimize cost of living by promoting the access to affordable housing, services and facilities.
Political urban quality of life	28. Promote integrated urban governance. 29. Provide codes and legislation to control evolution. 30. Promote the community involvement in council decision making.

Table I - The main dimensions and basic principles which contribute to realize the urban quality of life. Data from Lotfi et al., 2011 and El Din et al., 2013.

The rapid growth of urbanization has led to degradation of quality of life in many developing countries by expanding the physical limits of cities and therefore undermining the qualitative development of such settlements (Lotfi et al., 2011).

Rapid population growth and urbanization, industrialization and technological change, increased expectations caused by rising affluence, gaps between the level of expectations and actual consumption patterns, lack of adequate public awareness concerning the deterioration of environment and dilapidation of resources, and finally persisting human egoism make both the protection of the environment, as well as the quality of life difficult goals to reach (Keles, 2012). The quality of life and health of urban dwellers depends strongly on the quality of the urban environment, functioning in a complex system of interactions with social, economic, and cultural factors (EEA, 2009). The governments not only must cope with growing populations and an expanding infrastructure to accommodate growth, they have to satisfy the changing needs of their existing populations. While the size of cities will surely become larger, it is unclear how conditions in these larger cities and the quality of life for their inhabitants has changed and will be affected in the future (Marans, 2015).

SUSTAINABLE DEVELOPMENT AND URBAN QUALITY OF LIFE

According to UNESCO (2000), one of the greatest challenges facing the world community in the 21st century will be the attainment of sustainable development. The concept of sustainable development put forward by the World Commission on Environment and Development (WCED) was defined as "a process of change in which the use of

resources, the direction of investments, the orientation of technological developments and institutional changes are all in harmony with each other, with the aim of not only to meet present day needs, but also to ensure that future generations will be able to live as they would like to live" (WCED, 1987). This concept has encouraged policy-makers to formulate new strategies for achieving a balanced economic and technological pathway to safeguard the environment now and into the future i.e., that the actual generation needs must be satisfied without compromising the capability of future generations satisfying their needs (Nijkamp and Vreeker, 2000; European Commission, 2014).

The explosive growth of cities and resident population aspirations towards more quality of life make it an actual necessity of a conception and management of sustainable urban areas (Gomes and Panagopoulos, 2008). Generally, urban quality of life approach intends to create a healthy city and provide suitable urban services for all, in the framework of sustainability (Harpham et al., 2001; van Kamp et al., 2003; Marans, 2015). A sustainable urban ecosystem must be efficient, as low as feasible in resource consumption, liveable and secure for residents, productive and creative, and preferably self-renewing (Guidotti, 2010).

POLITICAL COMMITMENTS TO URBAN QUALITY OF LIFE

The importance and urgency of improve quality of life has been reflected in several key European initiatives, such as:

The Treaty on European Union

The European Union's aim is to promote peace, its values and the well-being of its peoples. The European Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance (Official Journal of the European Union, 2012).

The Aalborg Charter of European Cities towards Sustainability

In the course of history, European cities have existed within and outlasted empires, nation states, and regimes and have survived as centres of social life, carriers of our economies, and guardians of culture, heritage and tradition. Along with families and neighbourhoods, cities have been the basic elements of our societies and states. Cities have been the centres of industry, craft, trade, education and government. The Aalborg Charter was signed in 1994 with the aims to "integrate environmental with social and economic development to improve health and quality of life for our citizens" (Aalborg Charter, 1994).

European Union Sustainable Development Strategy and Lisbon Strategy

The European Union Sustainable Development Strategy and the Lisbon Strategy for growth and jobs complement each other. The Sustainable Development Strategy is primarily concerned with quality of life, intra-and inter-generational equity and coherence between all policy areas, including external aspects. It recognises the role of economic development in facilitating the transition to a more sustainable society. The Lisbon Strategy makes an essential contribution to the overarching objective of sustainable development focusing primarily on actions and measures aimed at increasing competitiveness and economic growth and enhancing job creation. These two strategies recognise that economic, social and environmental objectives can reinforce each other and they should therefore advance together. Both strategies aim at supporting the necessary structural changes which enable the Member States´ economies to cope with the challenges of globalisation by creating a level playing field in which dynamism, innovation and creative entrepreneurship can flourish whilst ensuring social equity and a healthy environment. In this context, these strategies recognise that investments in human, social and environmental capital as well as technological innovation are the prerequisites for long-term competitiveness and economic prosperity, social cohesion, quality employment and better environmental protection. To achieve this, it is need to ensure that "Europe is a more attractive place to invest and work, knowledge and innovation are the beating heart of European growth, and we shape the policies allowing our businesses to create more and better jobs" (Council of the European Union, 2006; European Economic and Social Committee, 2008).

Leipzig Charter on Sustainable European Cities and Bristol Accord

The European cities possess unique cultural and architectural qualities, strong forces of social inclusion and exceptional possibilities for economic development. They are centres of knowledge and sources of growth and innovation. At the same time, however, they suffer from demographic problems, social inequality, and social exclusion of specific population groups a lack of affordable and suitable housing and environmental problems. In the long run, cities cannot fulfil their function as engines of social progress and economic growth unless we succeed in maintaining the social balance within and among them. Therefore, the Leipzig Charter aims ensuring their cultural diversity and establishing high quality in the fields of urban design, architecture and environment (European Union,

2007). It builds on the Bristol Accord which define sustainable communities as "places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all" (Office of the Deputy Prime Minister, 2005).

European Union Thematic Strategy on the Urban Environment

Most of European citizens live in urban areas and their quality of life is directly influenced by the state of the urban environment. The European Environment Action Programme to 2020 is aimed at "Living well, within the limits of our planet". Their 2050 vision is intended to help guide action up to and beyond 2020 that is "In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society" (Official Journal of the European Union, 2013). This vision is not just an environmental one. It is inseparable from its broader economic and societal context. Unsustainable use of natural resources not only undermines the resilience of ecosystems, it also has both direct and indirect implications for health and living standards. Current consumption and production patterns enhance our quality of life, and paradoxically put it at risk at the same time (EEA, 2015).

ASSESSMENT OF CITIZENS' SATISFACTION

The attention given to assessments of citizens' satisfaction has been increasing since the 1970s, especially with regard to local services (Stipak, 1979). They received a substantial boost in popularity and importance in the early 1990s with the developments in the measurement instruments and research at economic and marketing departments (Bouckaert and van de Walle, 2003). The 21st century has witnessed an increase in surveys conducted in cities to obtain the peoples' opinions on their quality of life (Roch and Poister, 2006; James, 2009; Morais et al., 2013). These surveys allow to capture the perception of the citizens about the various components of the quality of life, and thus obtain an additional element to support decision-making relating to public action fields, strategies, and priorities (Johansson, 2002; Møller and Dickow, 2002; Senlier et al., 2009). Hence it is not surprising that these types of surveys have been embraced worldwide (Howard, 2010). The priority of local governments should consist in improving the quality of life and well-being of society through their capacity to attract active and participatory citizenships as well as stimulating and supporting economic agents (Duque et al., 2013). Taking this into account, improving the relationship with its citizens has been a goal of local governments (Schellong, 2005).

Undoubtedly, urban quality of life has improved in many areas over the past half century. Today, the citizens benefit from more welfare and more living space per person, own more cars, travel more and further to work and holidays, enjoy luxury goods and live longer. However, in other areas the quality of life has been deteriorated, for example, there have been marked increases in allergic reactions and lifestyle-related diseases, such as cardiovascular disorders caused by obesity, physical inactivity or stress (EEA, 2009). The financial crisis, which began in late 2007, transformed the real economy with highly visible redundancies, bankruptcies and restructuring across Member States. The crisis has led to deterioration in living and working conditions, with negative impacts on the everyday lives of some citizens, most evidently those who have become unemployed. It is against this background that the European institutions have been developing new policies and strategies to maintain and improve quality of life (Eurofound, 2012).

EUROPEAN PERCEPTION SURVEY

Europe is characterized by a high degree of urbanization (United Nations, 2014). Therefore, is very important at European, national, regional or local level, to understand what is happening economically and socially in Europe's cities (Feldmann, 2008). The quality of life is increasingly considered as an essential element for the development of cities (Feldmann, 2008; Morais et al., 2013) and have also been demanding increased attention from the authorities of European institutions, namely through the Urban Audit project from the European Commission (see at stat.gov.pl/en/regional-statistics/regional-surveys/urban-audit). The Urban Audit, which started in 1999, is a Europe-wide collection of quantitative information on the quality of life in cities and is the result of a joint effort by the participating cities, the Statistical Offices belonging to the European Statistical System, Eurostat, and the Directorate-General for Regional Policy (European Commission, 2007a). It provides an in-depth analysis of demography, social conditions, economic aspects, education, civic involvement, environment, transport, and culture, as well as investigates how the competences of city authorities and local governments vary across Europe (European Commission, 2007a).

The perception survey became a common method adopted by European Commission to understand citizens' satisfaction levels, needs, concerns, and priorities. The first survey was conducted in 2004 and measured the local

perceptions of quality of life in 31 European cities (European Commission, 2005). The perception survey on quality of life in European cities was also conducted in 2006 and 2009, and measured local perceptions in 75 cities (European Commission, 2007b, 2010). The last two surveys were carried out in 2012 and 2015, measured local perceptions of quality of life in 79 European cities (European Commission, 2013, 2016). The last survey (European Commission, 2016) showed that overall, there was a high level of satisfaction with regard to the cities in which respondents live. In all the cities surveyed, a majority of respondents are satisfied with the place where they live. Oslo and Zurich (both 99%) recorded the highest levels of satisfaction. High levels of satisfaction were also observed in the two Portuguese cities analysed, 97% in Braga and 87% in Lisbon. By contrast, satisfaction was below 70% in Istanbul (65%), Palermo and Athina (both 67%) (European Commission, 2016).

When it comes to health care services within the city, levels of satisfaction varied considerably. In 10 cities, at least 9 respondents out of 10 were satisfied with the health care services of their city, and in 34 cities the level of satisfaction was at least 80%. Satisfaction was generally high in Belgian, German and French cities. Nevertheless, at least half of respondents were dissatisfied with this dimension in 16 cities, including 7 European capitals. Satisfaction with schools and educational establishments was high in many European cities. In 75 out of the 83 cities surveyed, more than half of the respondents are satisfied with the school and educational facilities of their city. The highest levels of satisfaction are recorded in Groningen, Rennes (both 88%) and Braga (87%). The highest dissatisfaction levels are recorded in Palermo (49%), Istanbul and Diyarbakir (both 47%), the only cities where more than 4 out of 10 respondents say they are dissatisfied (European Commission, 2016).

In only 14 cities do a majority of respondents said that it is easy to find a job in their city. Respondents were most likely to agree that it is easy to find a job in Praha (72%) and Cluj Napoca (67% agree). Conversely, there were 10 cities where more than 8 out of 10 respondents disagreed with this statement. Respondents were most likely to disagree in 3 Italian cities: Palermo (96%), Napoli (93%) and Torino (85%), as well as in Spanish and Greek cities (European Commission, 2016).

Finding good housing at a reasonable price was perceived as a challenge by most respondents in more than half of the cities surveyed, and this difficulty was perceived as particularly severe in capitals. In 45 cities, more than half of respondents disagreed that it is easy to find good housing at a reasonable price. In 9 European capitals, more than 80% of respondents perceived difficulty in this respect, and in only one (Athina, 62%) do an absolute majority of respondents agreed that it is easy to find good housing at a reasonable price. The highest levels of agreement were recorded in Oulu (71%) and Braga (64%), while the highest levels of disagreement were recorded in Paris (95%) and Munchen (93%) (European Commission, 2016).

CITIZENS' PERCEPTION SURVEY - THE CASE STUDY OF COIMBRA

The municipality of Coimbra is situated in the Coastal Region of Centre Portugal. In terms of population evolution, this municipality from 2001 to 2011, a slight decrease of inhabitants (-5 047), following the evolutionary trend in most Portuguese cities (INE, 2011). In 2011 (INE, 2011) the number of residents in the municipality was 143 396 of which 78% lived in the urban centre (city). During this decade the city boundaries expanded almost 2 500 ha and population density (number of people/km2) decreased from 1903 to 1344, clearly showing an model of urban sprawl expansion. This type of development is known to cause negative effects on the environment and transform the properties of soil, reducing its capacity to perform its essential functions (EEA, 2006). There was also a slight decrease in the number of residents in the urban centre, accompanied by its aging and by a loss of economic dynamism, stemmed mainly from the closing of some traditional trade as well as the relocation of community facilities and services attractiveness to out of centre (INE, 2011; CMC, 2012).

Through a questionnaire (conducted from 2013 to 2014), answered by citizens exclusively residing in the municipality of Coimbra, the satisfaction level regarding their life framework and perception based on their personal experience was valued in this work. The total number of valid responses to the survey was 382. It was quite clear that out of the total respondents investigated for this study, an overwhelming majority (65%) of them were females (Fig. 1). The age of the respondents was one of the most important characteristics in understanding their views and awareness about quality of the resources and services of their municipality and over half of respondents were between 26 to 45 years old (Fig. 1). Regarding the education degree, 87% of all respondents had a university degree (Fig. 1). This result revealed a substantial divergence between the survey sample and the general population, as the percentage of people with an university degree in Coimbra is just about 29%, although this percentage is approximately the double when compared to the population nationwide (INE, 2011). Moreover, 32% of all respondents were students or research fellows. Thus, it must be taken into account that the survey respondents were considerably more educated than the general population, which is not unusual when using online questionnaires. It was also evident that more than half of the total respondents (57%) were employed and 26% were students (Fig. 1). Over 50% lived in the municipality of Coimbra for more than 20 years (Fig. 1). An additional 28% of respondents reported less than ten years of residence in this municipality.

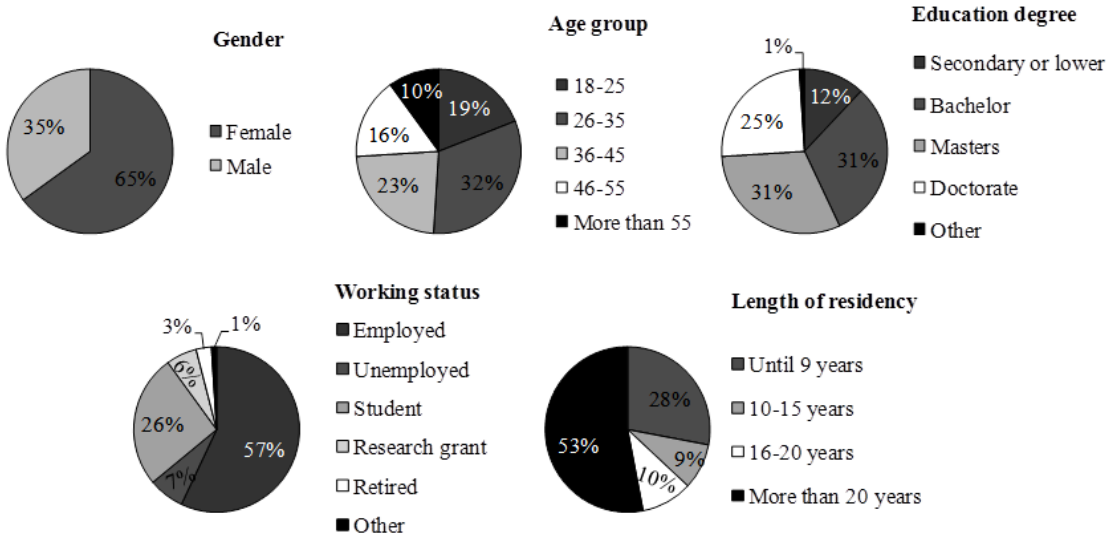


Figure 1 - Socio-demographic profile of the respondents.

When asked to characterize "how the quality of life in the municipality of Coimbra has changed in the last five years (Fig. 2A), respondents most frequently answered that either there was no change or their municipality had become a better place to live. It should be noted that 18% of respondents indicated that Coimbra is worse today than it was those years ago (Fig. 2A). Furthermore, overall there was a high level of satisfaction with regard to the municipality in which respondents live, as a majority of them said that Coimbra is a good place to live (Fig. 2B).

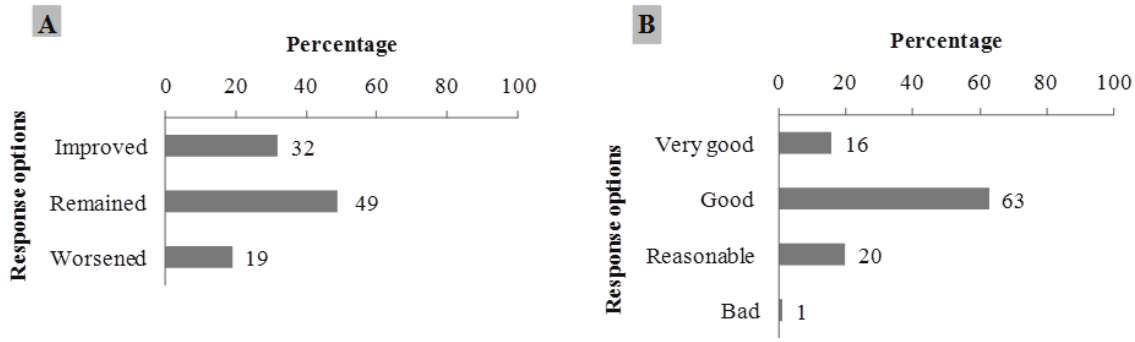


Figure 2 - Percentage of responses relative to the opinion about the progress of the quality of life in Coimbra in the last five years (A) and the level of satisfaction with the quality of the municipality as a place to live (B).

Residents were also invited to classify the quality of the following 24 economic and socio-cultural conditions provided by the municipality:

1. Bike paths
2. Housing price
3. Accessibility for people with disabilities
4. Parking
5. Employment
6. Conditions of the buildings
7. Spatial planning
8. Combating poverty and social exclusion
9. Pedestrian areas
10. Support for the elderly
11. Accessibility
12. Transit
13. Public transport
14. Leisure and recreation areas
15. Cultural and sport areas
16. Air quality
17. Public safety
18. Waste collection and selection
19. Public lighting
20. Cultural heritage
21. Basic sanitation
22. Water supply
23. Education
24. Health services

The results showed that responses "reasonable" and "good" were the most frequently referred (data not shown). The respondents were least satisfied with the conditions named "bike paths", "housing price", "accessibility for people with disabilities", and "parking" (Fig. 3). On the contrary, the four issues that won the highest levels of satisfaction were "health services", "education", "water supply", and "basic sanitation" (Fig. 3).

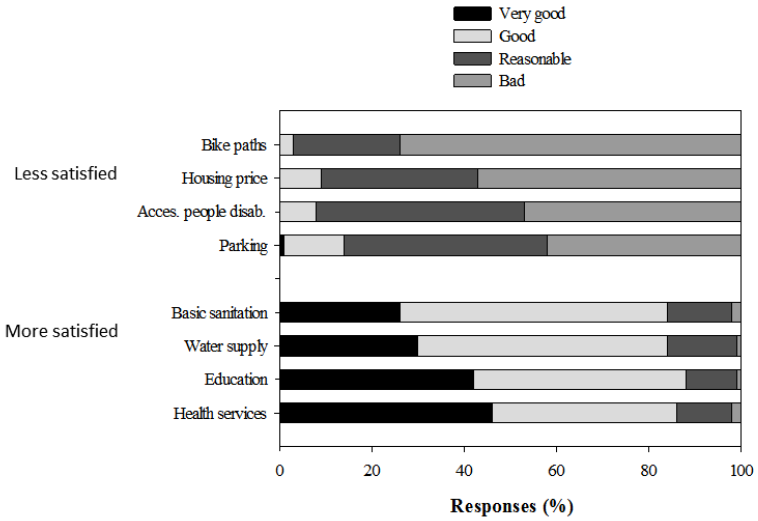


Figure 3 - Percentage of responses about the level of satisfaction with regard to the four worst-ranked (top) and the four best-ranked issues (bottom).

All, except “bike paths” were statistically influenced by the socio-demographic profile of the respondents (Fig. 4).

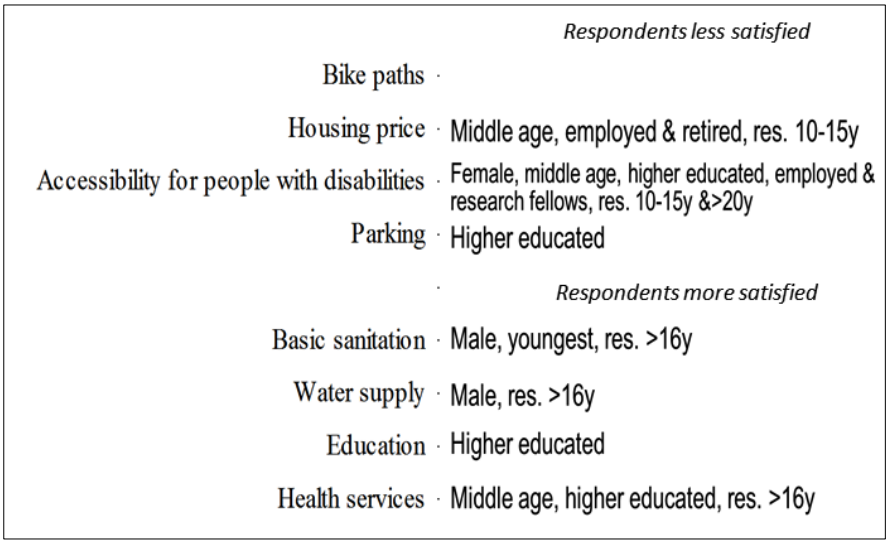


Figure 4 - Level of satisfaction about economic and socio-cultural conditions influenced by the socio-demographic profile of the respondents. (res. = residents).

In order to assess the respondent's opinion about the investments that the municipal authorities should give more emphasis in the future, the respondents were asked to indicate the level of importance for the following 19 services listed:

1. Housing sector
2. Water supply
3. Public lighting
4. Municipal roads and paths
5. Parking
6. Systems of waste collection
7. Leisure areas
8. Basic sanitation
11. Public cleanliness
12. Spatial planning
13. Education
14. Parks and gardens
15. Public transport
16. Social action
17. Support for the elderly
18. Accessibility for people with disabilities

9. Public safety

19. Support for industry, trade and establishment of companies

10. Culture and sports

In general, respondents agreed that the local authorities should place great emphasis on the investment and development of all issues (data not shown). However, "housing sector", "water supply", "public lighting", and "municipal roads and paths" showed the lowest levels of importance among the respondents. In contrast, the respondents would like that the municipal authorities give more emphasis to "support for industry, trade and establishment of companies", "accessibility for people with disabilities", "support for the elderly", and "social action" which showed the highest levels of importance among the respondents (Fig. 5).

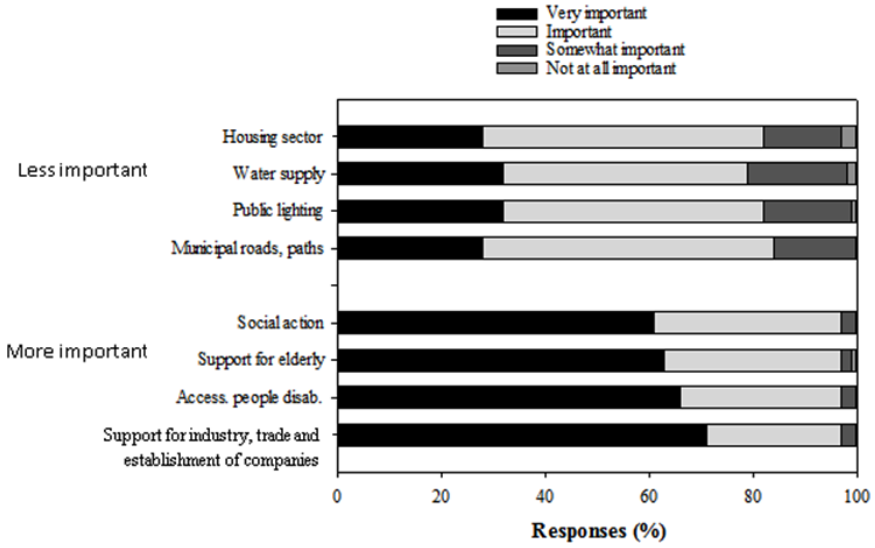


Figure 5 – Percentage of the level of importance that should be given by the municipal authorities with regard to the four worst-ranked (top) and the four best-ranked issues (bottom).

From these 8 conditions, only half were statistically influence by the socio-demographic profile of the respondents (Fig. 6).

Figure 6 - Respondents' level of importance that should be given by the municipal authorities, influenced by the socio-demographic profile of the respondents. (res. = residents).

The preferences of respondents were directed to the economic and social strategies. Some respondents suggested since conditions at the basic level were assured (e.g., "basic sanitation", "water supply", "education", and "health

services"), it was justified the investment in cultural actions as well as in services that could attract investment and create work, boosting the city development.

Overall there was a high level of satisfaction with regard to the municipality in which respondents live with the highest levels of satisfaction found in younger age group and students. These finding were generally in accordance with the survey carried out by the European Commission (2013) which revealed that most European citizens were satisfied in living in their cities. In new economies, attracting human capital means attracting firms and investment and thus economic development for cities (Morais et al., 2013). For this reason, the key priority for the local authorities is ensuring that a good basic standard of services is available locally (Ipsos MORI, 2010). Therefore, quality of life is increasingly considered as an essential element for the development of cities. The identification of the cities with better conditions to attract this human capital, and thus investments, is a useful tool to politicians and, in an European perspective, an important asset to justify the allocation of funds in order to assist economic development (Morais et al., 2013).

FINAL REMARKS

The future success of the European urban development model is of extreme importance for the economic, social, and territorial cohesion of the European Union. It is, therefore, of the utmost importance that cities are allowed to develop in a balanced and socially inclusive way, strengthening their competitiveness and attractiveness (European Union, 2011). The respondent's opinion can be very useful in order to achieve a deeper understanding of the local conditions. This type of assessment is fundamental in defining urban policies and should be considered by municipal authorities when drawing up strategies for the improvement of plans and quality of life. The cities should encourage job creation and be places of advanced social progress. They should also foster high quality of life and well-being through the existence of strong social services, where the elderly can live their life's with dignity and autonomy and where people with disabilities can be more independent. Most cities will face the challenge of adapting to the needs, demands, and requirements of an ageing population, since a large share of the elderly population will need some form of daily care (World Health Organization, 2007; European Union, 2011).

REFERENCES

Aalborg Charter (1994). Charter of European cities and towns towards sustainability.

Alanbari M.A. and Aladhami W.A.M. (2013). Assessment of perception indicators for the requirements of satisfying quality of life in Hilla city. Conference of the International Journal of Arts and Sciences, 6(2): 535-539.

Bouckaert G. and van de Walle S. (2003). Comparing measures of citizen trust and user satisfaction as indicators of "good governance": difficulties in linking trust and satisfaction indicators. International Review of Administrative Sciences, 69(3): 329-344.

CMC (Câmara Municipal de Coimbra - City Council of Coimbra) (2012). Coimbra rio - área de reabilitação urbana: estudos de caracterização. (Coimbra river - area of urban rehabilitation: characterization studies). Coimbra, Parquexpo, 134 pp. [in Portuguese].

Council of the European Union (2006). Review of the EU Sustainable Development Strategy (EU SDS) - Renewed Strategy. 10917/06, Brussels.

de Groot R.S., Wilson M.A. and Boumans R.M.J. (2002). A typology for the classification, description and valuation of ecosystem functions, goods and services. Ecological Economics, 41(3): 393-408.

EEA (European Environment Agency) (2015). The European environment - state and outlook 2015: Synthesis report. Copenhagen: European Environment Agency.

EEA (European Environment Agency) (2010). 10 messages for 2010: Urban ecosystems. European Environment Agency, Copenhagen, 11 pp.

EEA (European Environment Agency) (2009). Ensuring quality of life in Europe's cities and towns: Tackling the environmental challenges driven by European and global change. EEA Report No 5/2009, Copenhagen, 108 pp.

EEA (European Environment Agency) (2006). Urban sprawl in Europe - the ignored challenge, EEA Report N. 10. Copenhagen, 56 pp.

El Din H.S., Shalaby A., Farouh H.E. and Elariane S.A. (2013). Principles of urban quality of life for a neighborhood. HBRC Journal, 9(1): 86-92.

Eurofound (2012). Third European quality of life survey - quality of life in Europe: impacts of the crisis. Publications Office of the European Union, Luxembourg, 163 pp.

European Commission (2016). Quality of Life in European Cities - 2015. Flash Eurobarometer 419, Flash Eurobarometer, Directorate-General Regional Policy, Brussels, 169 pp.

European Commission (2014). General Union environment action programme to 2020: Living well, within the limits of our planet. Brussels: European Commission, 87 pp.

European Commission (2013). Quality of life in cities: perception survey in 79 European cities. Flash Eurobarometer 366, Publications Office of the European Union, Brussels, 145 pp.

European Commission (2010). Survey on perception of quality of life in 75 European cities. Directorate-General Regional Policy, Brussels, 85 pp.

European Commission (2007a). State of European cities report - adding value to the European Urban Audit. European Union, Regional Policy, Brussels, 32 pp.

European Commission (2007b). Survey on perceptions of quality of life in 75 European cities. Directorate-General Regional Policy, Brussels, 16 pp.

European Commission (2005). Urban Audit perception survey: local perceptions of quality of life in 31 European cities. Flash Eurobarometer 156, Brussels, 21 pp.

European Economic and Social Committee (2008). Renewed Lisbon Strategy 2008-2010: The role of organised civil society. Summary Report to the European Council.

European Parliament (2005). Report on the urban dimension in the context of enlargement (2004/2258(INI)). Final A6-0272/2005, Committee on Regional Development.

European Union (2011). Cities of tomorrow: challenges, visions, ways forward. European Commission - Directorate General for Regional Policy, Publications Office of the European Union, Luxembourg, 100 pp.

European Union (2007). Leipzig Charter on Sustainable European Cities.

Duque J., Varajão J., Vitor F. and Dominguez C. (2013). Implementation of CRM systems in Portuguese Municipalities. Local Government Studies, 39(6): 878-894.

Fahey T., Nolan B. and Whelan C.T. (2003). Monitoring quality of life in Europe. European Foundation for the Improvement of Living and Working Conditions, Office for Official Publications of the European Communities, Luxembourg.

Feldmann B. (2008). The Urban Audit - measuring the quality of life in European cities. Office for Official Publications of the European Communities, Luxembourg, 7 pp.

Gomes P.D.P.M. and Panagopoulos T. (2008). Opportunities for sustainable design in renovation of the Stanaway Park, Dublin, Ireland. 1st WSEAS International Conference on Landscape Architecture, Algarve, Portugal, pp. 81-85.

Guidotti T.L. (2010). Health and urban ecosystems. Archives of Environmental and Occupational Health, 65(1), 54-55.

Harpham T., Burton S. and Blue I. (2001). Healthy city projects in developing countries: The first evaluation. Health Promotion International, 16(2): 111-125.

Howard C. (2010). Are we being served? A critical perspective on Canada's citizens first satisfaction surveys. International Review of Administrative Sciences, 76(1): 65-83.

INE (Instituto Nacional de Estatística - National Institute of Statistics) (2011). Censos 2011. (Census 2011). Accessed in May 2016 from: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_main. [in Portuguese].

Ipsos MORI (2010). What do people want, need and expect from public services? 2020 Public Services Trust, London, 48 pp.

James O. (2009). Evaluating the expectations disconfirmation and expectations anchoring approaches to citizen satisfaction with local public services. Journal of Public Administration Research and Theory, 19(1): 107-123.

Keles R. (2012). The quality of life and the environment. Procedia - Social and Behavioral Sciences, 35: 23-32.

Lotfi S., Faraji A., Hataminejad H. and Pourahmad A. (2011). A study of urban quality of life in a developing country. Journal of Social Sciences, 7(2): 232-240.

Lotfi S. and Solaimani K. (2009). An assessment of urban quality of life by using analytic hierarchy process approach (Case study: Comparative study of quality of life in the north of Iran). Journal of Social Sciences, 5(2): 123-133.

Marans R.W. (2015). Quality of urban life and environmental sustainability studies: Future linkage opportunities. Habitat International, 45(1): 47-52.

Marans R.W. (2012). Quality of urban life studies: An overview and implications for environment-behaviour research. Procedia - Social and Behavioral Sciences, 35: 9-22.

Massam B.H. (2002). Quality of life: Public planning and private living. Progress in Planning, 58(3): 141-227.

MEA (Millennium Ecosystem Assessment) (2005). Ecosystems and human well-being: current state and trends. Island Press, Washington, 23 pp.

MEA (Millennium Ecosystem Assessment) (2003). Ecosystems and human well-being: a framework for assessment. Island Press, Washington, 245 pp.

Møller V. and Dickow H. (2002). The role of quality of life surveys in managing change in democratic transitions: the South African case. Social Indicators Research, 58(1-3): 267-292.

Morais P., Miguéis V.L. and Camanho A.S. (2013). Quality of life experienced by human capital: an assessment of European cities. Social Indicators Research, 110(1): 187-206.

Nijkamp P. and Vreeker R. (2000). Sustainability assessment of development scenarios: methodology and application to Thailand. Ecological Economics, 33(1): 7-27.

Office of the Deputy Prime Minister (2005). Bristol Accord. Conclusions of Ministerial Informal on Sustainable Communities in Europe.

Official Journal of the European Union (2013). Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 "Living well, within the limits of our planet".

Official Journal of the European Union (2012). Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union. C 326, Vol. 55, Publications Office of the European Union, Luxembourg.

Roch C.H. and Poister T.H. (2006). Citizens, accountability, and service satisfaction: the influence of expectations. Urban Affairs Review, 41(3): 292-308.

Savard J.-P.L., Clergeau P. and Mennechez G. (2000). Biodiversity concepts and urban ecosystems. Landscape and Urban Planning, 48(3-4): 131-142.

Schellong A. (2005). CRM in the public sector: towards a conceptual research framework. Proceedings of the 2005 National Conference on Digital Government Research, Atlanta, Georgia, USA. May 15-18, pp. 326-332.

Senlier N., Yildiz R. and Aktaş E.D. (2009). A perception survey for the evaluation of urban quality of life in Kocaeli and a comparison of the life satisfaction with the European cities. Social Indicators Research, 94(2): 213-226.

Stipak B. (1979). Citizen satisfaction with urban services: potential misuse as a performance indicator. Public Administration Review, 39(1): 46-52.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (2000). World conference on science: science for the twenty-first century: a new commitment. UNESCO, Paris, 47 pp.

United Nations (2014). Population division. World urbanization prospects: the 2014 Revision. Accessed in May 2016 from: http://esa.un.org/unpd/wup/.

van Kamp I., Leidelmeijer K., Marsman G. and de Hollander A. (2003). Urban environmental quality and human well-being: Towards a conceptual framework and demarcation of concepts; a literature study. Landscape and Urban Planning, 65(1-2): 5-18.

WCED (World Commission on Environment and Development) (1987). Our common future. Report of the World Commission on Environment and Development. Oxford University Press, New York, 242 pp.

World Health Organization (2007). Global age-friendly cities: a guide. WHO Press, Geneva, 76 pp.

INDICATIVE OF THE GOOD GOVERNANCE: ASSESSMENT OF THE DEGREE OF PARTICIPATION OF THE INHABITANTS IN THE LARGE URBAN PROJECTS. CASE: MODERNIZATION PROJECT OF THE METROPOLIS OF CONSTANTINE AND MASTER PLAN OF BRISBANE

Session T5.2 | June 1 | 14:00 – 15:30

Nedjima Mouhoubi (1); Souad Sassi Boudemagh (2)
(1) PhD Student: dept. projects management. University Constantine 3. Constantine, ALGERIA.
Address: Semaoune, Béjaia 06020. Algeria
(2) Professor: dept. projects management University Constantine 3. Constantine, ALGERIA
Address: 06 rue Bouali Said Constantine 25000. Algeria
mouhoubi_n@outlook.com; souad44@hotmail.com

ABSTRACT: The social movements that have started in the 1950s in the United States and around the 60 s in Europe, which are currently continuing, are a sort of protest against the methods followed by the power and a questioning of the public authorities legitimacy and their ability to manage the life of the community. These movements, focused on social issues and the day-to-day concerns of the citizens, are not limited to the problem of poverty and social issues; they are also hitched to the development concerns and the urban ones in general.

Thus, reforms, both administrative, policies and urban ones, have been introduced in several countries; the search for a form of governance called "good" has then become inevitable.

In the late 80s, the concept of governance is brought to the political and urban sciences, in an attempt to set a definition that encompasses the different meanings and uses of the term "governance". The magazine Human Sciences defines the governance as "a Mode of government organized on the basis of cooperation, partnership or contract between a plurality of actors both public and private "(Human Sciences, 2004).

The governance in the urban is a system of local government, which binds between public institutions, social actors and private organizations, in the development of collective choices to make the public action effective (Ascher, 2001)

Good urban governance cannot be dissociated from the participation and of partnership. It refers to an approach that brings together and involves all the urban actors in decision-making and empowering them in a process of consultation, partnership and negotiation.

The governance in the urban field, being outcome of the bursting of the power and the multiplication of actors, is the organization of these actors, the negotiation between them, the cooperation in the framework of the project and the coordination of their actions.

Then comes the instrument of good governance, which has, for ultimate goal of the concretize it and to support participatory democracy, namely: "the participation". The Bologna operation in Italy «… was an opening toward a more democratic approach of planning in leaving to express the opinions and wishes of the users of the city" (Ingallina, 2001. P85) as well as the operation of the Halles de Baltard in Paris in 1968, which is also an experience without precedent in the field of the inhabitants participation (more than 1 000 people) in the definition of their living environment, through associations and intellectual circles; these are examples of the successful participation of citizens in urban issues.

This new knowledge baptized «shared collective project " has spread rapidly around the world; However, it should be noted that the participatory approach was (is) not only matter of great dissemination, but also topic of research and

development through the innovation of the methods and tools for its realization. Currently, there are several forms and ways of implementing the participation. Passing from a display for simple information to sites and web page toward public workshops of urban planning for a co-development and even go to a delegation of power.

In this paper, our objective is not only to analyze this new approach through two examples by comparing them, but also to present the new urban planning, which develops in relationship with this approach to know the URBAN PROJECT.

Thus, the light will be put on the urban project and the participation of residents when it comes to this major urban project and based on two examples of Great Urban Projects.

The first one is the master plan of Brisbane in Australia, which was able, through participation tools, to involve the inhabitants of the city in a complex process of urban transformation of the city. The second one is the Project on the modernization of the metropolis of Constantine in Algeria, which on the contrary has not been matched in this dimension.

The objective is then to assess the degree of participation of the population in the urban issues on a large scale for the realization of the participatory democracy and good governance, in examining the laws and regulations of the two countries that relate to the question of participation and based on the two urban projects cited below.

KEYWORDS: good governance; participation; urban project; sustainability; Constantine; Brisbane.

INTRODUCTION

In the development of the individualistic society (ASCHER A) and the new situation of the city, governance systems have become outdated and ineffective. This brings up the need for change and reform in order to achieve balance between the society development and governance systems, and more precisely reach a governance called "good."

Thus it is no longer about the intentions of this good governance, as its principles are recognized, but it is rather question of its implementation modalities, in other words "instruments and tools" of this good governance concretization, knowing that it is a foundation when it comes to public action.

Yes, the "urban" public action being "any action which contributes to the development and functioning of towns and cities and agglomerations" (Arab et Al, 2009. P188) must be based on good governance in order to achieve its objectives for the management of cities for a better development.

Then, as soon as it comes to co-produce the city through the collective reflection and the involvement of all, the urban project as a mode of intervention, thus, joins the theories of governance (Arab, 2001) and it becomes an instrument (ibid.).

It is admitted that problems related to the governance are mainly derived from the bursting of the power, the social and the administrative diversity and the divergence of the visions and opinions of decision makers who are becoming more and more numerous. Thus, the management of these divergences and their federation finds space for discussion in the theories of governance. In addition, the urban project is facing the same problems, such that it is facing several authority, powers, from elected, Mayor to the scientific and professional, passing by the inhabitant (being expert involved or spectator of developments of his city). Therefore, it will be necessary to represent this existing relationship between urban project, which is a mode of intervention on the city and an instrument of public action (Pinson, 2005), and the governance, that is a foundation of this action called public to make it effective (Ascher, 2001) both of them are facing the same problems.

In addition, as the governance is often represented as being the break with the traditional modes of government and management of public action, the urban project is also a break with the traditional modes of planning becoming sterile.

Starting from the burst of power and diversification of individualized society (ibid.), the urban project and governance are linked, however, one serves the other in his way. In fact, the urban project mobilizes and organizes the actors' intervention and the instances that the urban governance is facing. So, urban governance uses the urban project for the mobilization of private and public actors and citizens so that it can actually be given the title of good governance.

Therefore, the Urban project is defined as a tool for the implementation of the good governance and an instrument of public action, it is included in an inclusive approach (Pinson, 1999), which aimes to analyze the project regarding to the participation and participatory democracy. Then the evaluation of public action and more specifically its aspect of

good governance can be done by the assessment of this inclusive approach of actors (mainly the inhabitant) in the urban project. In this research, we will emphasize on:

- The urban project as an instrument of good urban governance in the framework of public action.
- The participatory democracy and more specifically the civic participation as a means of the inclusive approach of mobilization of actors around the urban project;
- The assessment of this participation that serves as a first time in the evaluation of the urban project itself, then revealing good governance and this based on two cases of urban project: the urban project of Brisbane and the urban project of Constantine.

METHOD

In this research, we relied on the research tools that can help us to get information regarding:

- The rules on the participation in the two countries where are located these two urban projects;
- The state of fact of the participation in urban projects;
- The process of implementation of the participation (if it exists) in the two projects including the means and tools for this implementation.

Thus, in the case of the urban project of Brisbane we used reading and exploitation of content:

- the literature that handled the project and its processes;
- The written press;
- The various Web sites and citizen's forum created in the framework of the participation implementation.

For the case of the urban project of Constantine, the same tools are used however, we have also conducted a survey (since it is possible in the case of Constantine) with citizens to be able to detect the level of participation and its existence in the project. This investigation has focused on a sample of 300 inhabitants of the metropolis of Constantine shared between its various municipalities.

PRESENTATION OF THE TWO CASES OF STUDY

THE URBAN PROJECT OF BRISBANE "THE MASTER PLAN"

Brisbane, a large city in Australia that dominates the region of Queensland, is one of the more attractive cities in the world, which has a high urban growth; combined to this rapid urbanization (expected to reach 1 150. 000 inhabitants in 2026), the needs for renewable and natural resources are increasing day by day.

An integrated development strategy that affects several areas (social, spatial, economic, environmental…) has been developed. It is gradually and continuously updated in response to the challenges already cited.

This strategy is first of all based on an information system which puts in relation planning instruments while ensuring the sectors interactivity by sharing the databases. Baptized Integrated Development Assessment System ISID, it is, in the same time, a system of management of this strategy and a system of organization of the various actors and interventions on the city.

By using this system, which is operational since 1998, a major urban project has been developed by and for the city," Brisbane city master plan". An urban project that belongs to an overall strategy is "a territorial approach downward, ranging from the metropolitan project Global (Brisbane city plan 2000) toward the local projects of neighborhoods (Brisbane City Center Master Plan 2026) and the neighborhood projects" (Berezowska-Azzag, 2012, P137). It is one of the four strategic tools[1] of development and urban development at the horizon of 2026. It has defined five major objectives, which are summarized in Brisbane: welcoming city, city in movement, green city, city at work and city protecting its identity.

This project being rich in lessons in several areas, to know the overall strategy of development, constantly updated sustainable design and management systems put in place, we are interested in its participatory approach which is a very interesting case capitalizing an important return of experience.

[1] These policy tools are: Local Growth Management Strategy" city Project"; the Brisbane City Master Plan" major urban project"; the Brisbane City Center Master Plan" urban project local" and the Plan for Action on Climate Change and Energy. Through this, we note that the urban projects of various types and scales (draft city; major urban project, urban project and local action plan) are used as tools that serve a strategy much greater that of the city itself. This strategy constitutes a real case of school for the cities who want to base their strategies.

THE URBAN PROJECT OF CONSTANTINE "MODERNIZATION OF THE METROPOLIS"

One of the most ancient cities, not only in Algeria, but in the world, Constantine, the city of more than 20 centuries (2500 years), metropolis of the East. Known as the more resistant of the cities, it has survived several centuries of wars; within a panorama of landscapes on different trays of rocks: it is the city of bridges and rocks. However suffering of unhealthy, frenetic and uncontrolled urbanization, fragmentation of the urban fabric, lack of infrastructure and especially of congestion of the city center, which is in ruins.

The economic and social level, as serious as those urban ills are also poignant: unemployment, crime, social insecurity, imbalance and social segregation.

Then Constantine wants to become a metropolis. So, an urban project is born in this perspective.

This major urban project, which is the PMMC (Projet de Modernisation de la Metropole de Constantine), has the vocation to be the engine of a synergy for the revitalization of the city. It has to bring life and dynamic to a metropolis in distress (Figure 1: the major components of the Modernization (Source: wilaya Constantine, 2011 with auteur translation) / Figura 1: os principais componentes da modernização (Fonte: wilaya de Constantino, 2011 com tradução oferecia). Its objectives are divided between (Cherrad et Al, 2007):

- The improvement of the conditions of life and the comfort (qualitative);
- The revitalization of development; (Competitiveness)
- The revalorization of the image of Constantine (attractiveness);
- The modernization; by equipment and the projects;
- The realization of social equity (cohesion and reduction of disparities) and citizen participation;
- The response to the needs and the urban, economic and social crisis.
- The consistency between the punctual actions.

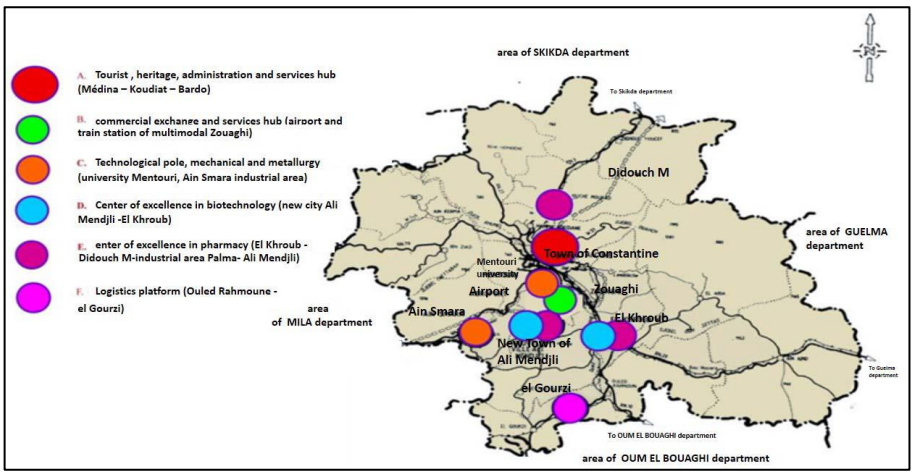


Figure 1: the major components of the Modernization (Source: wilaya Constantine, 2011 with auteur translation).

RESULTS

THE INSTITUTIONALIZATION OF PARTICIPATION IN THE TWO COUNTRIES

Participation in Australia is one of the more developed fields; methods of implementation are continuing to revolutionize. Several Laws treat public participation in several fields concerning their daily lives, especially their urban environment. These laws relate the various rights in relation to the participation as:

- The rights to the notification;
- The right of access to the information;
- The rights of application for the revision of the decisions;
- The rights of forcing a government agency to act;
- The ability to sue in court to prevent any breach of the participation rights.

So, Australia has become one of the most advanced countries, not only in the field of actors participation but also of citizen participation, such as a wide range of involvement methods is used, from investigations and survey, jury of citizens … to the e.participation.

Indeed, a new tool that developed at this time is the e. participation or electronic participation. The tool that facilitates participation and participatory democracy in decision-making, currently represents the most important system of participation in the world.

In Algeria, the involvement of residents in the definition of their living environment and decision-making concerning the development is still in its beginning. Except calls for financial contributions of residents during rehabilitation operations of their homes, can be called participation.

This is not due to a lack of legislative text regulatory and governing the rights of involvement of citizens and of the participation of the actors, but it is rather a question of the application of these texts. Indeed, in the Algerian regulation, several legislative texts provide the legal anchoring of the participatory democracy; but the problem is the way of implementing the participatory democracy. We can mention the law 90 -29 relative to the development and the urban planning that requires the concertation in its article 15, Article 14 of the Constitution of the country itself, which stipulates, "the State is based on the principles of organization and social justice. The elected Assembly constitutes the framework in which is expressed the will of the people and exercises the control of the action of public authorities", then article 16 of the same Constitution which specifies, "The elected assembly is the basis of decentralization and the place of the participation of citizens in the management of public affairs". Finally, article 31 of the Constitution stipulate "the abolition by the institutions of all the obstacles which impede the development of the human person and impede the effective participation of all in the political, economic, social and cultural life".

THE PARTICIPATION IN THE TWO URBAN PROJECTS

THE URBAN PROJECT OF BRISBANE

The urban project of Brisbane is an example of success of the participatory approach. Actually, based on an approach of type bottom-up "where the initiative of civil society is preponderant" (Berezowska-Azzag, 2012), the participation in the project has been institutionalized, framed, valued and inhabitantlized (ibid.) (Figure 2: extract from the document "draft city shape 2026" enhancement of the opinion of the population (Source: www.brisbane.qld.gov.au) / Figura 2: Extracto do documento "projecto de cidade forma 2026" reforço da opinião da população (Fonte: www.brisbane.qld.gov.au)) by putting at the disposal of the inhabitants and users and professionals of various tools for participation (guide, manuals, codes, forums, websites…).

Figure 2: extract from the document "draft city shape 2026" enhancement of the opinion of the population (Source: www.brisbane.qld.gov.au)

The involvement of the different actors in the project has formed in an organized manner, an important advisory body has been put in place in order to attend the mastery of work and better manage the participation of the inhabitants.

PARTICIPATION PROCESS IN THE PROJECT

The BCC (Brisbane City Council) has prepared a plan for the development and planning of the city of Brisbane. This plan, detailed in a document called a " Draft City shape 2026 " has been subject to consultation of the inhabitants and actors of the city guaranteeing a feedback requested by BCC with the inhabitants and users of the city. All suggestions, opinions and advices on the project were welcome.

This broad program of consultation began in 2005 and lasted a year, first started by the information of the inhabitants on the project and then a census of the opinion in order to choose the most appropriated scenario, and which the inhabitants adhere the most.

The question that has been asked is: "How the City of Brisbane will develop in a horizon of 20 years» (Figure 3: request for an opinion of the inhabitants and the opinions and advices of stakeholders on the various objectives of the Master Plan (Source: Ibid. author treatment)/ Figura 3: Pedido de parecer dos habitantes e os pareceres e conselhos

das partes interessadas sobre os diversos objectivos do Plano Mestre (Fonte: Ibidem autor tratamento)). The Document of "Brisbane CityShape2026 "houses six themes of discussion on the fate of the city:

- Calling Brisbane home "Welcoming city ": the construction of a new vision that reflects the style of an urban-village.
- Keeping Brisbane moving: the improvement of the public transport network of inter-city, roads and paths of walking that link the homes and places of work, shops, schools…
- Keeping Brisbane green: Maintenance of green spaces wide.
- Putting Brisbane to work: to promote employment in the major commercial centers, large industries and points of specialized employment.
- Protecting Brisbane's identity: protection of the traditional characters of the city.
- Water – a precious resource: protection of water sources.

Figure 3: request for an opinion of the inhabitants and the opinions and advices of stakeholders on the various objectives of the Master Plan (Source: Ibid. author treatment)

A feedback is expected to the document produced and a response to the question of the fate of the city were the bases of the consultation program launched.

Associated with a workshops and consensus conferences, this program focuses on the association of the inhabitants to take decisions on the fate of their city, developing and debating several scenarios of this future.

The population was targeted for comments, advices and expertise of user and of the one who lives the city, however, this program has not stopped to the population, the BCC has also appealed to the competencies of the various professionals (Figure 4: extracts from the document "draft city shape 2026" (Source: Ibid. author treatment.)/ Figura 4: Extractos do documento "projecto de cidade forma 2026" (Fonte: Ibidem autor tratamento.)) through advice for the development and planning and advice on the design


This draft was developed through Council's Neighbourhood Planning initiative, where residents are helping to decide how and where Brisbane will grow. Since March 2005, we've asked thousands of Brisbane residents to tell us what they think about the future of our city. Last year, Council held input workshops and five Neighbourhood Planning fairs around Brisbane, and more than 40,000 people attended. At the fairs, almost 10,000 people nominated one of four different shapes – CityShapes – that Brisbane could take in the future.

Council also asked for advice from those directly involved in the planning processes – town planners, community and environmental groups, developers and architects.

Now we want your thoughts.

Please read this document and tell us what you think by filling out a CityShape Survey online at www.brisbane.qld.gov.au/neighbourhoodplanning or by phoning Council on (07) 3403 8888 for a hard copy.

When Council gets your feedback, we will collate it, add further technical considerations and then send it out again for your final comments. We will then have a clear direction for how to manage Brisbane's growth over the next 20 years.

Thank you for investing the time now so that Brisbane will still be a great place to live and work in 2026.

Figure 4: extracts from the document "draft city shape 2026" (Source: Ibid. author treatment.)

It should be noted that this program was planned (Figure. 5: planning of the consultation program of the inhabitants and of the actors (Source: Ibid.) / Figura 5: Planeamento do Programa de consulta dos habitantes e dos actores (Fonte: ibidem)) in the form of go and returns between policy makers and actors through several time of participation searching for an effective feedback.

Figure 5: planning of the consultation program of the inhabitants and of the actors (Source: Ibid.)

As well, more than 60,000 inhabitants have responded to this program through their ideas and comments on the site dedicated to this effect.

The response of the inhabitants of Brisbane and the users of the city to the BCC request is to implant new residences and equipment of accompaniment around the large commercial center or throughout the corridor but also to reduce the distance between their places of work and their residences with more proximity services and easer traveling system.

The scenarios on what has brought this program of consultation was four (Figure. 6: The scenarios of the Draft Brisbane City Shape 2026 (Source: Ibid.) / Figura 6: Os cenários do projecto de forma a cidade de Brisbane 2026 (fonte: ibidem)):

- Scenario 1: Compact City;
- Scenario 2: Dispersed city;
- Scenario 3: City Corridor;
- Scenario 4: Multi-centered city.

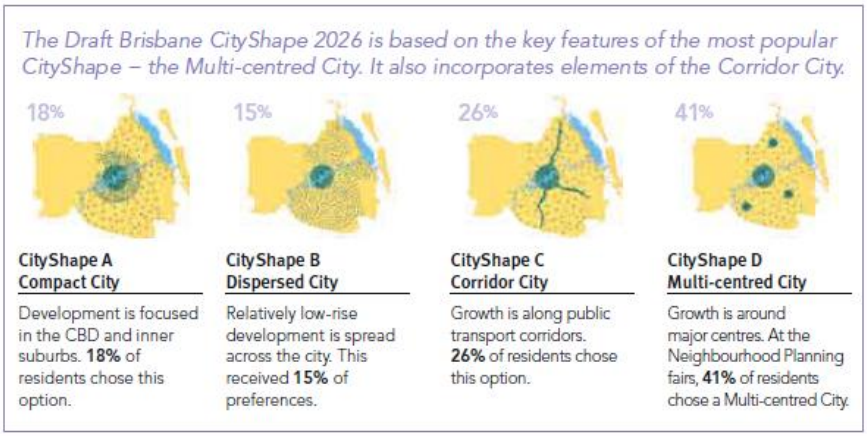


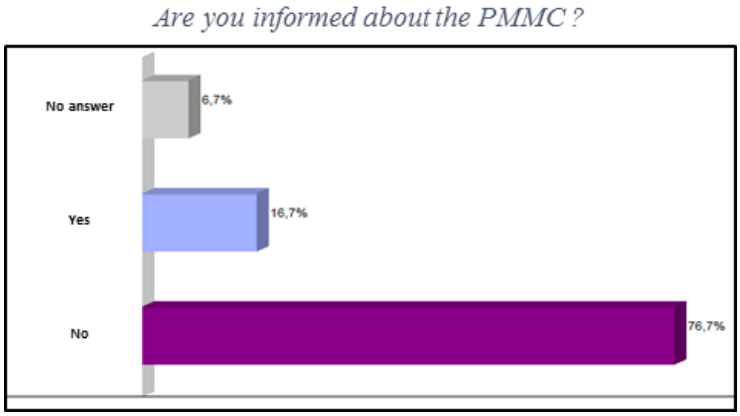
Figure 6: The scenarios of the Draft Brisbane City Shape 2026 (Source: Ibid.)

The results of this consultation program is a vision of the future of the city that its inhabitants hope to see. The preferred scenario by the inhabitants and users of the city has been identified in 2006. It constitutes a combination between the scenario multi-centered city with elements of the Corridor scenario city.

THE URBAN PROJECT OF CONSTANTINE

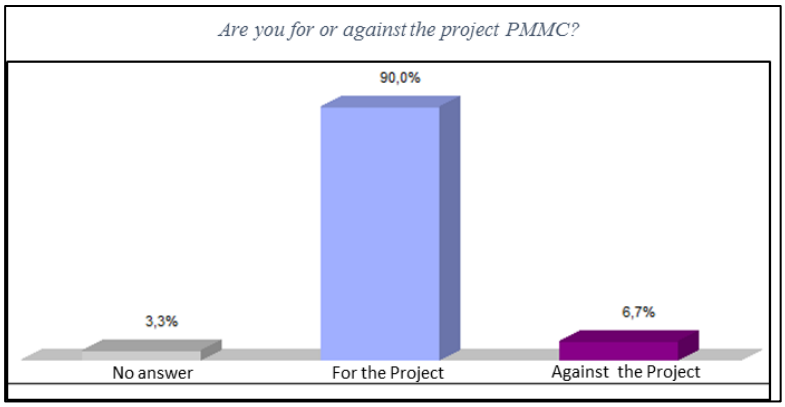
Through the investigation carried out and playback of content in the case of the urban project of Constantine on 300 inhabitants, we come to the results that can be synthesized in the following points:

- The urban project of Constantine has not been the subject of dissemination and the population in its majority (Graph 1: The population information about the Urban Project (PMMC) (Source: Author investigation) / Gráfico 1: a população informações sobre o Projecto Urbano (PMMC) (fonte: Autor do inquérito)) has not learned of its existence ;



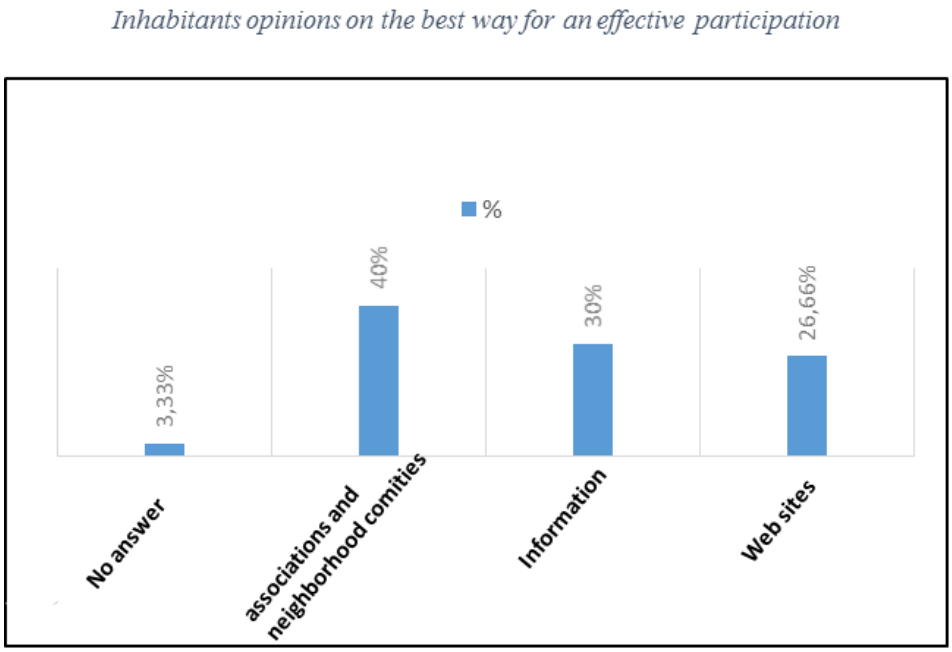
Graph 1: The population information about the Urban Project (PMMC) (Source: Author investigation)

- For the few people having learned about the project it was by the entourage and by the mean of university
- The population knows the majority of projects during implementation and that are part of the urban project of Constantine, however does not know that these projects are part of an urban strategy in the form of a major urban project of Constantine ;
- The population surveyed, after learning about the objectives of the project (that we had submitted), are in great majority (Graph 2: The adhesion of population for Urban Project (PMMC) (Source: Author investigation) / Gráfico 2: a aderência da população para o projecto urbano (PMMC) (fonte: Autor do inquérito)) in favor of its implementation and for its realization;



Graph 2: The adhesion of population for Urban Project (PMMC) (Source: Author investigation)

- For the surveyed population, the Urban project of Constantine has not really brought a plus for the city, apart from the transport sector, no change has been observed;
- The survey reveals and confirms the fact that the population has not been involved in the project, even if it presents its willingness and its readiness to be involved. They consider the best ways to an effective participation those of delegations like associations and neighborhood comities and websites (Graph 3: the best ways to an effective participation (Source: Author investigation) / Gráfico 3: as melhores maneiras de uma participação efectiva (Fonte: Autor do inquérito)).



Graph 3: the best ways to an effective participation (Source: Author investigation)

- The trust between the elected, responsible and the population is very low, such that the latter does not believe in the strength of their opinion and point of view. They consider" they are just the inhabitant». as well, we can denote underestimation of the position of the inhabitant but also the non-awareness that this Habitant must be a key member in his city;
- The population shows a hope in the achievements and the modernization of their city, even if the urban project of Constantine represents for them an unrealistic dream.
- Two workshops have been organized in the framework of the project (January 2009 and October 2009). The first workshop was to bring together professionals and experts in order to reflect and to engage in a debate on the possible developments and scenarios of modernization, as well as the returns to experience of other cities and finally to formalize a program for the modernization of Constantine which defines the main lines of modernization. The second workshop had objective to submit the draft urban modernization of the metropolis to experts, researchers and professionals in order to evaluate and propose the Bardo Viva city and complete the proposals already made in the first workshop. However, these workshops did not integrate the inhabitant participation.
- A kind of revolt against the lack of participation and the not taken into account the citizen in the design of the future of his city is noted.
- Finally, we also found that the public authorities at their head the former wali of Constantine, bearer and initiator of the project, accuses the non-accession of civil society to be a constraint to the achievement of the projects of the urban project of Constantine in the time. However, the inhabitant did not feel himself invited to participate.

DISCUSSION: COMPARISON BETWEEN THE TWO CASES AND REVELATION OF THE GOOD GOVERNANCE

By synthesizing the results obtained, we can draw up a comparative table of the two cases (Table I: Comparison between the two projects in the optic of participation (Source: Author) / Tabela I: comparação entre os dois projectos na óptica de participação (Fonte: Autor)):

The indicator of comparison	Urban project of Brisbane	Urban project of Constantine
Institutionalization of Participation	The participation has been institutionalized and its implementation has been developed and framed.	The participation has been institutionalized however; its implementation has not been framed.
Existence of the participation in the project	The participation in the project is existing, it is of the type top-down[1] with the call of the BCC to the citizens involvement, this participation has been framed by this organization, consolidated by the inhabitant and planned.	The participation in the project is almost non-existent; the form of participation which tries to develop is the participation of the type bottom-up[2] across the various manifestations and the contestation of power which appear in the context of the project from the inhabitants.
Tools of participation	*Call for the involvement of the Inhabitant; *Information through the written press, audio and visual; *organization of several workshops and urban workshops; *Web site and forum with the call for the feedback	*No call to the participation; *The majority of inhabitants are not informed of the project; *organization of two workshops on the project, however, they have not been able to mobilize the inhabitant neither play the informative role; *No web site dedicated to the project or to the feedback, however, of the web pages of reviews and articles in the press around the question of participation in the project are erected.
Level of Participation	More than 60 000 inhabitants has been involved and has participated in the development of the project and the choice of scenario. * information to the consultation then the consultation through the suggestions and feedback to arrive at a high level of participation in the co-decision procedure through the collective choice of the scenario wanted.	Even the information that the first stage of the participation in the project has been omitted. No other form of participation has been noted in the project.

Table I: Comparison between the two projects in the optic of participation (Source: Author)

DISCUSSION OF THE LEVEL OF PARTICIPATION IN THE TWO PROJECTS

Based on the fact that participation was institutionalized in both countries, a large gap in the implementation is noteworthy. Indeed, participation is a foundation in the urban project and one of the actors mobilization tools around urban issues, found a favorable echo and a good application in the case of the urban project in Brisbane. The scenario that can be observed in his case is a top-down participation beginning with the broad information to the public (citizens and stakeholders of the city) on the current situation of the urban area to establish a shared diagnosis.

Then, a call for the involvement of the Inhabitant and of the actors has been launched through multiple channels (written press, audio-visual, Web site, forum, display, workshops, Urban Workshop,). It was followed by active

[1] The *top-down approach* (top-down), it comes from the top of the pyramid (politico-institutional) in order to develop an adequate project to local needs in the form of consultation. This approach is very widespread in France (Bacque, 2009).
[2] The approach *bottom-up*, it is an approach that is more common in North America. It is concretized by the Mobilization of social movement which takes the commands of the local development and which can even develop *counter-projects* by the mobilization of knowledge and knowledge and it is also the first form of participation having existed during the project of Les Halles in Baltard with 600 against-projects developed.

participation1 in creating the feedback between the inhabitant and the services of urban planning and the elected members responsible of the project in order to co-design and co-decide the future of the city.

This is not observable in the case of the urban project of Constantine, such that the information, which is the first step of the participation, has been omitted and the most part of citizens respondents (76.7%) are not aware of the project and its strategy nor even of its objectives and its content.

In addition, no call to citizen involvement has been launched and no device of participation has been implemented. Except for the two workshops organized in the framework of the project, however, these workshops to create an opportunity for people to access information on this strategy and the urban project have not achieved the goal.

As well, if we are talking about level of participation in the two projects, we are in the obviousness to note that there is a large gap between them. Indeed, the urban project of Brisbane has reached the active level of the participation, namely co-decision, whereas, the urban project of Constantine was not even able to access at the passive level of the participation to know the information. Even if this step remains the first stone in the process of participation as A. MASBOUNGI says "if the consultation is one of the master words of the sustainable urban project sustainable, it must be participatory and not only informative …" (Masboungi, 2012. P9).

However, what is to note in its process is that a certain participation bottom-up is being built, such as the citizen begins to take conscience of its rights and of the role that it can play in the design and the development of his city. As well, a certain revolt and requests of involvement are developed around the project.

CONCLUSION

The urban project is considered as an instrument of public action and it" occupies a privileged position in the arsenal of urban actors » (Pinson, 2006). As an instrument of public action Urban, it aims not only the spatial organization of the city but also the mobilization of actors, group and urban institutions and the constitution of the city in collective actor (ibid.). As well, it goes hand in hand with the governance that it is defined as the process of coordination of actors, social group and institutions to achieve the objectives defined collectively (Arab, 2001).

Thus, the urban project as governance are closely related to participation and more civic participation, so they use both participation with the aim of mobilizing actors and more in their actions management and involvement in decisions and in the governance system.

From this, participation has become an accurate indicator of the achievement of good governance in major cities through the involvement of inhabitants in large urban projects.

Through the study of examples exposed, we can deduce that the governance system differs from one country to another but also that each urban project can choose the participation as a means for the realization of good governance. This participation can be an asset but also an instrument of good design and implementation of the project for the purpose of its good ownership by the inhabitants in the framework of public action in urban areas.

REFERENCES

ARAB N. (2001), "La coproduction des opérations urbaines : coopération et conception", In Espaces et sociétés, projet urbain, maitrise d'ouvrage, commande ». Ed. L'Harmattan N° 105/106, pp. 57-81.

ARAB N, IDT J, LE FLEUVE M P. (2009) « actions publiques métropolitaines : entre concurrences et coopérations » In BOURDIN A & PROST R s/d. (2009), « Projets et stratégies urbaines, regards comparatifs » Ed. Parenthèses. 283p. PP 188-203.

ASCHER F. (2001), « les nouveaux principes de l'urbanisme », Ed. L'Aube.

BACQUE M.H. (2009) « gouvernance et urbanisme de participation » In BIAN V et TAPIE G s/d (2009) « la fabrication de la ville, métiers et organisations ». Ed. Parenthèses. Marseille. 216p. pp17-29 ;

[1] There are two major levels of participation: the passive level and the active level. As the passive level, is one where the user or/and the inhabitant is a spectator of the changes that affect its environment and its framework of life, it is completely excluded from the decision-making process where it is just informed, some consider this as a form of participation. The second level is that of active or most often called physical, where the population is regarded as a means of creating consensus and collective decision making between other implement a good governance.

BEREZOWSKA-AZZAG E. (2012), « projet urbain, guide méthodologique », Vol 2 « comprendre la démarche du projet urbain », Ed. Synergie. Alger.

CHERRAD S E, CHERABI A, BOULEDROUA, (2007). « Projet de modernisation de la métropole constantinoise PMMC »

DARDY C. (2008) « la gouvernance urbaine ; de la théorie aux projets » étude pour l'agence française de développement, Devisions collectivités locales et développement urbain.

JAMES R. F., BLAMEY R. K., (1999) « Public participation in environmental decision-making – Rhetoric to reality ? »,

1999 International Symposium on Society and Resource Management, Brisbane, Australie.

MASBOUNGI A. (2001) (S/dir.), «Fabriquer la ville. Outils et méthodes : les aménageurs proposent ». Direction générale de l'urbanisme, de l'habitat et de la construction DGUHC, club ville aménagement, La Documentation française Paris, 230p.

MASBOUNGI A. (2012), s/d« Projets urbains durables ; stratégies », Paris, Ed. Le Moniteur. 175p.

PINSON G. (1999), « Projets urbains et construction des agglomérations. Echelles fonctionnelles et politiques », Les Annales de la Recherche Urbaine, n°82, pp. 130- 139. © METL.

PINSON G (2005), « le projet urbain comme instrument d'action publique » In LASCOUMES P & GALES P s/d (2005), « Gouverner par les instruments » Ed. Presses sciences Po. 370 p. pp199-233.

Gilles Pinson, « Projets de ville et gouvernance urbaine. Pluralisation des espaces politiques entre composition d'une capacité d'action collective dans les villes européennes », Revue française de science politique 2006/4 (Vol. 56), p. 619-651.DOI 10.3917/rfsp.564.0619

WILAYA DE CONSTANTINE « projet de modernisation de la métropole constantinoise PMMC », Etude réalisée par : CHERRAD S E, CHERABI A, BOULEDROUA, Avril 2007.

CLARIFYING THE SCOPE OF URBAN AND PERI-URBAN AGRICULTURE TO IMPROVE ITS COMPETITIVENESS

Session T5.3 | June 1 | 16:00 – 17:30

Cecília Delgado
Laboratório Nacional de Engenharia Civil – Núcleo de Estudos Territoriais e Urbanos e CICS-NOVA,
Universidade Nova de Lisboa, PORTUGAL
cdelgado@lnec.pt

ABSTRACT: This paper presents preliminary results on the state of the Art on urban and peri urban agriculture [UPA] in Portugal and focuses on its territorial dimension. We argue that Portuguese UPA, primarily focuses on the food production segment within the food chain and that its links with the other components of urban as a system are quite limited still.

To substantiate our argument several UPA international definitions are presented and critically analysed through a timeline and conceptual perspectives. This analysis is complemented with two additional research activities that are part of a wider protocol: (1) interviews of relevant key actors; (2) Web search based on key words. The other elements of the research include, inter alia: literature review; field visits of selected programs and projects from a long list of identified cases; knowledge and web networking; participation in events; categorization of best-practices experiences identified by a set of key actors.

The processing of the data obtained through key actors interviews strongly suggest that UPA is essentially associated with urban community gardens initiatives focused on social inclusion and grounded on public land. UPA impact on the food chain seems quite limited so far.

At this point Portuguese UPA is only considering its ecological and social perspective. Conversely, the key-words web search is showing a much wider perspective for UPA and a stronger connection with the various steps of the food chain. This opens up interesting perspective to manage UPA and food as part of a wider urban system, as it is being done in a larger number of cities worldwide.

Preliminary conclusions are that there is a need to clarify the very concept of UPA among actors involved. This could be achieved through a national debate on this promising emergent sector that needs place and space in cities and fringe in order to create jobs and local competitiveness. Political power, civil society and planners, among others sector representatives, should be involved in this collaborative planning process.

KEYWORDS: urban agriculture and peri-urban agriculture; urban planning; territorial cohesion; social cohesion; urban food system; Portugal.

EVOLUTION OF FORMAL URBAN GARDENING IN PORTUGAL SINCE THE BEGINNING OF THE CENTURY

This paper presents preliminary results on the state of the Art on urban and peri urban agriculture [UPA] in Portugal and focuses on its territorial dimension. The present contribution is a part of a larger research process that stared roughly in the end of 2014. In a nutshell the process involves: Scope definition; Building of the research instruments; Identification of the research cases; Cases visits; Interviews to relevant actors; Data processing. Hereby only a part of the research is presented.

Urban Agriculture is a relatively new issue either in the international context as well as in Portugal. The first formal Portuguese projects began in 2003 leaded by LIPOR2, a municipal waste management enterprise based in Porto Metropolitan Area. As part of its environmental awareness program LIPOR began working with the population about the importance of selective waste collection and home based composting, a process that expanded into tan innovative process involving community gardens, located in 45 different areas and covering roughly 6 hectares in total of cultivated spaces (Delgado, 2015). One year later in 2004, in Coimbra, the Municipality and the University - Faculty of Agronomy [ESAC] worked together on transforming an informal community garden close to a low income neighbourhood facing social tensions in a well-designed solution of 25 serviced plots of 150 square meters each. As far as we know this is the first formally designed community garden resulting from a collaborative process in Portugal. About the same period, Funchal Municipality (Madeira region) started in 2005 a formal process of community gardens, as part of its environmental policy. It currently covers around 6 hectares cultivated by 792 urban gardeners.

The year 2011 became another landmark, when Seixal Municipality, located in Lisbon Metropolitan area and that had launched a significant program since 2001, organized the 1st International Congress on Urban and Peri-Urban Agriculture (Lança, 2011), with a significant national and international audience. Due to the large number of experiences popping up and the intensity of the international debate and practices, a Portuguese Network on Urban and Peri- Urban Agriculture [PORTAU] was created in 2011, with a clear intention to link up grassroots organizations, institutions, universities, municipalities and farmers involved in this growing phenomenon.

In the same year (2011) Lisbon Municipality revamped its Green Plan, conceived as early as 1994 by a well known Portuguese landscape architect Gonçalo Robeiro Teles (Teles, 1997). In the city master plan (2011) the green zoning was considered as “productive” opening up opportunities for an ambitious program called “Parques Horticolas municipais”, which included several Community gardens, involving nowadays around 500 farmers in eleven different locations. More nine “Parques Horticolas municipais” are currently in progress.

In addition to what was previous said, the economic crisis that hit the country in 2007, brought about a significant increase of community gardens (Delgado 2015, National Report to Habitat III, 2015). According to the National Report to Habitat III (2016) in 2013, 16 on a total of 18 Portuguese districts [The national territory and the autonomous regions of Madeira and the Azores are subdivided into 18 districts] enjoy community gardens initiatives, summing up 27 hectares of community gardens, called “hortas urbanas” divided into 4079 cultivated plots.

All those emerging processes resulting primarily from the economic crisis where geared by different logics: one to improve poor people access to food, and two reflected a political concern on how to legalize informal practices in public spaces no more fitting the previously designed urban beautiful scenario that became out-dated. The result was and still is an enormous national and somehow international impact on the food and urban agriculture agenda, which started to spread up in various cities and was growingly discussed in political arena and academic circles. Nevertheless, the issue is still new and needs a clearer scope. Still need to clarify whether UPA is part of the urban system or limited to urban allotments activities (Bell et al., 2016) with primarily recreational and much less productive functions.

Here, we argue that UPA in the Portuguese context is still focused on food production, without taking into account food as part of the urban system. This reduces its stability thought time, competitiveness and capacity of jobs creations. Lastly we advocate for a more urban planning mediation as a way of integrating food into the urban system.

This being said our first contribute to the Portuguese UPA state of art is its conceptualization in the national context as counterpoint to international definitions. This will be made through a narrowing down on its territorial scope, considering the whole food chain as part of the urban system. From a planner perspective, food has been for long time forgotten in city planning (American Planning Association, 2007) although food can be the key to generate social and territorial cohesion and Planners can play a key role as process mediators.

WHAT IS MEANT BY URBAN AND PERI-URBAN AGRICULTURE?

A first challenge to establish a Portuguese Urban and Peri-Urban Agriculture state of the art is precisely its lack of precise definition. An overview of five definitions by UNDP (1996), FAO (1999), Mougeot (2005), RUAF (2006), and Veenhuizen (2006) allows to give a sense of the state of the debate and the lack of consensus of what is meant by UPA.

Next box illustrates some of the possible definitions to the ongoing debate on how food should be included in the urban system. Through time the definition as moved from UA to UPA, yet including always the peri-urban area as part of its territory. Also there is a clear attempt to describe UPA as a process or practice from production to consumption, including marketing as part of, what can be understood as an obvious break with rural agriculture concept. This is clear state in the last RUAF definition (2006). Additionally there is a need to highlight that all the definitions examined are considering UPA as an intensive and technological process, once again drawing a line with rural Agriculture. At the same time the idea that UPA is competing, and taking advantage, of other city resources was also there since the beginning. Remarkable the first time that urban policies and plans influence was clearly highlighted since 2006 with RUAF definition. About one year later The American Planning Association released its first and still unique “Policy Guide on Community and Regional Food Planning” (2007) definitively breaking the paradigm of food being lacking in the urban system.

Definition 1:"Urban Agriculture (UA) is an activity that produces, processes, and markets food and other products, on land and water in urban and peri-urban areas, applying intensive production methods, and (re)using natural resources and urban wastes, to yield a diversity of crops and livestock". (1996)

Definition 2: “[A]n industry that produces, processes, and markets food, fuel, and other outputs, largely in response to the daily demand of consumers within a town, city, or metropolis, on many types of privately and publicly held land and water bodies found throughout intra-urban and peri-urban areas. Typically urban agriculture applies intensive production methods, frequently using and reusing natural resources and urban wastes, to yield a diverse array of land, water, and air-based fauna and flora, contributing to the food security, health, livelihood, and environment of the individual, household, and community.” FAO 1999

Definition 3:“UA is an industry located within (intraurban) or on the fringe (periurban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, (re-)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban área.” (Mougeot, 2005)

Definition 4: Urban agriculture can be defined shortly as the growing of plants and the raising of animals within and around cities. The most striking feature of urban agriculture, which distinguishes it from rural agriculture, is that it is integrated into the urban economic and ecological system: urban agriculture is embedded in -and interacting with- the urban ecosystem. Such linkages include the use of urban residents as labourers, use of typical urban resources (like organic waste as compost and urban wastewater for irrigation), direct links with urban consumers, direct impacts on urban ecology (positive and negative), being part of the urban food system, competing for land with other urban functions, being influenced by urban policies and plans, etc. Urban agriculture is not a relict of the past that will fade away (urban agriculture increases when the city grows) nor brought to the city by rural immigrants that will lose their rural habits over time. It is an integral part of the urban system. (RUAF, 2006)

Definition 5: “Urban agriculture can be defined as the growing of plants and raising animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, and the processing and marketing of products. (…) UA is generally characterized by closeness to markets, high competition for land, limited space, use of urban resources such as organic solid wastes and wastewater, low degree of farmers organization, mainly perishable products, high degree of specialization, to name few. (…) UA to a large extent complements rural agriculture and increases the efficiency of national food system. (Veenhuizen, 2006)

Also important to emphasize the contribution of Cabannes (2015) when showing that UA according to the situation can be of quite different type: (1) Ecological (environmental) e.g. Urban greening; Improve microclimate; reduce ecological footprint; landscape management; biodiversity; environmental education; recreation; (2) social (inclusive city) e.g. poverty alleviation; Food security; Nutrition; Social inclusion; Community building; HIV-AIDS Mitigation; Social safety net. (3) Economical, again under a wide array of situations. Market oriented urban agriculture e.g. income generation for food from food production and non-food products for the market; small scale family based and larger scale entrepreneurial enterprises part of the market chain; higher input use /more externalities. In most cases, Urban agriculture is a combination of these three basic types.

Today the debate is still open and UA is gradually more and more associated with food related issues For instance, the Milan Urban Policy Pact (2015) that was signed in 2015 by over 100 cities from all over the world is referring to "food system"; food-related policies (…) such as, (…) food supply and distribution, social protection, nutrition, equity, food production, education, food safety and waste reduction, ignoring the term "Urban Agriculture". The same happened with the Habitat III New Urban Agenda zero draft (2016) that is largely ignoring food security and urban agriculture. At this point the international spheres prefers to talk about City Region Food Systems and Urban Agriculture emphasizing urban rural linkages.

HOW TO FRAME THE STATE OF THE ART, WITHIN A LIMITED SUBSTANTITIVE

BACKGROUND

Various tools and methods were used to gather information that was subsequently compiled and processed to outline a preliminary state of the art in Portugal: (1) interviews of a selection of relevant actors; (2) literature review of primarily academic publication and grey literature essentially from local governments; (3) web search - sites and videos – based on keywords; (4) field visits to selected cases (5) Net-Knowledge; (6) participation in events in order to identify; (7) characterization of emblematic experiences identified by significant actors.

Considering that UPA is still a limited notion in Portugal, building its state of the Art, needs to be an ongoing process, which will be developed into various articles to be published at a later stage. The focus of this paper is to give account of the results obtained with two of the instruments used, namely the interviews to selected actors and the web search on information existing on websites and available videos. The idea is to ignite the debate based on pertinent information of a selective group of actors – primary research, as well as to expand the debate going thought update instruments of research – the web – primary sources mainly.

The scope of the present paper is UPA based on its territorial scope, considering the food chain as part of it, as there is a need to consider spaces for the different functions in the city.

For now we will not consider water in urban and peri-urban areas, air, and non-food products as fuel, even if, as its clear in the definition (see box 1) its part of the UPA ground.

INTERVIEWS TO SELECTED KEY - ACTORS

The framework of the interviews was based on the document Urban Agriculture: What and why? (2006) This source was used due to its international relevance to the concept comprehension, based on practical cases, its convenient presentation by components plus its recognition of planning and policies as part of the process. The interviews covered 24 semi-open questions and were carried out face to face with the exception of PROVE national spokesman, that was made through Skype.

The fist interview was to the representative of the Portuguese Network of Urban and Peri-Urban Agriculture, based in Coimbra and the New University - Department of Engineering and Environmental Sciences of Lisbon. The process was built in order to identify new relevant actors, as the final question was to suggest three relevant names. The methodology proved to be efficient, and the snowball kept growing to the point of having a stable networks of repeated key - actors.

This dynamic resulted in the following twelve actors listed in table 1. Column 2 summarizes their relation to the issue explored here.

NAME	DESCRIPTION
PORTAU – REDE de Agricultura Urbana e Peri-Urbana Interview: Filomena Miguens	Portuguese Network of Urban and Peri-Urban Agriculture created in 2011, it main aim is to link grassroots organizations, institutions, universities, municipalities and farmers involved in this thematic. Filomena Miguens is in charge of it Site: unavailable
APAP – Associação Portuguesa de Arquitetos Paisagistas Interview: Margarida Cancela d`Abreu	National Association of Landscape Architects. The well known Portuguese landscape architect Gonçalo Robeiro Teles, author of Lisbon green plan, is its honorary chairman. Margarida Cancela d`Abreu is APAP vice president. Site: http://www.apap.pt
AGROBIO – Associação Portuguesa de Agricultura Biológica Interview: Jaime Ferreira	National Association founded in 1985 involving around 7.000 members (2013). Its main aim is to promote organic farming in Portugal thought technical support and training from farmers to consumers, events organization and publications in the field. Jaime Ferreira is the chairman Site: http://www.agrobio.pt/en/index.php
APH – Associação Portuguesa de Horticultura Interview: Domingos Almeida	National Association of Horticulture founded in 1976. Joins academics mainly from the Agronomy Institute of Lisbon, and other national relevant stakeholders on the matter. Domingos Almeida is the chairman Site: http://www.aphorticultura.pt
PROVE – Direção Nacional Interview: José Diogo	PROVE is a national Program that aims to promote new forms of short marketing chains between small producers and consumers. José Diogo is the national chairman. Site: http://www.prove.com.pt/www/english.T9.php
Fundação EDP – Inovação Social Interview: Rita Miranda	Fundação EDP is a multinational enterprise based on the electricity sector as part of its social program they support innovative practises as solidarity gardens since 2011. Rira Miranda is charge of the program. Site:http://gulbenkian.pt/projecto/hortas-solidarias
Department of Sciences and Environmental Engineering - UN lisbon Interview: Lia Vasconcelos	Academia / University – Lia Vasconcelos is a professor, specialist on public participation and action and governance research. LV is also farmer in Telheiras Community garden Site: http://vivertelheiras.pt/parceiros/parque-horticola-de-telheiras/
AVAAL – Associação para a Valorização Ambiental da Alta de Lisboa Interview: Jorge Cancela	The community garden initiate was founded by a local organization - AVAAL. Jorge Cancela is a landscape architect, farmer and also one of the leaders of AVAAL community garden initiative; Land is rented to Lisbon Municipality. The garden has specials plots to disable persons. Site: https://avaal.org
Câmara Municipal de Lisboa Interview: Rita Folgosa e Graça Ribeiro	Lisbon Municipality developed more than 10 different “Parques Horticolas Municipais” in the city since 2011. Community gardens are either social or recreational. Rita Folgosa is in charge of it. Graça Ribeiro gives the technical support. Site: http://www.cm-lisboa.pt/viver/ambiente/parques-horticolas-municipais
Horta do Mundo Interview: Inês clematis	A grassroots project / collective with no land. The group do workshops on permaculture and related topics. Also was involved in some significative public events like Caixa Geral de Depositos garden rooftop in 2014. Inès Clematis is the leader of this collective. Site. http://hortadomundo.blogspot.pt
Câmara Municipal de Sesimbra Interview: Paulo Pires	Sesimbra Municipality – Quinta do Conde is a community gardens initiative in public land made by the local government in Sesimbra – Lisbon Metropolitan Area. The community gardens are integrated in a huge park with sport and leisure equipments near a low-income neighbourhood. The investment was partly financed by EDP foundation under its "Solidarity gardens" program. Paulo Pires is consultant/ city adviser, he was invited by the municipality to leader the project. Site: https://www.facebook.com/groups/970609516348766/
Direção Regional de Agricultura e Pescas de Lisboa e Vale do Tejo Interview: Elizete Jardim	Lisbon and Vale do Tejo Rural Agriculture government department. Elizete Jardim is the head since 2013. Site:http://www.draplvt.mamaot.pt/DRAPLVT/Informacao-Institucional/missao-atribuicoes/Pages/Missao-Atribuicoes.aspx

Table 1 – List of relevant actors, brief presentation

The interviews were conducted between October and December 2015. The persons interviewed were gender-balanced and their age ranged from 40 to 60.. All of them had higher education. With one exception they were full job employees. The National Association of Portuguese Municipalities, which represents the national local governments at national level, declined the invitation explaining that they had no competence on the matter.

WEB SEARCH

The second set of results reported here refers to the ones obtained through the web search. . The idea was to measure the gap between actor's perception and the information available on the web sites on "realities on the ground". At this point of the research it seemed more coherent to us than the triangulating with, for instance, the literature review, as it is a less accessible source to the general public. Only Portuguese web sources and referred to Portuguese based experiences were analyzed. To do the web search the Portuguese expression was introduced between quotation marks and then the world Portugal was added. The search was then opened to keywords related with the food chain. A first attempt exclusively by "UA" and "UPA" gave results too much stuck to community gardens. The set of the searched terms appears in table 3. The selection of the key words was also based on our own knowledge as well as on the words used by our interviewees. The set is composed by 27 key words that somehow delineate the outer limit of UPA as far as the web information is concerned. To each of the word a web research was made in order to count how many times the word was listed. Each key word was introduced more than once; the number in the table is the average score. Then a deeper examination was made to the 5/ 10 first words occurrence to check subject pertinence.

	Others	**Production**	**Processing / Consumption**	**Marketing / Education**	**Distribution / Consumption)**
E	Urban and Peri-Urban Agriculture	Community Gardens	Popular Kitchen	UP education	Consumers Cooperatives
P	Agricultura Urbana e Peri-Urbana	Hortas Urbanas	Cozinha popular	Formação Agricultura	Cooperativas de Consumidores
E	Urban Agriculture	Social Gardens	Social kitchen	Food marketing	Basket
P	Agricultura Urbana	Hortas Sociais	Cozinha social	Marketing Alimentar	Cabaz
E	Transition and Permaculture	Solidary Gardens	Social canteen		Short Chains
P	Transição e Permacultura	Hortas Solidárias	Cantina social		Circuitos Curtos de Proximidade
E	Seeds Bank	School Gardens			Round Economy
P	Banco de sementes	Hortas Escolares			Economia Circular
E	Urban Composting	Entrepreneur Garden			Local Food Markets
P	Compostagem Urbana	Horta Empresarial			Mercados Locais
E	Food Urban Rural Linkages	Colective Gardens			Organic Open-air Food Markets
P	Relação Urbano Rural Agricultura	Hortas Comunitárias			Mercados Biologicos
E		Urban beehives			Food Bank
P		Apicultura			Banco de Alimentos
E		Urban Hydroponics			Food-Waste
P		Hidroponia Urbana			Desperdicio Alimentar

Table 2 – Web search key words

Table 2 is a work in progress nevertheless it clear shows how wide can be the terms and words that can fit UPA framework according to its international definitions. Below, figures 1 to 8 are showing examples of different segments of UPA, showing several existent practices nowadays in Portugal.

Figure 1 – Horta da AVAAL | Caption: This community garden was founded by a local organization; Land is

Figure 2 – Horta do Baldio | Caption: Right in the Lisbon city center this permaculture "collective" garden is often

rented to Lisbon Municipality. The garden has specials plots to disable persons. Source: Delgado (2015)

visit by nearby children schools for pedagogical reasons. Land belongs to a financial bank. Source: Delgado (2015)

Figure 3 – Fruta Feia – Cooperativa de distribuição Alimentar | Caption: Ugly-fruit, is a consumers cooperative. Its main aim is to reduce food - waste. To do this cooperative buys to producers vegetables and fruits that don't fit the standard and sells it in basket in well located places in cities as Lisbon, Cascais or Porto. Source: Delgado (2015)

Figure 4 – Cozinha Popular da Mouraria | Caption: Based on a popular neighborhood (Mouraria) this popular kitchen works only with unemployed local people, and uses local products as far as possible. Source: Delgado (2015)

Figure 5 – Horta da Quinta do Conde – Sesimbra | Caption: "Quinta do Conde" is a community gardens initiative in public land made by the local government in Sesimbra – Lisbon Metropolitan Area. The community gardens are integrated in a huge park with sport and leisure equipments near a low-income neighbourhood. The investment was partly financed by EDP foundation under its "Solidarity gardens" program. Sourde: Delgado (2015)

Figure 6– PROVE, baskets distribution in Lisbon | Caption: PROVE is a national Program, overing almost all the territory. Its aim is to promote new forms of short marketing chains between small producers and consumers. Figure 6 shows basket distribution in Sesimbra Souce: Delgado (2015)

Figure 7 – Feira Organicos | Caption: All over the country there are open-air organic street fairs and food stores selling organic food. Agrobio is managing 13 of them. Figure 7 shows The Organic open-air street fair in Campo Pequeno Lisbon, held every Saturday morning Souce: Delgado (2016)

Figure 8- Re-Food | Caption: Through a voluntary service the RE-Food program collects waste food from restaurant and other local food establishments and distributes to local population in need. There are more than 30 distribution points in Portugal. The space is given for free to the project. Figure 8 shows one of the 11RE-Food stores in Lisbon. Source: Delgado (2016)

FINDINGS FROM KEY ACTORS INTERVIEWS AND WEBSITE RESEARCH

The initial results from the interviews indicate that UPA is essentially perceived as community gardens and as a practice developed as a public policy by the municipalities, by some boroughs [juntas de freguesias], and some organizations.

Jaime Ferreira the head of Agrobio, states: “Who is leading the processes today are the city councils and boroughs, but everybody can use vacant land”. José Diogo from Prove, splits UA from UPA, according to him: “UA projects are ruled by the local government, however UPA is by public sector as well as local associations [or grassroots] driven”. Rita Folgosa and Graça Ribeiro in charge of Lisbon Municipality program “Parques Horticolas Municipais” mentioned in addition to local power driven initiatives some institutions such as LIPOR, Serralves and Museu do Traje. Filomena Miguens from the Portuguese UPA network states: “when talking about massive drivers, they are mainly the municipalities and social institutions because they have access to land” Based on actor’s opinion the target audience are mostly poor people, unemployed, retired, with undifferentiated gender participation. Another emerging social group, referred to where middle-income families seeking an alternative way of life and recreational activities.

Jorge Cancela from AVAAL states that UPA involves “either young people with alternative interests such as permaculture as well as old people unemployed and/or retired that need an occupation and food for self-consumption as an additional income”.

UPA is mainly practiced on public land or institutional spaces (NGOs, relevant enterprises, schools). Still, Jorge Cancela, Jaime Ferreira José Diogo, Elizete Jardim and Domingos Almeida, are differentiating urban from peri-urban land as according to them it refers to quite diverse realities. Filomena Miguens confirms: “UPA is mainly done in places were there were informal occupation as they were also public land in urban areas, e.g. Faro, Cascais, Funchal, Figueira da Foz, Vila Nova de Gaia. Or embedded urban areas without building capacity, as Chelas”. Regarding UA Domingos Almeida is adding also “spaces as balconies and terraces, where for instance aromatic plants are produced either in soil containers or even with hydroponic technology”.

Concerning type of crops grown all the answers converged to [i] vegetables by the far the dominant practice, e.g. cabbage, lettuce, tomato, [ii] aromatic herbs, [iii] flowers and small fruits to a lesser extent. Filomena Miguens explains “the massive production of vegetables is due to its direct contribution to family savings”.

Paulo Pires in charge of Quinta do Conde, a municipal community garden in Lisbon Metropolitan Area, gives a broader account as he identified a wider set of species, some of them introduced by Cape Verdean residents as vegetables, beans, corn, sweet potato, strawberries and raspberries. So far in urban areas livestock is not consider to be feasible by all the actors interviewed, mostly due to smell and noise disturbance, however can be part of the equation in peri-urban areas, as Jaime Ferreira stated. Finally trees are also a somehow problematic issue because of the shadow that can disturb plot neighbours, refers Paulo Pires, or lack of space says Domingos Almeida.

With PROVE exception UPA in Portugal only refers to one step of the food chain that is food production. In addition its main aim is self-consumption, with potential harvest exchanges between families at neighbourhood level. The scope seems always selling products without being previous processed, see PROVE fruits and vegetables baskets.

When talking about UPA economic dimension Jorge Cancela considers that UA, due to its limited land access do not go beyind family savings (self-consumption). On the other hand UPA can generate income, as PROVE program clearly demonstrates. Jose Diogo sees UPA more as a market oriented activity. According to him there is a profitable market going on through direct sales from producers to consumers (PROVE); direct sale of processed products; educational and touristic activities; open days as well as extend training scope.

On the economic edge, Inês Clematis considers that AU ability to put people together should be measured as an economic return. Seemingly, Jaime Ferreira considers that UA economic value is not explicit, although if considered the money saved on mental support there is a significant economic saving for public policies.

Regarding scales of production it is mainly familiar or individual practices, using conventional and traditional means of production, even if the linkage to biological practices is increasing. Lia Vasconcelos, a university professor and an active urban gardener at Telheiras community garden (Parques Horticolas Municipais) states that UA, as it is practised today, is a one person activity without technological resources and should be kept like this in the future In summary, results from interviews strongly suggest that the dominant edge of UPA in Portugal is essentially of social nature, as it relates directly with community activities, social inclusion and poverty alleviation. Additionally UPA seems to bear quite a clear ecological dimension in the country and links up with urban greening, landscape management and reduction of ecological footprint in various cases. Actually those two dimensions can occur at the same time, as is the case with Lisbon program “Parques Horticolas Municipais”. Margarida Cancela d`Abreu, leader of the Portuguese Landscape Architect Association advocates: “UPA should be included in the ecological city structure integrating water drainage basins and prone environmental areas. In addition UPA could serve as a natural flood regulator device”. There is still a window of opportunity to consider, developing its economic dimension, with market oriented activities, which entails generating economic competitiveness of locally grown products, in order to contribute to job creation or at least income generation.

What can we guess from the results obtained so far? It seems that UPA as a public policy, or as public driven programs and projects is not considering the whole food chain, being almost only focused on the production stage, and largely to self – consumption within a social welfare [?} perspective and as a public answer to the economic crisis that continues hitting the country.

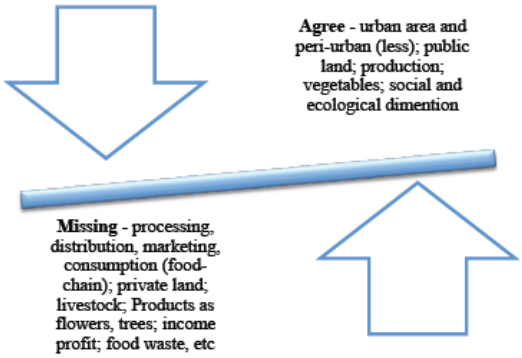


Figure 9 – UPA PORTUGAL vs. INTERNATIONAL DEFINITION

It looks important to consider the missing economic dimension. In a country where unemployment is a structural and a conjectural problem, it is a pity that political power do not consider UPA as a possibility of jobs creation and income generation. This could be achieved through repositioning UPA as part of the whole food chain and connecting locally produced food as part of the urban system. Such measures will contribute to consolidate all the emerging experiments that are popping up in urban and peri-urban areas in Portugal fig. 10 shows the results from the web research and a first glance at the key words confirm how social UPA dimension is Portuguese overall understanding of what is UPA. There is still a huge presence, of the all of the food chain. In grey, first rows show the total number of occurrence of the word. The second row refers to the more relevant results. The present comments will focus on this second row, more qualitative.

Figure 10-- Key expressions web search results | Author (2016) Last accessed in 26 May, 2016, Total of 26 key expressions words

The more significant key-word is “Local Covered Food Markets”, the second most referred is “Collective gardens” and the third “Social Canteens”. On the other hand the less referred are “Urban Agriculture Education”, Food baskets and Short food chain, Urban Hydroponics and Urban Entrepreneur Gardens.

It is noticeable as well that all the productive inputs necessary to generate UPA are more frequent when compared with the rest of the stages of the food chain. Nevertheless keyexpressions as “Urban Hydroponics” or “Urban Entrepreneur Gardens” are less expressive. On the distribution sector there is a huge importance of references to the Local Food covered Markets and organic open-air food markets, much more expressive than for example, community gardens. In relation to the last stages of the food chain, referring to food transformation and consumption a special mention needs to be made on “social canteens”. The social canteens are a social response for supply of food, supported by the state and only accessible for economically deprived families.

Lessons to be drawn when cross referencing the results obtained from the interviews and those obtained from the web search The first, and by far dominant convergence refers to gardens with a social dimension, such as social gardens, solidarity gardens, collective gardens or even school gardens.

The second converging lesson is the little importance given to market approaches and Entrepreneurs gardens.

The third one is that Urban composting, urban agriculture education and hydroponics are little considered on both sides.

Now, looking at diverging issues, the web search indicates a significant frequency of social canteens (food supply), social kitchens, local covered food markets and organic markets. The interviews made much less references to these elements when referring to UPA in Portugal. These activities are part of the Portuguese food system but they are not integrated directly part of the existing UPA definition.

Figure 11 – UPA Key Actors vs. UPA Web-search

This raises the issue illustrated with the graphic of whether UPA should be considered consider isolated from the food chain apart.

THE PERCEPTION OF UPA IN PORTUGAL - DISCONNECT WITH FOOD AS PART OF THE URBAN SYSTEM

The results from the relevant actors interviewed indicates that UPA is perceived as closely connected with urban community gardens initiatives, mainly led by local governments and the cultivated land is essentially public. The idea behind those initiatives is self-consumption and social welfare. UPA means primarily cultivating vegetables and fruits Urban forestry and livestock raising are not part of UA promoted programs. These observations allow positing UPA in Portugal within a wider definition, at least as perceived from the mainstream vision.

PROVE Program is a kind of an exception within the existing practices, and stands as an outstanding example of urban-rural linkages connecting peri-urban areas (producers) to urban areas (consumers), not far from 50 km from each other. Despite its importance and quite innovative dimension and scale, it is hardly mentioned as part of UPA, and this can be understood as a rejection of market oriented practices from the definition of UPA.

On the other hand the web search refers to a wide range of initiatives and practices covering each stage of the food chain from production, to agro-processing, marketing, distribution and consumption. Comparing perceived definitions on the one hand and what is happening in the field indicates a gap between UPA that is perceived and UPA that is practiced.

Back to our assumption, the perception of the key informants refers to UA under its productive side . On the other hand UPA practices in Portugal are much broader than mere production of vegetables and urban gardening.

This means that there is a significant gap between UPA as perceived from key actors set, which can be as well the belief of other stakeholders, and UPA actual practices. This gap can explain why it is so difficult to generate a collective and multidisciplinary space to put together a holistic strategy that considers food as part of the urban system.

Back to the hypothese. Urban and Peri-Urban Agriculture in Portugal is rarely integrated as a wider food issue, and, in its turn, food does not appear as part of the urban system. To address these issue there is the need to [1] connect UPA and Food; [2] to integrate food into urban planning, and primarily into urban physical planning and [3] better connect the productive stage of UPA with the other ones of the food chain.

Several reasons could explain the current gap between perceived and practiced UPA and would need further exploration: (1) lack of connection to the international debates from an academic perspective; (2) limited exchanges of experiences between Portuguese and international ones; (3) Cultural background not keen to cross-fields of knowledge; (4) UPA definition to wide and difficult to bound (5) Agriculture is still much rooted in its rural origins, and not looking too much to the new possibilities emerging in urban areas.

An open question still remains to be answered. Is this gap a Portuguese singularity or does it result from a definition still imprecise? It would be interesting to compare these findings with other countries perceptions.

In conclusion there is a need to clarify concepts and to create synergies, towards an emergent sector that needs place and space in cities, in order to create jobs and local competitiveness. The debate needs to be a collaborative planning process, including all the stakeholders, from gardeners to political power and economic sector, academia and planners. It needs as well to be multi-issues, including urban planning, urban-rural linkages, job creations, city marketing etc… Finally it needs to put in perspective different policies, connecting the ongoing social and ecological approaches, with the economic dimension that is still weak when compared with international urban agriculture practices.

ACKNOWLEDGEMENTS

To all the key-actors interviewed, who kindly accepted to be part of the present contribution to UPS Portuguese state of Art. This article would not been possible without mutual collaboration.

REFERENCES

AMERICAN PLANNING ASSOCIATION 2007. Policy Guide on Community and Regional Food Planning. American Planning Association: American Planning Association.

BELL, S., FOX---KÄMPER, R., KESHAVARZ, N., BENSON, M., BENSON, M., NOORI, S. & VOIGT, A. 2016. Urban Allotment Gardens in Europe.

CABANNES, Y. 2015. Financing urban agriculture: What do we know and what should we know. In: ZEEUW, H. D. & DRECHSEL, P. (eds.) Cities and Agriculture. Earthscan from Routledge.

DELGADO, C. 2015. Answer to the Portuguese Crisis: Turning Vacant Land into Urban Agriculture. Cities and the Environment, Volume 8

LANÇA, S. Congresso internacional agricultura urbana e sustentabilidade --- Conteudos para a promoção do encontro. In: SEIXAL, C. M. D., ed. Congresso Internacional agricultura urbana e sustentabilidade, 2011 Seixal --- Portugal. Câmara Municipal do Seixal, 242.

MOUGEOT, L. 2005. AGROPOLIS The Social, Political and Environmental Dimensions of Urban Agriculture, Earthscan and the International Development Research Centre.

TELES, G. R. 1997. Plano Verde da Cidade de Lisboa -- Componente do Plano Director Municipal de Lisboa, Edições Colibri.

VEENHUIZEN, R. V. 2006. Introduction, Cities Farming for the Future. Cities Farming for the Future, Urban Agriculture fr Green and Productive Cities. RUAF Foundation; IIRR; IDRC.

TERRITORIAL COHESION; FROM THE EUROPEAN TO THE REGIONAL AGENDA: CONCEPTUAL TRANSPOSITION OR CONCEPTUAL REDEFINITION?

Session T5.3 | June 1 | 16:00 – 17:30

Gonçalo Santinha; Teresa Sá Marques; Miguel Saraiva; Paula Guerra; Tânia Moreira
University of Aveiro, Department of Political, Social and Territorial Sciences & GOVCOPP, PORTUGAL
g.santinha@ua.pt

ABSTRACT: Since the 1990s, the debate around Europeanization has been continuous in planning and political discourses. But if economic and social cohesion were already deeply rooted in European policies, only after the Green Paper on Territorial Cohesion (2008) and the signing of the Treaty of Lisbon (2009), was a third dimension added: Territorial Cohesion. However, this is still not a consensual term. The ambiguity in defining and achieving it represents a challenge to various national and regional actors, intent in articulating with EU guidelines. This paper thus wishes to understand how, and in what terms, Territorial Cohesion is being transposed from the EU policy agenda to domestic policies. Using Portugal as a test-bed, the paper compares European with national documents discussing 'Territorial Cohesion', by means of a Qualitative Content Analysis. From this analysis contributions to the debate on Europeanization are made, thus assisting public policy making and territorial planning in Portugal and other European countries.

KEYWORDS: territorial cohesion; Europeanization; european agenda; public policies; Europe2020.

INTRODUCTION

For the last 30 years, the influence of the European Union (EU) policy guidelines in the planning practices of its member states – the 'Europe Effect', or Europeanization (Börzel & Risse, 2000; Cowles & Caporaso, 2001; Dühr, Stead, & Zonneveld, 2007; Featherstone & Radaelli, 2003; Ladrech, 1994, 2010; Radaelli, 2004; Vink, 2003) – has been steadily increasing. This influence, however, has not been uniform, neither geographically nor in terms of sectorial policies (Bulmer & Radaelli, 2004; Dühr et al., 2007). As the European Commission (CE) does not possess, formally, the instruments to regulate territorial planning at national level (Evers, 2008; Ferrão, 2011), Europeanization has mostly been achieved through the dissemination and transformation of processes and practices, the

development of integrated discourses with common vocabulary and frameworks, and the design of transnational cooperation projects (Ferrão, 2011; Radaelli, 2004).

In this context, for the past two decades the EU has gradually moved towards instituting spatial planning as an intrinsic part of their agenda (Evers, 2008; Faludi, 2007) and consequently the term 'Territorial Cohesion' became a buzzword for a new paradigm of development. Described as a means to achieve the harmonious development of member states, by promoting diversity, complementarity and endogenous resources (Santinha & Marques, 2012), the term gained further institutional relevance with the publication of the Green Paper on Territorial Cohesion (CEC, 2008) and the signing of the Treaty of Lisbon (EU, 2009), and became an assiduous presence in official EU documents and strategic guidelines since (e.g. Böhme, Doucet, Komornicki, Zaucha, & Świątek, 2011). For Davoudi (2007) the concept of Territorial Cohesion "re-conceptualized European spatial policy by adding to it a spatial justice dimension".

Even so, several authors debate that the concept of Territorial Cohesion, still in its infancy, is purposely wide and unprecise (e.g. Davoudi, 2007; Evers, 2008; Faludi, 2005). If some may argue that this ambiguity facilitates the consensus between member states, thus avoiding tensions in the distribution of European funds (see Faludi, 2005), in effect, Territorial Cohesion may become a "moving target" (Drevet, 2007; Van Well, 2012), hard to hit and hard to grasp, thus conditioning how it is interpreted, transposed and implemented at national level.

The debate around the concept of Territorial Cohesion itself has been wide and thus is out of the range of this paper. Instead, this research is more concerned with addressing the spatial and planning implications of the concept's ambiguity. Has the concept been subjected to a faithful conceptual transposition from the macro (European) to the local (national) scale, leading to a somewhat common vision in national/regional policies around Europe? Or rather has it suffered a conceptual redefinition, subject to the political and planning backgrounds of each member state? Using Portugal as a test-bed, this question is answered by applying a Qualitative Content Analysis, using NVivo software, to a selection of relevant policy documents concerning 'Territorial Cohesion', both at the European and regional scales. Through a comparative analysis in which the focus is to understand how local agents interpret and reproduce European guidelines on their planning agendas, the importance 'Territorial Cohesion' has been granted in territorial-based instruments and regional policy documents can be determined, and thus the implications that this process can have in the common European Agenda can be debated.

EUROPEANIZATION AND TERRITORIAL COHESION

The expressions 'Europe Effect' and 'Europeanization' have been used since the 1990s in planning and political discourses to describe a set of processes of change in "domestic (national and subnational) discourse, political structures and public policies" (Radaelli, 2004) as a direct consequence of the influence exerted by the EU, through the publication of directives, regulations or standards which provide contextual cognitive and normative framework, and conceptual and operational guidelines to be incorporated by the member states.

However, the exact definition of Europeanization has not been unanimous in the literature (Börzel & Risse, 2000; Cowles & Caporaso, 2001; Dühr et al., 2007; Featherstone & Radaelli, 2003; Ladrech, 1994, 2010; Radaelli, 2004; Vink, 2003). What appears to be non-controversial is the general proposition that Europeanization is indeed taking place and affects the member states, and the fact that Europeanization is no longer described as a simple process of uni-direction reaction to Europe, but as a mutual co-evolution process between the EU and the national contexts (Börzel & Risse, 2000; Cotella & Janin Rivolin, 2010; Radaelli, 2004; Salgado & Woll, 2004). This reinforces the notion of Europeanization as the main drive belt for the process of European integration (Börzel & Risse, 2000), but it does not mean, necessarily, that the degree of Europeanization is homogenous across member states. On the contrary, authors have shown that it varies from country to country, a consequence of different territorial conditions, governance systems and, to put it simply, divergent interpretations of EU policies (Böhme, 2003; Böhme & Waterhout, 2008; Buunk, 2003; Cowles & Caporaso, 2001; Ravesteijn & Evers, 2004). In the particular case of Portugal, according to Ferrão and Mourato (2010), territorial planning policies result from a "mixture of several Europeanization variables, with distinct degrees of influence, that have the tendency to reinforce each other", such as the cumulative effect of the different European-funded INTERREG and ESPON projects, and the strategic vision of the European Spatial Development Perspective (ESDP) report (EC, 1999).

According to Lenschow (2006) the Europeanization process is developed around three complementary models. The first, more common, is top-down (EU->MS), where the EU exerts its influence on member states at three different levels (Dühr et al., 2007; Lenschow, 2006): (i) direct, in which EU guidelines are implemented through the national institute mechanisms; (ii) less direct, in which the institutional context is changed to accommodate new strategic interaction processes; and iii) indirect, in which the beliefs and expectations of the national actors are slowly, but consistently, altered. The second model is horizontal (MS->MS), where member states interact and influence each other without the direct influence of the EU, even though these processes can be facilitated by European institutions

or funding programs, such as INTERREG or ESPON (Dühr & Nadin, 2007; Dühr et al., 2007). The third model has a round shape, where national actors seek to integrate their ideas at the European level but in doing so are, at the same time, influenced by the EU itself (MS->EU->MS). The core document of the common European Spatial Development Perspective (EC, 1999), for example, was created by a committee comprised of elements from all member states (Dühr et al., 2007; EC, 1999; Faludi, 2004), that later had to revert the concepts and strategic guidelines defined by the document to their own national realities (Davoudi & Wishardt, 2005; Dühr et al., 2007; Shaw & Sykes, 2003).

Because of the complexity of these processes, and because the EU does not directly regulate national territorial planning, it is at the indirect level that the process of Europeanization is most likely to take place, particularly through inter-governmental action (Böhme & Waterhout, 2008). A relevant example is the publication of the Territorial Agenda of the European Union (EC, 2007), updated in 2011 (EC, 2011), an evidence based document collectively produced by the member states and that, some argue, was the turning point in the development of European spatial planning (Faludi, 2009). More precisely, the indirect influence of the EU has been steadily moving towards the support of the territorial dimension of public policies and more specifically the paradigm of Territorial Cohesion (Santinha, 2014). The publication, every three years, of the European Commission Cohesion reports, determines the agenda for regional development and for the cohesion policy, and this translates into sectorial policies with territorial impact or regional policies (Santinha, 2014). Unsurprisingly, the EU cohesion policy now accounts for over one-third of the total EU-spending (Bache, 2015). By distributing a large slice of this budget through EU structural funds, today the main instruments of regional policy, a clear influence is being made on the cognitive European agenda, and, consequently, on the European territorial planning agenda and the development of regions, especially those “lagging behind” (Objective 1) (Becker, Egger, & von Ehrlich, 2010; Mohl & Hagen, 2010).

In this context, a clear advantage regarding the dissemination of ‘Territorial Cohesion’ is in the fact that the concept has been institutionalized. With the signing of the Treaty of Lisbon (EU, 2009), the publication of the Green Paper on Territorial Cohesion (CEC, 2008), and its appearance as a key policy aim of the Europe 2020 strategy (Walsh, 2012) the notion and the status of Territorial Cohesion has been significantly strengthened in planning discourses. According to the Green paper (CEC, 2008) domestic and international communities should be mobilized to an inter-sectorial discussion, but at the same time the cohesion policy should be “more flexible, more capable of adapting to the most appropriate territorial scale, more responsive to local preferences and needs and better coordinated with other policies, at all levels” (CEC, 2008). Therefore, if before authors were already discussing how national public policies and different territorial planning traditions were transposing several concepts and practices emerging at European level (e.g. Knieling & Othengrafen, 2009; Rivolin & Faludi, 2005), the literature now also debates how the concept of Territorial Cohesion itself can be transposed, i.e. how it can be ‘Europeanized’. However, because major documents like the TA2020 (EC, 2011) refer to Territorial Cohesion as ‘set of principles’ and a ‘qualitative approach’ (Walsh, 2012), and because the connections between the TA2020 strategy and other policies, including cohesion policy, remain at a general abstract level (Böhme et al., 2011), this transposition becomes more difficult. This has led Faludi to remark that the principle of Territorial Cohesion still has an unsettled future (Faludi, 2009, 2010),

Even so, several studies in the recent years have started to evaluate this transposition. Sykes (2011) investigates the “sub-state interpretations of European Territorial Cohesion” in the UK context through an analysis of the documents officially submitted as a response to the Green Paper (CEC, 2008). Luukkonen and Moilanen (2012) use the Bothnian Arc as a case study to evaluate how the new soft planning spaces are visible in the conceptualizations and regional-level practices of the Territorial Cohesion policy, emphasizing the importance of collaborative processes yet arriving at the conclusion that these conceptualizations still lean on traditional understandings of territoriality. In a more comprehensive analysis, Van Well (2012) “conceptualizes the logics of territorial cohesion” by comparing the community guidelines with those of the 246 Operational Programs under the Regional Competitiveness and Employment, and Convergence Objectives 2007–2013. The author analysis two sets of logics, following March and Olsen (1998); a logic of consequences (the bottom-up process) and a logic of appropriateness (a top-down process) in order to create a European storyline on Territorial Cohesion. For instance, regions that conceptualize the role of Territorial Cohesion in the Cohesion Policy in terms of the future opportunities for sustainable development, coordination and cooperation, tend to refer more to ‘logics of appropriateness’ (Van Well, 2012). But the author herself is the first to question how well this can help researchers and policy makers make sense of the numerous texts and discourses surrounding Territorial Cohesion. It can further be questioned how a more straightforward evaluation of the appropriation of the term in national contexts has been devised. The main research question of this paper returns; is it a conceptual transposition or a conceptual redefinition?

In the Portuguese context, Santinha and Marques (2012) made an exploratory analysis of several strategic policy instruments, to evaluate the appearance of the principle of Territorial Cohesion in national political public agendas. The authors conclude that not all national interpretations are convergent, and that no explicit political measures are presented to operationalize this principle. They do recognize, however, that the debate on the clarification and

operationalization of the concept has been scarce, particularly in Portugal, and that further work is needed in order to systematize it, as well as to better understand national documents, intervention methods and main indicators used to address Territorial Cohesion (see Dao et al., 2012). Consequently, the present paper stems from previous research, aiming to respond to this set of question by becoming more focused on the appropriation and meaning of the term 'Territorial Cohesion' itself. For that, a Qualitative Content Analysis is developed, to compare the most relevant policy documents at the European scale (TA2020, the Green Paper and the 5th Report on Cohesion) with the Portuguese regional operational programs.

METHODOLOGY

To define and execute public policies with sufficient durability and longevity, a fundamental stage must be the organization and writing of the document itself. Such construct must have a discourse that is socially significant, evidence-based and meaningful (Guerra, 2006); a meaning that should cross all levels of social action. In this paper, the debate is centered on the notion of meaning; in this case the meaning behind the concept of Territorial Cohesion. The fundamental question is how Territorial Cohesion, as defined by the European strategic documents (regardless of the debate around the definition of the concept itself) is being transposed to the national realities, and what are the consequent implications for the national planning agendas.

For each scale of analysis (the European and the national), a set of relevant documents were selected. For the European scale these were: the Territorial Agenda of the European Union 2020 (EC, 2011), the Green Paper on Territorial Cohesion (CEC, 2008) and the Fifth Report on Economic, Social and Territorial Cohesion (CEC, 2010). A choice has been made to use these documents related to the previous Community Framework (2007-2013), instead of their updated versions because the current regional plans in Portugal have been approved during this period, and therefore, any interpretation (or misinterpretation) of the concept of Territorial Cohesion must stem from them, thus reflecting the degree of willingness of local actors to articulate with European policy guidelines.

For the national scale, the focus has been on the Regional Operational Programs (POR), instruments of public policy that stem directly from the financial and strategic support of the Community Support Framework and the European Regional Development Fund. The regional level of analysis has been chosen as this seems to be the most adequate and flexible to respond to the European policy guidance documents, that continuously reiterate the importance of this level in the context of Territorial Cohesion. Five POR have been analyzed, corresponding to each of the major Portuguese regions (North, Centre, Lisbon, Alentejo and Algarve).

Qualitative Content Analysis was used to interpret each document; a systematic and objective technique for analyzing and quantifying the content of quantitative data (Cole, 1988; Elo & Kyngäs, 2008), often used in applied research and case study development in several areas of knowledge (Elo & Kyngäs, 2008; Kohlbacher, 2006), and for long deemed quick, flexible and effective when applied to direct discourses and text data (Bardin, Reto, & Pinheiro, 1979; Cavanagh, 1997). It consists of a family of analytical approaches (Hsieh & Shannon, 2005) that enhance the understanding of data by grouping words, expressions or phrases into fewer, content related categories that share the same meaning (Cavanagh, 1997; Elo & Kyngäs, 2008). This analysis was performed using NVivo, a computer software package produced by QSR International (QSR, 2016), designed specifically for Qualitative Data Analysis (see for example Bazeley & Jackson, 2013). In recent urban planning related research (more particularly collaborative planning, e.g. Faehnle & Tyrväinen, 2013) this package has been mostly used to analyze responses to interviews, debates in stakeholder meetings or evaluations of new polices in areas such as climate change (Measham et al., 2011), public health (Allender, Cavill, Parker, & Foster, 2009), planning of urban green infrastructure (Faehnle, Bäcklund, Tyrväinen, Niemelä, & Yli-Pelkonen, 2014) or analyzing travel/movement patterns (Wridt, 2010).

Document analysis contained two main tasks. The first task was the collection of the most frequent found words, done in three stages. The first stage was a free 'word search' of the most frequently found words in the documents. In the second stage, only the selected words related to the research topic (Territorial Cohesion) were maintained for further analysis. In the third stage, a new 'word search' was made for these terms and their derivatives (e.g. access, accessibility, accessible). The second task was a collection of the expressions or phrases associated, within the documents, to the terms 'Cohesion' and 'Territorial Cohesion', and consisted of three stages. The first stage was a 'text search', highlighting the sentences or paragraphs where the two concepts were incorporated. The second stage was a 'word search' within these selected paragraphs, to catalogue the most frequently found words associated with 'Cohesion' and 'Territorial cohesion'. The third stage was the creation of a 'tree of words', with the purpose of associating used words with defined concepts.

These two tasks were made for each of the policy instruments above described, and resulted in an individual (document by document), and collective (national vs. European) analysis. Because the European document have already been subject to closer scrutiny in other reviews (see previous sections), the analysis of these will be more

succinct. The national document analysis discusses therefore the methodological steps described in the previous paragraph in greater detail.

THE EUROPEAN DISCOURSE

The inclusion of the term 'Territorial Cohesion' in the Treaty of Lisbon (EU, 2009), the publication of the Territorial Agenda of the European Union 2020 (EC, 2011) and of the Fifth Report on Economic, Social and Territorial Cohesion (CEC, 2010), and the extensive public discussion following the publication of the Green Paper on Territorial Cohesion (CEC, 2008) have definitely shifted the focus of public policies towards the cohesion goal. Consequently, the term 'Territorial Cohesion' itself appears as central in these, and subsequent discourses. The goal of the following analysis is thus to determine what is meant by the term 'Territorial Cohesion' in each of these major European documents, and whether this meaning is convergent or not between them. Each document is analyzed in turn in the following sub-sections. Table I presents a summary of the most frequent founds words related to 'Territorial Cohesion' in each document.

Document	Green Paper (2008)	5th Report on Cohesion (2010)	Territorial Agenda (2011)
Most frequent words related to 'Territorial Cohesion'	policies; regions; development economic; access; social; cities; rural; activities; resources; cooperation	policies; regions; development; economic; access; social; services	policies; regions; development; strategy; coordination; integration; local; difference

Table I – Word analysis of three European documents concerning the term 'Territorial Cohesion'

THE GREEN PAPER ON TERRITORIAL COHESION

The Green Paper on Territorial Cohesion (CEC, 2008) is, among the documents analyzed in this research, the one that attempts the most to clarify the concept of 'Territorial Cohesion'. This is obviously a consequence of its raison d'être, namely to support the need for a better understanding of the scope of Territorial Cohesion and of its implications to the current and future EU regional policy. The Green paper is thus a willful, very specific EU document that constitutes a political approach based on a circular planning model, and which generated an extensive public consultation phase, with local and regional authorities, stakeholders and organizations.

The second paragraph of the Green Book states that "Territorial cohesion is about ensuring the harmonious development of all these places and about making sure that their citizens are able to make the most of inherent features of these territories. As such, it is a means of transforming diversity into an asset that contributes to sustainable development of the entire EU" (CEC, 2008). This definition, albeit somewhat unprecise, is based upon the principles of Cooperation/articulation between actors and policies; Clustering (creation of critical mass through the establishment of networks between urban areas); and Connection (access to infrastructure and services of general interest). These, we might call them, three C's, are unsurprisingly similar to the three D's that the World Bank Report of 2009 identifies as the key elements that influence the level of development of territories: Division, Density and Distance (Scott, 2009; World Bank, 2009).

The first word search revealed the most frequently used words associated with the term 'Territorial Cohesion' to be: policies, cooperation, regions, cities, rural, access, development, economic, activities, resources and social (see Table I). This confirms a clear association of the 'Territorial Cohesion' concept with the principles of clustering ('regions', 'resources'), connection ('access') and cooperation ('cooperation', 'policies', 'development', 'cities'-'rural').

The subsequent 'text search' and the detailed analysis of the paragraphs where 'Cohesion' or 'Territorial Cohesion' are present, revealed four major guidelines related to this concept, according to the Green Paper.

First, 'cooperation' is paramount. Territorial Cohesion should be achieved through the promotion of the coordination between sectorial policies and territorial-based policies; of the political coordination between great geographical areas; of the cooperation between different governmental levels (vertical cooperation) and between these and the organizations (horizontal cooperation); and a more flexible and adaptable institutional articulation, able to be molded to the most proper territorial scale.

Second, Territorial Cohesion should be achieved though the promotion of sustainable, globally competitive cities. This entails focusing on the development of rural areas in close articulation with urban areas; providing proper access to services of general interest in an integrated development logic between urban areas and rural areas; and developing transport services and infrastructure that can strengthen the connection between urban areas and the creation of a critical mass supportive of competitive gains.

Third, Territorial Cohesion should promote the endogenous wealth of each territory. This is more pressing for less developed territories, which should convert their differences into advantages, by exploring and promoting their endogenous resources as distinctive features.

Fourth, Territorial Cohesion should solve problems of social and territorial exclusion. A more equitable and balanced development should be promoted between more central and developed areas, and more peripheral and weaker areas.

THE TERRITORIAL AGENDA OF THE EUROPEAN UNION 2020

The Territorial Agenda of the European Union 2020 (EC, 2011) – TA20202 – is a document with the double intention of reinforcing the role of Territorial Cohesion as a new paradigm of development in Europe, and promoting the resilience of territories, in the context of a wide range of emerging or otherwise still relevant concerns common to most European countries, such as the deep economic and financial crises, economic vulnerability, depopulation of rural areas, ageing population, migration, climate change or energy efficiency. The document focuses on the importance of the 'place' and of adopting a diversity paradigm, through the stimuli of experimental approaches in the development and implementation of policies. It is structured around six main priority axes (EC, 2011): (i) promotion of polycentric and balanced territorial development; (ii) encouragement of integrated development in cities, rural and specific regions; (iii) territorial integration in cross- border and transnational functional regions; (iv) ensuring global competitiveness of the regions based on strong local economies; (v) improvement of territorial connectivity for individuals, communities and enterprises; and (vi) management and connection of ecological, landscape and cultural values of regions.

Thus, it can be considered that TA2020 constitutes a good example of promotion of the 'Europe Effect' by intergovernmental action, and through a horizontal policy model. Yet, unlike the Green Paper, TA2020 does not seek to clarify the meaning of the concept of 'Territorial Concept' itself, but rather reinforce its importance as a principle to adopt in the general planning of the European space, and in order to achieve a greater coherence between sectorial and territorial policies. Even so, the 'word search' reveals that there is still, to some extent, a similarity between the ideas of TA2020 and the Green Paper. The most frequently found words associated with Territorial Cohesion were found to be: policies, strategy, coordination, regions, integration, local, development and difference (see Table I). The words 'policies', 'regions' and 'development' appear at the top of the search in both documents, and further affinity can be found between the word 'coordination' (TA2020) and 'cooperation' (Green Paper); between 'local' (TA2020) and both 'cities' and 'rural' (Green Paper); or between 'difference' (TA2020) and 'resources' (Green Paper). These affinities appear more clearly with the 'text search' and the detailed analysis of the paragraphs where 'Cohesion' or 'Territorial Cohesion' are present. The four main strategies of the Green paper (see previous section) regarding Territorial Cohesion tackle exactly the same issues as the four main strategies of TA2020, that can be described as follows:

First, 'coordination' of different sectorial policies is paramount. This coordination should optimize the territorial impact of the policies adopted and maximize their coherence and consistency, as well as synergies of territorial cooperation and horizontal and vertical coordination.

Second, territorial development should be promoted. This is achieved through the development of integrated functional areas and a polycentric and balanced territory, and the creation of synergy networks between different urban areas in order to gain critical mass, improve access to services of general interest and increase mobility.

Third, endogenous resources should be promoted. Opportunities should be created in accordance with territorial specificities, exploring endogenous resources and other elements that may contribute to make each territory more competitive.

Fourth, every citizen and every company should have equal opportunities and rights, regardless of where they reside. Therefore, mechanisms of solidarity between more and less developed areas should be developed and promoted, in order to make the territorial differences more balanced.

THE FIFTH REPORT ON ECONOMIC, SOCIAL AND TERRITORIAL COHESION

Finally, the Fifth Report on Economic, Social and Territorial Cohesion (CEC, 2010) – the fifth installment of a triennial EU report concerning the contributions and progresses of EU and national governments to the subject of cohesion – was adopted in the aftermath of the worst financial and economic crisis in recent European history and it was essentially designed to support the subsequent long-term recovery strategy; Europe 2020. Thus, following Europe 2020's objectives of smart, inclusive and sustainable growth, and the pressing need for innovation, employment, social inclusion and a strong response to environmental challenges (Walsh, 2012), the Fifth Report underlines how

regions and the European and national cohesion policies can respond to these objectives. Most notably, the Fifth Report focuses on the analysis of regional disparities and how the cohesion policy can have a strong impact in overcoming them. Thus, it represents a top-down 'europeanization' policy model.

Another milestone of the Fifth Report is that it is the first of its kind to explicitly include the dimension of 'Territorial Cohesion', most prominently in its title. Even so, the contribution of this report to clarify the meaning of the term can be considered to be somewhat less perceptive than that of the Green Book and TA2020. A 'word search' displays as most frequently used words in association to Territorial Cohesion to be policies, regions, economic, development, services, social and access (see Table I). Actually, all words with the exception of 'services' are found in the frequent word search of the Green Paper, and 'policies', 'regions' and 'development' are found in the TA2020 search as well. Nevertheless, although there appears to be a lack of a certain specificity ('local', 'integration', 'cooperation', 'resources') found in the other two documents, the remainder of the terms found in the Fifth Report point to a similar vision as to the way to achieve 'Territorial Cohesion' at the European level. This suspicion becomes substantiated by the 'text search' and the detailed analysis of the paragraphs where 'Cohesion' or 'Territorial Cohesion' are present. Again, the main points are grouped into four categories, fairly similar to those of the two previous sub-sections.

First, there is a need for territorial cooperation and the coordination of policies with territorial impact. This should be achieved through the coherence between regional development and the national and European policies.

Second, emphasize the role of cities. A functional and flexible geography should be developed, so that synergies between different territorial areas (either between urban areas, or between urban and rural areas) can be exacerbated, thus gaining critical mass, increasing the access to services of general interest and improving infrastructures.

Third, consider the specificities of each territory, regarding them as elements of development and differentiation.

Lastly, fourth, reduce the social and geographical disparities.

SUMMARIZING THE EUROPEAN DISCOURSE

Although there isn't exactly a common straightforward definition of the concept of 'Territorial Cohesion' between the three main European documents tackling this subject, produced within the context of the previous Community Support Framework (2007-2013), there is indeed a common logic between them. In fact, there are some key words that are common to all three documents, when a most frequent 'word search' is performed; namely the words 'policies', 'regions' and 'development'. As well, this search reveals that the Green Paper and the 5th Report also have in common as most frequently found words 'economic', 'access' and 'social'. And even if TA2020 is more dissimilar in terms of most frequently found words, the results of the 'text search' reveal that all three documents share the same four major guidelines for achieving and implementing Territorial Cohesion, even if they are expressed in slightly different ways. These guidelines can be summarized as thus:

- The importance of territorial governance as a motor for institutional cooperation; be it through vertical cooperation between different governmental levels, horizontal cooperation of actors based on a holistic and shared view of the territory, or the coherence between policies and regions;
- The importance of identifying means for managing the territory capable of overcoming differences in size, density and distances to services and amenities, thus developing a polycentric, balanced and competitive territory;
- The need to focus on specific yet diverse interventions, taking into account the potentialities, specificities and the endogenous wealth of each territory, thus promoting territorially diverse policies;
- The need to add to the previous guidelines the idea of solidarity and equity, thus promoting social and territorial positive discrimination and reducing geographical and social disparities.

THE NATIONAL DISCOURSE (AND HOW IT RELATES TO THE EUROPEAN ONE)

By assuming that the four major guidelines uncovered in the previous section constitute the best possible interpretation of the concept of Territorial Cohesion as presented at European level, this section makes a similar, yet more profound approach of national (Portuguese) regional documents. The same methodology is used (albeit described in more detail), to analyze the five Regional Operational Programs (POR).

THE REGIONAL OPERATIONAL PROGRAMS (POR)

The Regional Operational Programs (POR) stemmed from the previous National Community Support Framework (QREN) for the period between 2007 and 2013. This framework defined the strategic orientations for the national transposition of the economic and social European policy guidelines, namely through the national application of

European structural funds for that six-year period, financed exclusively through the European Regional Development Fund. To operationalize this application, several transversal thematic and regional operational programs (the POR) were developed. The analysis in this section focuses on the five POR that cover the regions of continental Portugal; POR North, POR Centre, POR Lisbon, POR Alentejo and POR Algarve. The POR for the period of 2007-2013 were used, instead of the most recent documents (e.g. POR North 2020), to be coherent with the time frame of the analysis of this research.

As described in the Methodology section, the first stage of the analysis consists of a 'word search', to count the frequency of the expressions 'Cohesion' and 'Territorial Cohesion' within the documents, and to unveil the most frequently found words associated to them (see Table II).

Instrument of Regional Planning	Number of times the term 'Cohesion' appears	Main terms associated with 'Cohesion'	Number of times the term 'Territorial Cohesion' appears	Main terms associated with 'Territorial Cohesion'
POR The New North	101	Social, Competitiveness, Policies	6	Centre, Local, Policies, Urban
POR Plus Centre	43	Policies, Competitiveness, Evaluation	2	Facilities, Local, Mobility, Transports, Urban, Accessibility, Articulation, Networks
POR Lisbon	129	Social, Policy	14	Social, Inclusion, Strategy, Urban, Quality
POR InAlentejo	146	Social, Competitiveness, Facilities, Policy	7	Competitiveness, Positioning, Economy
POR Algarve21	66	Social, Policy, Employment, Appreciation, Evaluation	12	Appreciation, Network, Urban, Economic, Accessibility, Growth, Endogenous, Resources, System Competitiveness, Density, Facilities

Table II – Word analysis of the five Regional Operational Programs (POR), according to the frequency of the terms 'Cohesion' and 'Territorial Cohesion', and the main terms associated to them

What is immediately perceptible is that the frequency of the term 'Cohesion' is much greater than the frequency of the term 'Territorial Cohesion'. Or, in other words, the use of the term 'Territorial Cohesion' in the POR for the period 2007-2013 is surprisingly small, considering that these documents stem directly from the European Cohesion Policy guidelines. This is more evident in the POR of the northern and central regions.

Out of five documents, all five use 'Cohesion' in relation to 'Policy/Policies', four with 'Social' (POR Centre is amiss), three with 'Competitiveness' (POR Lisbon and POR Algarve are amiss), and two with 'Evaluation'. On the other hand, there is less coherence between documents in the words associated to the term 'Territorial Cohesion'. Out of five documents, four associate it with 'Urban' (POR Alentejo is amiss), two with 'Local' (PROT North and Centre), two with 'Accessibility', 'Facilities' and 'Network' (PROT Algarve and Centre) and two with 'Economy/Economic' and 'Competitiveness' (POR Alentejo and Algarve). This can indicate that for the regional actors responsible for writing the POR the conceptual differentiation between the two terms is somewhat clear. 'Cohesion', in itself, is much more related to social policy and competitiveness, and appears to be less related to the territorial dimension, where each region has made its own interpretation. In this case, the North and Lisbon POR seem to associate 'Territorial Cohesion' to local and urban social strategies, whereas the Alentejo and Algarve POR associate it with economic competitiveness and self-promotion and growth, and PROT Centre to a network logic between urban areas.

The second stage of analysis consisted of a 'text analysis' of the paragraphs where the expressions 'Cohesion' and 'Territorial Cohesion' appear. This is synthesized in Table III.

Principle\ Plan	Acknowledgment of the terms 'Cohesion' and 'Territorial Cohesion' in the plan	Level of relevance between Territorial Cohesion and Economic and Social Cohesion	Main usage and meaning of the term 'Territorial Cohesion'
POR The New North	'Cohesion' is amply mentioned; 'Territorial Cohesion' is hardly mentioned	Less relevant. Although the POR promotes all three, it focuses more on Social Cohesion and the notion of equity	As a strategic orientation in the fields of, for example, environmental systems or urban conurbations
POR Plus Centre	'Cohesion' is moderately mentioned in relation to cohesion policy or funds; 'Territorial Cohesion' is hardly mentioned	Less relevant. Focuses more on Social Cohesion	As a strategic orientation principle in sectorial domains (mobility, facilities)
POR Lisbon	'Cohesion' is amply mentioned, used in relation to cohesion policy or funds; 'Territorial Cohesion' is moderately mentioned	Less relevant. Focuses more on Social Cohesion	Associated mainly to 'social inclusion' and as one of the dimensions of Social Cohesion.

POR InAlentejo	'Cohesion' is amply mentioned, used in relation to cohesion policy or funds, or as a counterpoint to 'competitiveness'; 'Territorial Cohesion' is hardly mentioned	Less relevant. Focuses more on Social Cohesion. 'Territorial Cohesion' rarely appears as a standalone expression, replaced by 'Social and Territorial Cohesion'	As a strategic orientation principle in sectorial domains (mobility, facilities)
POR Algarve21	'Cohesion' is moderately mentioned in relation to cohesion policy or funds; 'Territorial Cohesion' is moderately mentioned	Less relevant. Focuses more on 'Social Cohesion' or 'Social and Economic Cohesion'.	As a strategic orientation principle in sectorial domains (urban network, socio-economic infrastructures); as a goal in the Territorial Appreciation and Urban Development plan

Table III – Text analysis of the five Regional Operational Programs (POR), according to the content of the text sections featuring the terms 'Cohesion' and 'Territorial Cohesion'.

The 'text analysis' further strengthens the conclusions of the preceding paragraphs, although it helps to uncover more similarities between the acknowledgment and usage of the terms 'Cohesion' and 'Territorial Cohesion' that before were less perceptible. For these documents, the term 'Cohesion' is mostly associated to 'Cohesion Policy', 'Cohesion Funds' and primarily 'Social Cohesion'. It is perceptible then that 'Territorial Cohesion' is less relevant, within these documents, than Social and Economic Cohesion, or rather that it is considered to be a dimension of those, particularly of 'Social Cohesion', something which may justify the lack of acknowledgment the term has and the short number of times it is mentioned, as displayed in Table II. Even so, in all POR with the exception of Lisbon's, 'Territorial Cohesion' is seen as a strategic orientation principle in sectorial domains, most notably those related to urban networks, mobility and facilities, responding to the need for a more equitable social cohesion policy that most of these five documents lean on.

Lastly, a more comprehensive word analysis was performed to see if, and how, the use of the terms 'Cohesion' and 'Territorial Cohesion' in these documents has responded to the four major guidelines of the European discourse, as presented in the previous Section, namely; (i) the importance of territorial governance; (ii) the importance of a proper territorial organization; (iii) the importance of promoting territorially specific, yet diverse policies; and (iv) the importance of social and territorial solidarity and equity. This analysis is synthesized in Table IV.

	Territorial Governance	**Territorial Organization**	**Diversity and specificity of Territorial policies**	**Social and Territorial solidarity and equity**
POR The New North	Creation of partnerships and inclusion of actors	Improvement of the road networks and of the public transports	-	-
POR Plus Centre	-	Relevance of sub-regional urban systems and centres	-	Equity in the access to public facilities and services
POR Lisbon	Adoption of models of governance	Polycentric development of territories, reinforcement of the infrastructures supporting territorial integration, relevance of urban centres	-	Creation of positive discrimination measures in the access to urban comforts
POR InAlentejo	Adoption of models of governance	Reinforcement of the competitiveness and attractiveness of cities, articulation of urban with rural areas, consolidation of the network of public services, implementation of systems of public transports	Promotion of the cultural identity of the region	Equity in the access to public services
POR Algarve21	Articulation with the instruments of territorial planning	Promotion of a polycentric urban system, integration of cities and the country in supra-national spaces, assertion of a balanced regional urban network, consolidation of the network of public services	Economic appreciation of endogenous resources, promotion of a more sustainable use of natural resources, reduction of environmental impacts, economical-cultural assertion of the rural Algarve	-

Table IV – Text analysis of the five Regional Operational Programs (POR), according to how they feature the terms 'Cohesion' and 'Territorial Cohesion' in relation to the four major guidelines of the European discourse

It is clear that, overall, the five POR have been more keen to respond to the first two guiding European principles, than the remaining two. All documents contain some measure of the role of 'Cohesion' and 'Territorial Cohesion' associated to the goal of Territorial Organization, and all documents with the exception of POR Centre, associate the terms to the goal of Territorial Governance. In this sense, 'Cohesion' and 'Territorial Cohesion' are strongly associated to the importance of creating a polycentric urban system, where the role of the cities themselves is promoted, as well as their networks of facilities, infrastructures, services and transports. Three of the five POR (North and Algarve are amiss) also stress that there should be equity in this access to urban comforts as public facilities and services, thus promoting greater interaction of urban with rural areas. Even so, only the POR of the southern regions of Alentejo and Algarve relate these issues with the promotion of the diversity and specificity of their territories, having in mind their touristic-oriented development policies. Furthermore, 'Cohesion' and 'Territorial Cohesion' are related to the idea of adopting models of governance, focusing on the articulation of different actors to achieve a more integrated allocation of funding, and of different instruments and policies of territorial planning. It should also be added that the southern and Lisbon POR have tried to respond to all or most of the four dimensions of the European discourse, unlike the North and Centre POR, which only respond to two dimensions.

DISCUSSION AND CONCLUSIONS: CONCEPTUAL TRANSPOSITION OR CONCEPTUAL REDEFINITION?

National and regional actors face various theoretical and empirical challenges when they attempt to operationalize the concept of 'Territorial Cohesion' from the European to their national regional agendas. Primarily, this is due to the fact that European guidelines on the subject are not entirely clear as to what exactly means to have a 'cohesive territory', choosing instead to promote more comprehensive concepts of 'why' and 'what for' of the adoption of a Territorial Cohesion Policy. Through a Qualitative Content Analysis of main European documents addressing the subject of Territorial Cohesion this research established four major priorities of the European discourse, that constitute the primary references for local actors; succinctly, (i) the importance of territorial governance; (ii) the importance of a proper territorial organization; (iii) the importance of promoting territorially specific, yet diverse policies; and (iv) the importance of social and territorial solidarity and equity. Secondly, in the Portuguese case in particular, the first official attempts to reproduce these guidelines, such as the 'Contribute of the Portuguese Authorities for the Public Consultation of the Green Book' (MNE, 2008) have followed a similar discourse (see Santinha & Marques, 2012). Consequently, facing this reality, the major research question of this paper was to determine whether regional instruments effectively transpose, or rather redefine, the concept of 'Territorial Cohesion' as proposed by the European documents.

The documents of the five Regional Operational Programs (POR) have been analyzed. What is clear in a general sense is that the concept of 'Territorial Cohesion' has indeed become part of the vocabulary of these documents, even though only moderately and without a straightforward definition of the term. Indeed, 'Territorial Cohesion' is deemed to be less important than, or rather a component of, Economic and particularly Social Cohesion. This may stem from the definition of instrument itself, as it follows closely the orientations of the Cohesion Policy as defined by the Lisbon Strategy (now Europe 2020), i.e. a strategy focusing on intervention areas such as innovation, competitiveness and knowledge to ensure growth and employment, in favor of focusing on the territorial dimension.

Even so, looking at how the POR relate to the four major priorities of the European discourse (Table IV) it is more than clear that, for them, the notion of 'Territorial Cohesion' is consensually linked to the second priority axis, that of a proper territorial organization, as this is stated in all the five documents. Namely, this should be achieved through the strengthening of polycentric urban systems and their proximity networks of facilities, infrastructures, services and transports, to promote complementarity, competitiveness, development and the role of the cities themselves. As well, the POR are extensively concerned with the fist axis; the importance of territorial governance, dwelling on the articulation of different actors to achieve a more integrated allocation of funding, and of different instruments and policies of territorial planning. Yet lesser overall importance is given to the third and fourth axis, the former more prominent in the southern POR and the latter in the central/northern POR. Indeed, if the POR analyzed as a whole can reveal a somewhat coherent stance on the transposition of the concept of 'Territorial Cohesion' from the European to the Portuguese local regional dimension, it is evident that there are clear geographical disparities in the transposition of the concept and its priority axes between regions.

The POR of the northern and central regions mention 'Territorial Cohesion' much less frequently, unlike their southern counterparts. In fact, the southern and Lisbon POR respond to all or most of the four dimensions of the European discourse, unlike the North and Centre POR. In most POR 'Territorial Cohesion' is seen as a strategic orientation principle in sectorial domains, most notably those related to urban networks, mobility and facilities, and as a catalyst for the promotion of equity. Yet strategic priorities differ between regions. The North and Lisbon POR seem to associate 'Territorial Cohesion' to local and urban social strategies, the Alentejo and Algarve POR associate it with economic competitiveness, self-promotion and growth, and PROT Centre clearly relate the term to a network logic between urban areas.

Therefore, the answer to the main question of this paper appears to be that, as a whole, the Portuguese Regional Operational Programs have made a shy, yet to some extent successful conceptual transposition of the term 'Territorial Cohesion' from the European discourse to their local regional realities, albeit it is used moderately and is still considered less relevant than Social and Economic Cohesion. However, in particular, a larger gap has been found between discourses, as local actors have strived to make their own conceptual redefinitions, or reinterpretations, of the concept, to better suit the main strategic priorities of their respective regions, thus not responding to all the guidelines of the European discourse. There is therefore a long way to go to create a coherent and homogenous discourse at local level.

The methodology proposed and followed in this paper should be regarded as a first contribute to the debate of the specific consequences of the 'Europe Effect' within public policies and urban planning in Portugal. In a wider sense, it can also be regarded as a justification to better clarify, not only in the literature but also in official national and international documents, the concept of Territorial Cohesion. This is as more relevant as the findings of this research have proved that there is a lack of a homogenous interpretation of the concept's meaning and of its strategic priorities between the country's regions. To overcome this, at least internally, a more intense debate needs to happen, focusing around the analytical and normative transposition and application of the concept of 'Territorial Cohesion'; a debate that should include a vast array of local and regional actors.

The findings of this research also point towards a greater interest in widening the scope of these questions, at national scale (include other regional planning documents, such as the PROT - The Regional Land Management Plans), but most notably on the European sphere. To what extent are the guidelines of European documents being correctly interpreted by regional actors? Are suitable conditions being created within each country to promote debate and exchange of knowledge and information between regional actors, in order to generate processes of collective learning and thus a national harmonization of concepts and strategic priorities? In the quest for a successful Europeanization process, these are the two main questions we need positively to answer to.

ACKNOWLEDGEMENTS

The contribution and support of the Centre of Studies on Geography and Spatial Planning (CEGOT) of the University of Porto for facilitating this research is gratefully acknowledged. In addition, this research, as part of CEGOT, was partially supported by National Funds through the Portuguese Foundation for Science and Technology (FCT; UID/GEO/04084/2013) and the COMPETE program (POCI-01-0145-FEDER-006891)

REFERENCES

Allender, S., Cavill, N., Parker, M., & Foster, C. (2009). 'Tell Us Something We Don't Already Know or Do!': The Response of Planning and Transport Professionals to Public Health Guidance on the Built Environment and Physical Activity. Journal of Public Health Policy, 30(1), 102-116.

Bache, I. (2015). Cohesion policy. In H. Wallace, M. A. Pollack & A. R. Young (Eds.), Policy-Making in the European Union (pp. 243-262). Oxford: Oxford University Press.

Bardin, L., Reto, L. A., & Pinheiro, A. (1979). Análise de conteúdo. Lisboa: Edições 70.

Bazeley, P., & Jackson, K. (2013). Qualitative data analysis with NVivo. London: Sage Publications Limited.

Becker, S. O., Egger, P. H., & von Ehrlich, M. (2010). Going NUTS: The effect of EU Structural Funds on regional performance. Journal of Public Economics, 94(9–10), 578-590. doi: http://dx.doi.org/10.1016/j.jpubeco.2010.06.006

Böhme, K. (2003). Discursive European integration: the case of Nordic spatial planning. In L. Doria, V. Fedeli & C. Tedesco (Eds.), Rethinking European spatial policy as a hologram (pp. 215-234). Aldershot, U.K: Ashgate.

Böhme, K., Doucet, P., Komornicki, T., Zaucha, J., & Świątek, D. (2011). How to strengthen the territorial dimension of 'Europe 2020'and the EU Cohesion Policy Report based on the Territorial Agenda 2020. Warsaw: Prepared at the request of the Polish Presidency of the Council of the European Union.

Böhme, K., & Waterhout, B. (2008). The Europeanization of planning. In A. Faludi (Ed.), European spatial research and planning (pp. 225-248). Cambridge (MA): Lincoln Institute of Land Policy.

Börzel, T., & Risse, T. (2000). When Europe hits home: Europeanization and domestic change. European integration online papers (EIoP), 4(15).

Bulmer, S. J., & Radaelli, C. M. (2004). The Europeanisation of national policy? Queen's Papers on Europeanisation (Vol. p0042): Queens University Belfast.

Buunk, W.-W. (2003). Discovering the locus of European integration: the contribution of planning to European governance in the cases of structural fund programmes, trans-European networks, Natura 2000, and agri-environmental measures. Delft, The Netherlands: Eburon.

Cavanagh, S. (1997). Content analysis: concepts, methods and applications. Nurse Researcher, 4(3), 5-13. doi: 10.7748/nr1997.04.4.3.5.c5869

CEC. (2008). Green Paper on Territorial Cohesion - Turning territorial diversity into strength Communication from the Commission to the Council, the European Parliament, the Commiteee of the Regions and the European Economic and Social Committe. Brussels: Comission of European Communities.

CEC. (2010). Fifth Report on Economic, Social and Territorial Cohesion - Investing in Europe's future Reports from the Commission. Brussels: European Commission.

Cole, F. L. (1988). Content analysis: process and application. Clinical Nurse Specialist, 2(1), 53-57.

Cotella, G., & Janin Rivolin, U. (2010). Institutions, discourse and practices: towards a multidimensional understanding of EU territorial governance. Paper presented at the XXIV AESOP Congress: Space is Luxury, Helsinki.

Cowles, M. G., & Caporaso, J. A. (2001). Transforming Europe: Europeanization and domestic change. New York: Cornell University Press.

Dao, Q.-H., Plagnat Cantoreggi, P., Rousseaux, V., Angelidis, M., Batzikou, S., Bazoula, V., . . . Brockett, S. (2012). INTERCO - Indicators of territorial cohesion. Final Report. Luxembourg, Geneva: ESPON.

Davoudi, S. (2007). Territorial cohesion, the European social model, and spatial policy research. In A. Faludi (Ed.), Territorial Cohesion and the European Model of Society (pp. 81-104). Cambridge, Mass: Lincoln Institute of Land Policy.

Davoudi, S., & Wishardt, M. (2005). The Polycentric Turn in the Irish Spatial Strategy. Built Environment (1978-), 31(2), 122-132.

Drevet, J. (2007). Chasing a moving target: territorial cohesion policy in a Europe with uncertain borders. In A. Faludi (Ed.), Territorial Cohesion and the European Model of Society (pp. 145-164). Cambridge, Mass: Lincoln Institute of Land Policy.

Dühr, S., & Nadin, V. (2007). Europeanization through transnational territorial cooperation? The case of INTERREG IIIB North-West Europe. Planning Practice & Research, 22(3), 373-394. doi: 10.1080/02697450701666738

Dühr, S., Stead, D., & Zonneveld, W. (2007). The Europeanization of spatial planning through territorial cooperation. Planning Practice & Research, 22(3), 291-307. doi: 10.1080/02697450701688245

EC. (1999). ESDP-European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the European Union Agreed at the Informal Council of Ministers Responsible for Spatial Planning. Potsdam: Office for Official Publications of the European Communities; European Commission; Committee on Spatial Development.

EC. (2007). Territorial Agenda of the European Union: Towards a More Competitive and Sustainable Europe of Diverse Regions agreed on the ocasion of the Informal Ministerial Meeting on Urban Development and Territorial Cohesion on 24/25 May 2007. Leipzig, Germany: European Comission.

EC. (2011). Territorial Agenda of the European Union 2020: Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions agreed at the Informal Ministerial Meeting of Ministers responsible for Spatial Planning and Territorial Development on 19th May 2011. Gödöllő, Hungary: European Comission.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. Journal of Advanced Nursing, 62(1), 107-115. doi: 10.1111/j.1365-2648.2007.04569.x

EU. (2009). Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community (Vol. 2007/C 306/01). Lisbon: European Union laws and publications.

Evers, D. (2008). Reflections on Territorial Cohesion and European Spatial Planning. Tijdschrift Voor Economische En Sociale Geografie, 99(3), 303-315. doi: 10.1111/j.1467-9663.2008.00463.x

Faehnle, M., Bäcklund, P., Tyrväinen, L., Niemelä, J., & Yli-Pelkonen, V. (2014). How can residents' experiences inform planning of urban green infrastructure? Case Finland. Landscape and Urban Planning, 130, 171-183. doi: http://dx.doi.org/10.1016/j.landurbplan.2014.07.012

Faehnle, M., & Tyrväinen, L. (2013). A framework for evaluating and designing collaborative planning. Land Use Policy, 34, 332-341. doi: http://dx.doi.org/10.1016/j.landusepol.2013.04.006

Faludi, A. (2004). Spatial planning traditions in Europe: their role in the ESDP process. International Planning Studies, 9(2-3), 155-172. doi: 10.1080/1356347042000311758

Faludi, A. (2005). Territorial cohesion: an unidentified political objective: introduction to the special issue. Town Planning Review, 76(1), 1-13.

Faludi, A. (2007). Territorial cohesion and the European model of society. Cambridge, MA: Lincoln Institute of Land Policy

Faludi, A. (2009). A turning point in the development of European spatial planning? The 'Territorial Agenda of the European Union' and the 'First Action Programme'. Progress in Planning, 71(1), 1-42. doi: http://dx.doi.org/10.1016/j.progress.2008.09.001

Faludi, A. (2010). Centenary paper: European spatial planning: past, present and future. Town Planning Review, 81(1), 1-22.

Featherstone, K., & Radaelli, C. M. (2003). The politics of Europeanization. Oxford: Oxford University Press.

Ferrão, J. (2011). O ordenamento do território como política pública. Lisboa: Fundação Calouste Gulbenkian.

Ferrão, J., & Mourato, J. M. (2010). A avaliação de políticas públicas como factor de aprendizagem, inovação Institucional e cidadania: o caso da política do ordenamento do território em Portugal. Revista Brasileira de Estudos Urbanos e Regionais, 12(1), 9-28.

Guerra, I. (2006). Pesquisa qualitativa e análise de conteúdo: sentidos e formas de uso. Estoril: Princípia.

Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. Qualitative Health Research, 15(9), 1277-1288.

Knieling, J., & Othengrafen, F. (2009). Planning cultures in Europe: Decoding cultural phenomena in urban and regional planning. Farnham: Ashgate Publishing, Ltd.

Kohlbacher, F. (2006). The use of qualitative content analysis in case study research. Paper presented at the Forum Qualitative Social Research: Sozialforschung.

Ladrech, R. (1994). Europeanization of Domestic Politics and Institutions: The Case of France. JCMS: Journal of Common Market Studies, 32(1), 69-88. doi: 10.1111/j.1468-5965.1994.tb00485.x

Ladrech, R. (2010). Europeanization and national politics. Basingstoke: Palgrave Macmillan.

Lenschow, A. (2006). Europeanisation off public policy. In J. Richardson & S. Mazey (Eds.), European Union: power and policy-making: Routledge.

Luukkonen, J., & Moilanen, H. (2012). Territoriality in the Strategies and Practices of the Territorial Cohesion Policy of the European Union: Territorial Challenges in Implementing "Soft Planning". European Planning Studies, 20(3), 481-500. doi: 10.1080/09654313.2012.651806

March, J. G., & Olsen, J. P. (1998). The institutional dynamics of international political orders. International organization, 52(4), 943-969.

Measham, T. G., Preston, B. L., Smith, T. F., Brooke, C., Gorddard, R., Withycombe, G., & Morrison, C. (2011). Adapting to climate change through local municipal planning: barriers and challenges. Mitigation and Adaptation Strategies for Global Change, 16(8), 889-909.

MNE. (2008). Contributo das Autoridades Portuguesas para a Consulta Pública sobre o Livro Verde sobre a Coesão Territorial Europeia – Tirar Partido da Diversidade Territorial.: Gabinete da Secretária de Estado dos Assuntos Europeus, Ministério dos Negócios Estrangeiros.

Mohl, P., & Hagen, T. (2010). Do EU structural funds promote regional growth? New evidence from various panel data approaches. Regional Science and Urban Economics, 40(5), 353-365. doi: http://dx.doi.org/10.1016/j.regsciurbeco.2010.03.005

QSR. (2016). NVivo Software. Retrieved February 2016, from http://www.qsrinternational.com/product

Radaelli, C. M. (2004). Europeanisation: Solution or problem? European integration online papers (EIoP), 8(16).

Ravesteijn, N., & Evers, D. V. H. (2004). Unseen Europe: A survey of EU politics and its impact on spatial development in the Netherlands. Rotterdam: NAi Publishers.

Rivolin, U. J., & Faludi, A. (2005). The hidden face of European spatial planning: innovations in governance. European Planning Studies, 13(2), 195-215. doi: 10.1080/0965431042000321785

Salgado, S. R., & Woll, C. (Eds.). (2004) Conference on Europeanisation of Public Policies and European Integration. IEPParis. available at: http://www.sciences-po.fr/recherche/forum_europeen/prepublications/Papier_2_Woll_Salgado.pdf.

Santinha, G. (2014). O princípio de coesão territorial enquanto novo paradigma de desenvolvimento na formulação de políticas públicas: (re)construindo ideias dominantes. EURE (Santiago), 40, 75-97.

Santinha, G., & Marques, T. (2012). A integração do princípio de Coesão Territorial na agenda política: o caso português. Revista de Geografia e Ordenamento do Território(2), 215-244.

Scott, A. J. (2009). World Development Report 2009: reshaping economic geography. Journal of Economic Geography, 9(4), 583-586.

Shaw, D., & Sykes, O. (2003). Investigating the application of the European Spatial Development Perspective (ESDP) to regional planning in the United Kingdom. Town Planning Review, 74(1), 31-50.

Sykes, O. (2011). Investigating Sub-state Interpretations of European Territorial Cohesion: The Case of the United Kingdom. International Planning Studies, 16(4), 377-396. doi: 10.1080/13563475.2011.618026

Van Well, L. (2012). Conceptualizing the Logics of Territorial Cohesion. European Planning Studies, 20(9), 1549-1567. doi: 10.1080/09654313.2012.708021

Vink, M. (2003). What is Europeanisation? and other Questions on a New Research Agendaa. European Political Science, 3(1), 63-74.

Walsh, C. (2012). Territorial Agenda of the European Union 2020: Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions. Planning Theory & Practice, 13(3), 493-496. doi: 10.1080/14649357.2012.707391

World Bank. (2009). World Development Report 2009: Reshaping Economic Geography. Washington D.C.: The International Bank for Reconstruction and Development / The World Bank.

Wridt, P. (2010). A qualitative GIS approach to mapping urban neighborhoods with children to promote physical activity and child-friendly community planning. Environment and Planning B: Planning and Design, 37(1), 129-147.

THE ATLANTA BELTLINE DECISION SUPPORT TOOL: INTEGRATING STAKEHOLDER INVOLVEMENT AND TECHNICAL DESIGN

Session T5.3 | June 1 | 16:00 – 17:30

Michael Elliott
Georgia Institute of Technology. College of Architecture
City and Regional Planning Program, Atlanta, USA
michael.elliott@coa.gatech.edu

ABSTRACT: This paper examines the potential for decision support tools for promoting more effective participation in complex, multi-attribute decision making in planning. The paper examines the five-year effort to design, construct, and implement a Decision Support Tool for the Atlanta Beltline, one of the largest and most sustainability-oriented urban regeneration projects currently underway in the United States. The paper focuses on the technical and stakeholder process challenges faced in developing the tool, the impact of the tool on stakeholder-professional interaction, and lessons learned on the design and impact of this effort.

A Decision Support Tool is a consistent and reproducible process for guiding decisions by providing a detailed picture of impacts related to the implementation of a plan or policy. DSTs provide a structure for investigating potential benefits of alternative scenarios, comparing between scenarios and with baseline conditions, and identifying trade-offs amongst stated goals. Despite these benefits, DSTs have not been broadly applied to long-term planning projects. The analytic rigor of DSTs too often lead to processes that are overly complex and that subordinate political values to technical considerations. Recent efforts, however, indicate that properly designed DSTs can enhance participation while also clarifying tradeoffs amongst alternatives.

This paper examines the process for designing and implementing a Decision Support Tool for the Atlanta Beltline. The Atlanta Beltline comprises the redevelopment of the historic railroad corridor that encircles Atlanta's downtown and in-town neighborhoods. Cutting through 45 neighborhoods that vary considerably in income, wealth and race, the redevelopment district includes 7 percent of the city (approximately 7 square miles). The Beltline project will construct 22 miles of transit, 33 miles of multi-use trails, 1,300 acres of parks and greenspace, and 5,000 affordable housing units, remediate 1,100 acres of brownfields, and generate an expected $20 billion in new private residential, commercial, and industrial redevelopment. Almost half of the city lies within one mile of the proposed transit and trails. The Atlanta Beltline consequently poses significant challenges to both systematic decision making and stakeholder involvement over its 30-year time horizon.

Central to this ambition is the capacity of the Atlanta BeltLine Inc. (planning/implementing agency) to work effectively with a wide range of partners, especially the legislated citizen advisory committee, the nonprofit Beltline Partnership, residents and businesses from the 45 neighborhoods, and a wide range of city and other governmental agencies. The complexity of both the project and its array of stakeholders requires a systematic approach to decision making, one that encourages effective dialogue around its goals, objectives, and choices, while providing a shared analytic structure to help rationalize the decision process. The DST provides a process for working through priorities and decisions, and a GIS-based multi-attribute analytic system for comparing alternatives across a wide array of desired outcomes, integrating a common set of indicators with variable weights that can be altered to accommodate varying priorities. The implications of changes in these priorities can be examined on the fly, by stakeholders as well as agency officials.

The paper, authored by the project lead for the team that designed the DST, builds on research conducted to identify stakeholder and organizational needs, the communication process amongst stakeholders and the planning agency, the dynamics of stakeholder interaction during the design process, and the specific technical challenges associated with building the tool. The paper uses this data to firstly examine the role of technical analysis in the deliberation process, exploring approaches to maximize its potential to empower stakeholders to engage issues more critically without increasing their dependence on a technical tool.

Secondly, the paper presents the structure of the DST, examining the choices made and their rationale. Finally, the paper assesses the initial implementation of the DST and its impact. The paper therefore provides a framework for understanding the potential uses of multi-attribute analysis in complex planning processes and for designing such tools so as to strengthen stakeholder involvement processes.

Participants will develop a basic understanding of:

1. the elements needed to construct a decision support tool,
2. the technical challenges associated with the design of a DST,

3. the process challenges associated with linking DST parameters to community values, and the role of public participation in identifying those goals, and,
4. the potential uses of a DST to facilitate more strategic dialogue between civic leaders, community members, and planning experts, with greater transparency and more explicit linkage between values, data and analysis to support decisions, and the resultant decisions.

KEYWORDS: decision support tools; stakeholder involvement; Atlanta beltline.

DECISION SUPPORT TOOL (DST) OVERVIEW

This paper describes the development and characteristics of the Decision Support Tool (DST) designed to support systematic decision-making for the Atlanta Beltline. The tool was developed to help guide the Beltline Tax Allocation Advisory Committee (TADAC) together with the Atlanta Beltline Inc. (ABI) and stakeholders in process and program decisions, to clarify and enumerate the goals, objectives, and vision for the BeltLine, and to allow scenarios to be compared on their ability to effectively and equitably realize that vision. It provides a means of measuring both baseline conditions throughout the BeltLine and potential impacts of new development on those baseline conditions.

The Atlanta BeltLine is Atlanta's most ambitious redevelopment project, directly impacting approximately seven percent of the land in the city, and one of the largest redevelopment projects in the United States. The Atlanta BeltLine encompasses thousands of new homes, businesses, and public facilities, new parks and trails, transit service, and new or redesigned streets and sidewalks. The enabling legislation for the BeltLine requires these changes to be evaluated through a DST. The DST integrates physical, environmental, and socioeconomic information to establish priorities, evaluate scenarios, establish accountability, and estimate likely impacts of the BeltLine implementation. The DST is designed to provide an objective and consistent way to test decisions against the BeltLine vision and goals, and to evaluate decisions on their alignment with the interests of all stakeholders, as expressed in this vision and goals. It is primarily a quantitative tool in support of sustainability in all its dimensions – environmental quality, economic vitality, and equitable protection of vulnerable populations.

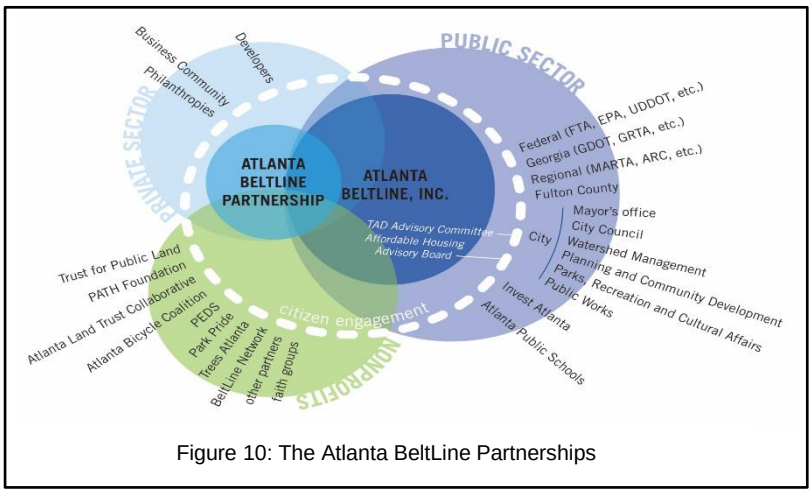


Figure 10: The Atlanta BeltLine Partnerships

This paper describes the background for the project, outlines the framework and development of the DST model, explains the working of the model, and demonstrates how the DST can be used in support of sustainable redevelopment at an urban scale.

THE DST DESIGN PROCESS

The DST is a process, rather than a tool box, in which each actor communicates to determine the best solution or scenario. The process of the DST can be divided into four stages. In the first stage, the vision and goals of the BeltLine were identified, and a strategy set to achieve the identified vision and goals. Baseline goals were largely identified within the context of planning for the 2005 Atlanta BeltLine Redevelopment Plan, the ten Subarea Plans, and their various revisions. In 2011, the guiding principles, applications, and overall framework for the DST were developed through a consensual process with TADAC (the advisory committee), ABI (the implementing agency), and other stakeholders. Third, using this strategy and framework, a way to measure and analyze possible decisions was created using demographic, economic, fiscal, transportation, and health and environmental impact metrics. Finally, the model was developed and tested and ABI staff trained on the use of the DST.

THE ATLANTA BELTLINE: BACKGROUND

The Atlanta BeltLine is one of the largest redevelopment projects in the United States. In 1999, the project was first conceived as a repurposing of 22 miles (35 km) of abandoned and underutilized railroad lines that circumvented Atlanta's downtown into a system of streetcars. The redesign was conceptualized by Ryan Gravel as a Master's thesis project at Georgia Tech. Six years later, when the project was officially launched through city legislation, the project had grown into an integrated multifaceted sustainability initiative the scale of which was unique to Atlanta planning. Through the efforts of a wide array of stakeholders (including the Trust for Public Lands, Trees Atlanta, the PATH Foundation, the Atlanta BeltLine Partnership, and others), the project envisioned an increase by 50 percent of the park space in Atlanta (700 acres of improved parks and 1,300 acres of new greenspace and park)s, 33 miles (53 km) of new dedicated bike and pedestrian pathways through 45 neighborhoods and 22 miles of transit service through the same area, and redevelopment of 6,500 acres (7% of Atlanta) through 10 redevelopment nodes, including 29,000 housing units (5,600 affordable), 5.3 million ft2 office, 1.3 million ft2 retail, 5.2 million ft2 industrial, and 407,000 ft2 institutional space. The net effect would be to add 30,000 new jobs within walking distance of 100,000 people (more than 20% of the residents of the city of Atlanta).

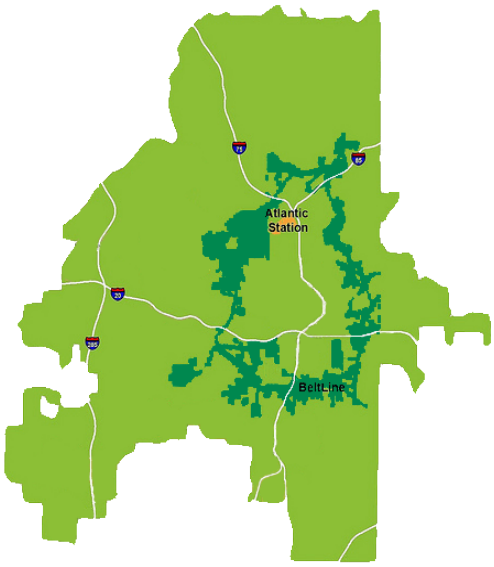


Figure 11: The City of Atlanta, with Atlanta BeltLine Tax Allocation District

The project, as approved by the Atlanta City Council, created the 6,500 acre tax allocation district to finance the infrastructure improvements. It also empowered the Atlanta BeltLine Inc. (ABI), a quasi-governmental redevelopment agency, with authority to buy and redevelop land and its related infrastructure using funding from the tax allocation district and federal, state, local and non-profit grants. Further, created the Tax Allocation District Advisory Committee, a citizen oversight committee with powers to review all use of tax allocation funds). The legislation also stipulated the development and use of the decision support tool in the work of TADAC and ABI. The time horizon envisioned for full development of the project was more than 30 years.

DECISION SUPPORT TOOLS: BACKGROUND

Decision support tools (DST), also known as decision support systems, are interactive computerized systems which compile quantitative data to aid in the decision-making process (Power and Sharda 2009). The intention of these systems is to apply information technology to the decision-making process to increase its efficiency while also improving the quality of the decision (Shim et al. 2002). Research in information technology and organizational decision-making at MIT and Carnegie Mellon in the 1950s and 1960s led to the development of early DSTs in the 1970s (Shim et al. 2002). These early systems were designed for use in addressing problems that may have had some components that could be neatly addressed by a computer, but also had components which were poorly structured, novel, or otherwise difficult to solve. These components required the evaluative capabilities of the human decision-maker, making the DST interactive between human and computer, rather than passive (Shim et al. 2002).

The earliest applications of DSTs were primarily in business, where they were designed for use in making operations and marketing decisions (Power and Sharda 2009). Today, DSTs remain common in business and financial services, but have spread to a variety of other industries. Decision support can be used in many aspects of urban planning and policy. In planning, the development of geographic information systems (GIS) has allowed spatial data to be incorporated into DSTs, which is generally a critical component of DSTs for spatial planning.

Power and Sharda (2009) identify three key characteristics and five main categories of DSTs. A DST must be "designed specifically to facilitate decision processes," aids in but does not automate these processes, and is flexible enough to easily accommodate changes in the user's needs. Power and Sharda categorize DSTs based on the type of assistance being provided as communication-driven, data-driven, document-driven, knowledge-driven or model-driven. Communication-driven DSTs facilitate group decision-making processes through software that aids "communication, scheduling, document sharing, and other group productivity" activities (Power and Sharda 2009). Data-driven DSTs manage, analyze, and manipulate large quantities of data, particularly across time. Document-driven DSTs are used to sort and retrieve unstructured data such as images. The final two categories of DSTs specified by Power and Sharda, knowledge-driven and model-driven, present a problem-solving functionality. These

DSTs contain “knowledge about a particular domain, understanding of problems within that domain, and skill at solving some of these problems” (Power and Sharda 2009). Model-driven DSTs are distinguished by the inclusion of quantitative models for data analysis.

A Decision Support Tool (DST) is a consistent and reproducible process for guiding and evaluating decisions by providing a detailed picture of impacts related to the implementation of a plan or policy. While the scope of the DST is broad depending on where it is applied, the roles of the DST can be summarized as organizing relevant information, spatially resolving actions of the plan, predicting impacts, and generating performance measures.

In recent years, many jurisdictions around the United States have begun to use comprehensive DSTs to help guide their decision making as they redevelop urban areas, make transportation investments, or pursue sustainable development. These efforts have shown the capabilities of properly designed DSTs to guide decision making in a way that promotes community visions and goals, adheres to principles of smart growth and sustainability and is fiscally and operationally sound.

DSTs are particularly useful in situations where there are several plan scenarios and conflicting criteria because it provides a tool to investigate potential benefits of alternative scenarios, compare between scenarios and with the baseline data, identify trade-offs, and most importantly have projects/policies move to meet the stated goals.

BELTLINE DST DEVELOPMENT PROCESS

The Beltline DST builds upon and coordinates with existing or ongoing work regarding sustainable planning, environmental impacts, community benefits, planning activities conducted through BeltLine planning units and study groups, and other components of the community engagement and planning process. The tool organizes relevant information, spatially resolves actions of the plan, predicts impacts, and generates performance measures.

The Beltline DST was developed through a series of steps, including:

- Review and revise the DST development process based on best practices, the beltline planning framework, and engagement with TADAC, ABI, and other stakeholders;
- Assess BeltLine goals and determine metrics consistent with the BeltLine legislation, the Atlanta BeltLine Redevelopment and Subarea Plans, and the ongoing vision for the BeltLine;
- Design the DST framework and structure and develop baseline metrics to identify key issues associated with beltline development, and for comparison with future scenarios;
- Test the DST using two scenarios for future development projects; and
- Revise the DST in response to feedback from TADAC and ABI.

Provision for Decision Support Tool in Atlanta Ordinance 05-O-1733 Creating the Beltline Tax Allocation District

---

“The (TAD) Advisory Committee shall be responsible for developing and implementing a "decision making support tool" designed to measure the impact of the BeltLine project and ensure accountability for effective and equitable implementation of the project. By way of description only, the "decision making support tool"

should address such factors as balanced development, poverty reduction, income, educational achievement, land use, historic preservation, density, growth, park usage, trail usage, water quality, traffic, sewer capacity, community involvement/civic engagement, retail growth, health measures, cultural considerations, and environmental impacts.”

REVIEW AND REVISE THE DST DEVELOPMENT PROCESS BASED ON BEST PRACTICES, THE BELTLINE PLANNING FRAMEWORK, AND ENGAGEMENT WITH TADAC, ABI, AND OTHER STAKEHOLDERS

The BeltLine legislation identified 18 variables of concern to achieve the vision and goals of the BeltLine. The initial vision was described in the Atlanta BeltLine Redevelopment Plan, prepared by the Atlanta Development Authority in 2005. However, the economic, financial, and social environments have rapidly changed since the Atlanta BeltLine Redevelopment Plan was initially proposed. The project team therefore reviewed the current body of plans, activities, decisions and dialogue related to the BeltLine to determine how the DST strategy and approach need to be refined.

The DST is structured to include analysis at three levels. The first level focuses on contribution and consistency with the overall vision and goals of the Atlanta BeltLine, as primarily identified within the 2005 Atlanta BeltLine Redevelopment Plan. These include:

- Promote a more economically vibrant city through mixed-use development along the BeltLine corridor, including economic development (30,000 jobs), neighborhood revitalization, and workforce housing (5,600 new units);

- Create strategic Activity Centers (nodes of intense development);
- Increase access and connectivity in the redevelopment area and surrounding neighborhoods through pedestrian-friendly transit, complete streets, and trails, linking this system to the larger regional network (MARTA; Peachtree-Auburn Streetcar);
- Create a connected system of greenspace, with over 1,200 acres of new or expanded parks;
- Create sustainable neighborhoods through environmental remediation, preservation of single-family neighborhoods and historic buildings, and appropriate transitions to higher density uses; and
- Promote the tax base.

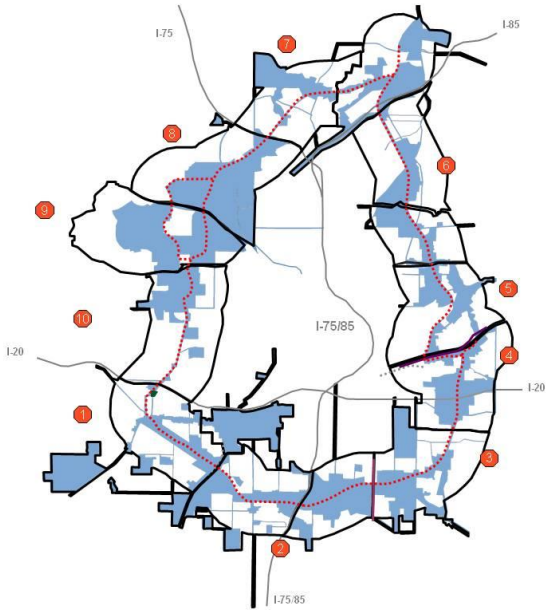


Figure 12

The second level of assessment evaluates the degree to which proposals contribute to and are consistent with Subarea visions and goals. For purposes of planning and redevelopment, the BeltLine is divided into ten subarea planning districts. Each of these planning districts includes a segment of the BeltLine, the TAD associated with the segment, and that part of the neighborhood not included in the TAD extending out approximately one-half mile on either side of the BeltLine. These areas are shown in Figure 12.

Planning for each of the subareas proceeded, based on the overall goals of the BeltLine, conditions unique to each subarea, and community concerns, opportunities, and challenges. By 2012, all ten of the subarea plans had been approved. These plans provide more detail as to redevelopment goals and objectives for specific areas of the BeltLine, and therefore will provide significant guidance to development projects and other investments.

Figure 13: DST Goals Matched to Data Needs

The third level of assessment focuses on particular aspects of the BeltLine vision that operationalize the sectoral (e.g., housing, greenspace) and functional (e.g., accessibility, healthy living) goals of the BeltLine, both for the system as a whole and for the subareas. It is at this level of assessment that goals are operationalized through the identification of particular variables and indicators, and the construction of a database and presentation tool that helps identify patterns around and focus users attention onto issues of concern.

ASSESS BELTLINE GOALS AND DETERMINE METRICS CONSISTENT WITH THE BELTLINE LEGISLATION, THE ATLANTA BELTLINE REDEVELOPMENT AND SUBAREA PLANS, AND THE ONGOING VISION FOR THE BELTLINE

The scope and format of the DST was developed in collaboration with TADAC, ABI and other stakeholders. Specific problems and needs for the BeltLine areas and each project to achieve the goals and visions of the BeltLine were identified. Potential variables to address problems and impacts of projects were then determined, starting with the 18 factors identified in the legislation. A list of over a hundred potential variables were generated. Proposed variables were examined in terms of their usefulness in assessing BeltLine goals and costs for obtaining the data and calculating the variables. The DST's structure required consideration about the purpose, decision process, and data needs of the DST. It was determined that the DST would:

- Support decisions about the strategic, system-wide level and the single project, comparative level.
- Provide for the needs of the lay members of TADAC and stakeholder users by supporting the DST with technically competent staff
- Provide outputs that highlighted differences and facilitate comparison of metrics

- Focus on variables and indicators of greatest import to TADAC and ABI decision making, thereby reducing the number of indicators to a manageable quantity.
- Maximize use of public databases rather than proprietary databases.
- Employ standard metrics to promote comparability between projects and to identify base conditions.
- Employ metrics that facilitate understanding of the impacts of projects.

DESIGN THE DST FRAMEWORK AND STRUCTURE AND DEVELOP BASELINE METRICS TO IDENTIFY KEY ISSUES ASSOCIATED WITH BELTLINE DEVELOPMENT, AND FOR COMPARISON WITH FUTURE SCENARIOS

BeltLine goals were operationalized through seven criteria, each of which focused on a particular condition that the BeltLine sought to create. These are as follows:

- Accessibility
- Healthy, Active Living
- Economic Vibrancy
- Greenspace & Environment
- Sustainable Housing & Community Design
- Diverse Built Environment & Vibrant Tax Base
- Social & Environmental Equity

Each of these desired conditions was in turn linked to a set of four indicators, as follows:

Criteria	Indicators
Accessibility	Street connectivity
	Prevalence of sidewalk network
	Uncongested roads (LOS = C or better)
	Travel speed via transit
Healthy, Active Living	Walkability
	Physical activity
	Safety (few crimes)
	Proximity to healthy food
Economic Vibrancy	Income
	Employment
	Retail & industrial activities
	Educational achievement
Greenspace & Environment	Access to greenspace & trails
	% canopy cover
	Environmental sustainable design
	Water quality
Sustainable Housing & Community Design	Housing choice
	Health of housing market
	Affordability
	Density
Diverse Built Environment & Vibrant Tax Base	Tax base
	Art & historic preservation
	Land use mix (entropy scores)
	Compatibility with subarea plans
Social & Environmental Equity	Minority & special needs populations
	Historic expenditures by ABI
	Environmental quality
	Civic engagement

Table 8: Criteria and Indicators Used in the DST

The Decision Support Tool (DST) is designed to support visual comparisons that allow the user to identify pattern and areas of particular opportunity or concern, as well as to conduct Multi-Criteria Decision Analysis that can be used to identify the strength and weaknesses of each project and help determine the priorities for implementation.

The DST is built from three different tools: a database that stores raw data used to calculate variables, a Geographic Information System (GIS) that converts raw data into spatially useful data and outputs this spatially clipped data into a second database, and the user interface and prioritization tool that is used to present the data in formats that reveal patterns and make possible the Multi-Criteria Decision Analysis. Both the sources of these data and their implementation are discussed below.

The DST requires diverse variables. Most variables may be clearly measured with numeric values, but some variables may not. For example, quantitative measures of historic preservation, community involvement/civic engagement, and cultural considerations would not capture the properties of most value to decision making and should be approached by qualitative analysis. Qualitative analysis requires research into specific conditions because such data does not currently exist. In addition, such data requires professional assessment to interpret results.

The design, conduct and interpretation of such research is more subject to researcher bias and error than is quantitative research, but it also offers rich detail and context that is needed for valid conclusions and action. Qualitative analysis can complement quantitative analysis by representing lived experiences and needs of the residents.

TEST THE DST USING TWO SCENARIOS FOR FUTURE DEVELOPMENT PROJECTS

The project team's Beta version of the DST was tested using two projects mutually selected by TADAC and ABI. The first hypothetical test project focused on the potential construction of three segments of the BeltLine identified by ABI as likely next additions to the trail system. The second project focused on one of the potential higher intensity activity centers identified by the plan, namely the redevelopment of Ansley Mall.

REVISE THE DST IN RESPONSE TO FEEDBACK FROM TADAC AND ABI

The tool was evaluated and improved based on Beta test results and feedback from TADAC and ABI staff. The review covered the overall structure of the DST, the variables included and their presentation within the DST, and the results of the test cases. Based on this meeting, the DST was revised and finalized, and ABI staff was trained in the operational management of the DST.

DATA SOURCES, MANAGEMENT, AND ANALYSIS

In this section we present the way in which the Decision Support Tool is configured. This will include an examination of the data sources, their incorporation into a unified database, the analytic techniques used to generate DST variables, and the organization of the interface used by TADAC, ABI, and other participants in the decision making process.

DATA SOURCES

Data for the variables used in the DST were derived from a wide array of sources. These include:

- the 2010 decennial US Census and the American Community Survey (ACS) socio-economic data.
- Claritas (a proprietary database) data on the location of commercial and industrial businesses, number of employees, value of business and similar data.
- GIS base maps from multiple sources locating street and railroad networks, jurisdictional lines, building permits, brown fields, flood risk zones, impervious surfaces, park and trails, tax parcels, Atlanta BeltLine Inc. TAD and Subarea Plan boundaries, crime data by location, property assessments, tree coverage, capacity of roads and actual traffic volumes for different times of the day and week, and functionality for estimating the length of time to travel from any point in the city to any other point in the city using transit.

DATA TYPES

Each of these databases uses its own distinct system for organizing the data provided. These data take three general forms: polygon, line, and point. Polygon data provide attributes associated with areas defined by vectors. Examples include block, block group, and tract data for the census and ACS and land use data provided by the City of Atlanta. To be useful, the information provided within these databases must be remapped to the geography of interest to users of the DST. For baseline data, this primarily means remapping data to match the boundaries of the BeltLine subarea planning boundaries.

Polygon data that delineate boundaries based on the actual conditions found in those locations, such as land use data, can be easily linked to boundaries used in the DST. On the other hand, attributes associated with polygons represent averaged data across fixed geographies, such as census block groups, are more difficult to translate into the subarea boundaries. To manage this, block groups that cross subarea boundaries were divided into smaller units to match the subarea boundaries.

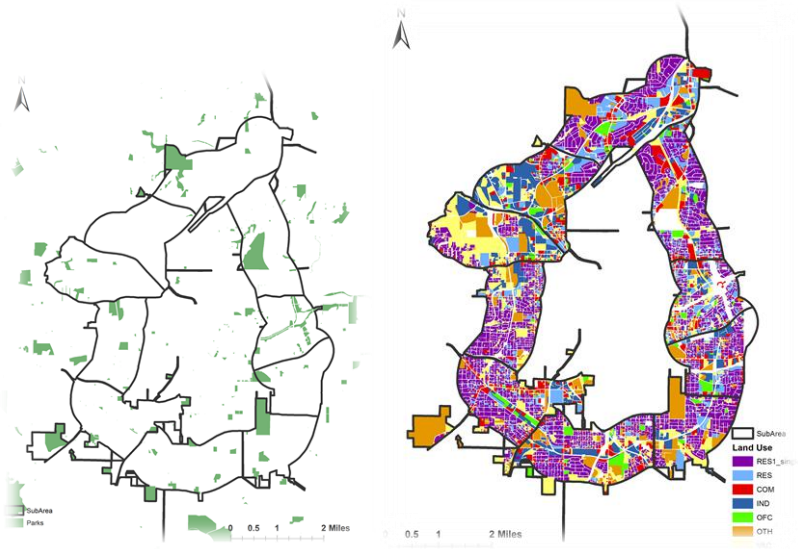


Figure 14: Parks and land use as examples of polygons that corresponds directly to their location

Figure 15: Block Groups Matched to Subarea Boundaries shows the resulting subarea and reconfigured block groups. Unique identifiers were created to link block group data to the subarea-constrained block groups. Data attributes associated with the block groups were then distributed to the segment of the block group that was contained within the subarea. Attributes based on simple percentages were carried over to the subarea-constrained segments. Attributes based on numbers were allocated based on its proportion of the total block group population (calculated based on the census block data, which provides population by block).

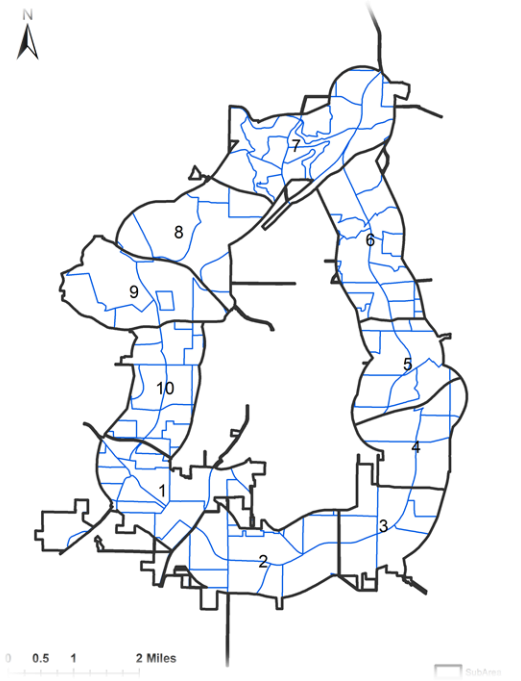


Figure 15: Block Groups Matched to Subarea Boundaries

Rasterized data, such as is used to indicate tree canopy cover, can be easily converted into polygon data, simply by averaging the values of all rasterized pixels located within the boundaries of the polygon, accounting for the percent of a rasterized pixel that falls within the polygon for those pixels split by a boundary. Secondly, data can be provided as attributes of lines. Examples of line data include street and sidewalk segments. Such data must be converted into attritues that can be linked to the subarea polygons in order to be comparable to the polygon data. As long as line segments are short relative to the size of the polygons into which they fit, extensions beyond the boundaries of the polygon will be of little consequence. In the case of both road and sidewalk data, the segments largely correspond to blocks. The data was therefore converted to polygons in the same manner as was rasterized data.

Thirdly, data can be provided as points. Point data that provides specific locations for particular attributes, such as data that identifies the location of each crime, poses little difficulty. Crimes were mapped, designated to a particular subarea or project area, and used to calculate the total number of crimes for that area.

Other point data, however, poses more difficulties. Consider, for example, calculations that must be made to estimate the average length of time needed to travel by transit from a subarea to other places in the city. For each subarea, an infinite number of potential starting places, and potentially an equally infinite number of destinations, exist. This is also true for walkability scores, distance to parks or healthy food, and street connectivity measures (metric reach). To calculate such measures, the research team imposed a sampling protocol onto each subarea, and used the sampling points as places to calculate all variables. In each subarea, points were selected one quarter of a mile in from the

subarea boundary, with a point selected one quarter of a mile out from the BeltLine on each side. Each subarea thus starts with four sample points located near the BeltLine ingress and egress boundaries of the subarea. Additional sample points are rendered on both sides of the BeltLine at one half mile intervals moving toward the center of the subarea until such time as additional points cannot be added without locating them within one half mile of each other.

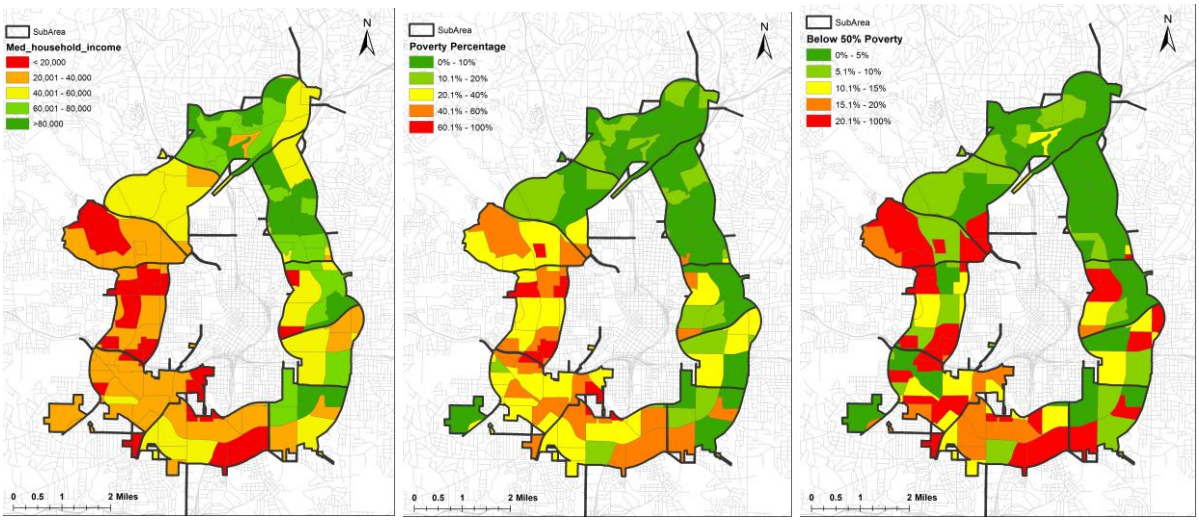


Figure 16: Three examples of polygon data, showing median household income, percent below poverty, and percent below 50% of poverty.

This protocol establishes sampling points that are generally one-half mile from each other (an easy walking distance from one to the next) with a clear pattern established around the BeltLine but extending out past the edge of most subareas. This, of course, has implications for the data that needs to be available for analysis of the variables estimated through these points. While data stored in the database for polygon and line data can be clipped to the boundaries of the subareas, data used for point estimates must extend beyond subarea boundaries.

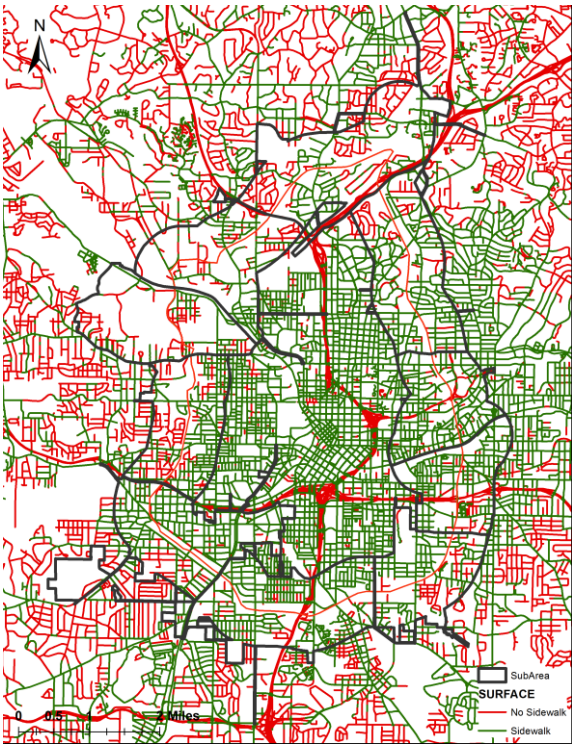


Figure 17: Sidewalk data presented as line data.

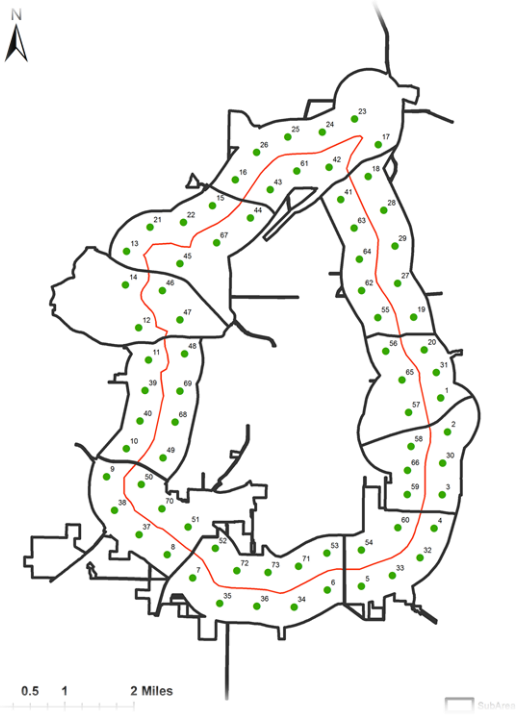


Figure 18: Sampling points located within each subarea.

DATA MANAGEMENT AND ANALYSIS

Data is organized for two types of analysis: baseline and project-specific. Baseline data is intended to be used by decision makers to understand overall patterns within the BeltLine planning areas, and is amalgamated to the scale of Subareas. Project-specific data is calculated at a finer grain for those variables where a more localized perspective is important. (e.g., road congestion and walkability) and where the base data is provided at the appropriate level of detail.

To enable analysis at the subarea and project levels, all data is incorporated into a GIS database. As discussed in the previous section, this requires strategies for allocating data when a boundary of the polygons or lines to which the source data is attributed extends beyond the boundary of the subarea or project area.

Because GIS is used to align data provided at different scales and of different types, maps of the resulting variables can be produced for most variables incorporated into the DST. These maps (shape files) are not considered to be an integral component of the DST, but will often prove useful in deliberations and in participatory settings.

For purposes of the DST, the GIS is primarily used to calculate values for each variable at either the Subarea or project level. These data are exported into an Access database in tabular format. Calculations needed to create the variables are then conducted either within the Access database itself for simple variables (e.g., acres of park per capita) or modeled in stand-alone Access or Excel spreadsheets for more complicated variables (e.g., walkability). The variables that are produced by these external models are exported back to the Access database, which serves as a central repository for variables.

Finally, after calculations are completed, base variables are exported into an Excel spreadsheet which serves as the user interface.

INDICATORS AND DATA VARIABLES

As noted above, BeltLine goals were operationalized as seven criteria, each focused on a particular condition that the BeltLine seeks to create. These are as follows:

- Accessibility
- Healthy, Active Living
- Economic Vibrancy
- Greenspace & Environment
- Sustainable Housing & Community Design
- Diverse Built Environment & Vibrant Tax Base
- Social & Environmental Equity

The DST supports analysis of these seven criteria with four indicators each, for a total of 28 indicators. In this section we examine seven of these indicators as examples of the kinds of analysis needed to create the DST.

STREET CONNECTIVITY

ABI and TADAC seek to improve accessibility as a core objective of the BeltLine. In particular, the BeltLine plan seeks to enhance accessibility through improvements to transit, pedestrian and bike pathways, and street connectivity.

Street connectivity is measured based on Metric Reach. Metric Reach is defined as the total length of streets that can be reached from a single point up to 0.5 mile in all directions based on the street network. Metric Reach measures network density and the extent to which streets are connected: the greater the density and connectivity, the higher the value.

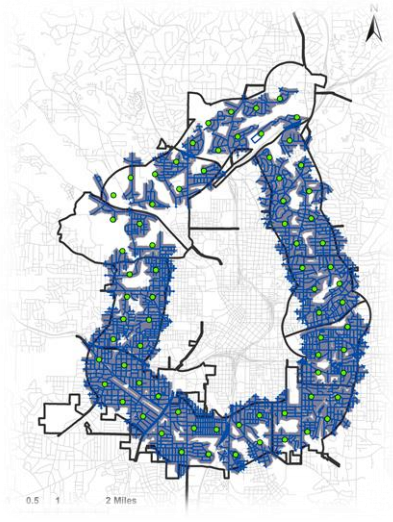


Figure 19: Street connectivity as measured by metric reach

The optimum walking block size is approximately 330' along each side, which produces a 1/16 mile by 1/16 mile grid street system. A district composed of blocks this size will generate a metric reach score of 16.

In the DST, the street connectivity indicator is calculated as 100*MetricLength/16. The formula will yield a value of 100 when block size and street connectivity is optimized for walking. Values above 100 (smaller block sizes with greater intersection density) generally continue to improve street connectivity, but few modern cities have block sizes this small. Atlanta has no district with block sizes consistently this small, although parts of Midtown have at least some blocks in this range.

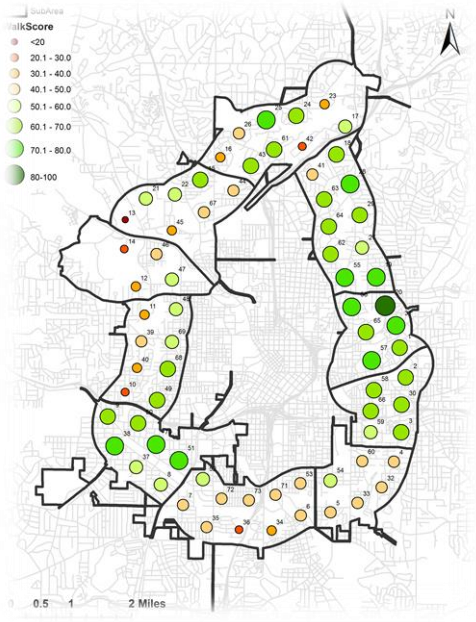


Figure 20: Walkability Index

The variable is calculated based on the street network dataset from City of Atlanta.

TRAVEL SPEED VIA TRANSIT

Transit travel speed is measured based on the average speed of a person taking transit (including walking but not waiting time) to travel from a point of estimation to the Five Points MARTA subway station in downtown Atlanta. Five Points was used as the point of destination because it is centrally located relative to the BeltLine and it serves as the most significant connecting hub in the MARTA system. Points of origination are the sampling points located within each subarea, as described above. Travel time was calculated in Google Map's 'Get Directions by public transit'. The data is acquired using a weekday afternoon schedule. The standard (value = 100) is set in comparison with driving time to Five Points. This time is averaged for the BeltLine at 16 minutes (based on 12 min. average driving time between the points of origination and Five Points, plus four minutes to park and walk to the station). Transit travel time is calculated as equal to 100/(ActualTravelTime/16). Thus, a score of 100 means that transit is as fast as driving.

WALKABILITY

Through improvements in urban design and significant enhancements in trails, connectivity, and greenspace, the BeltLine seeks to promote a more active, healthy life style amongst residents, workers, and visitors.

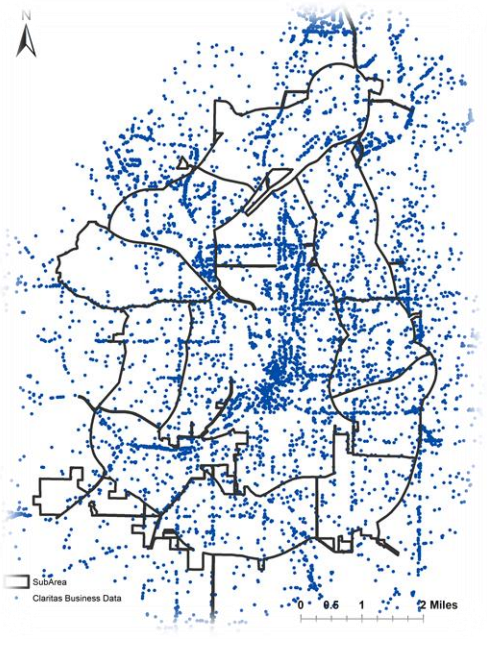


Figure 21: Location of Businesses, Extracted from Claritas Database

Walkability is measured as the distance from an estimation point to amenities that research indicates activates walking. Amenities (groceries, restaurants, shops, coffee shops, banks, parks, schools, book stores, and entertainment) are weighted by their significance as inducers of walking and multiplied by a decay function based on distance, up to 1.36 miles in distance. All amenities within 1.36 miles of any estimation point are identified and the distance from each amenity to each estimation point is calculated based on network distance. The resulting matrix is then sorted in Excel for each estimation point, and amenity weights and distance decay applied for each relevant amenity. Resulting measures are added to yield the total score. The maximum potential score using this methodology is 15. All raw scores are divided by 15 and multiplied by 100. A score of 100 therefore indicates a neighborhood with an extensive array of amenities to which people walk. Note that the walkability measure closely replicates the system used by walkscore.com. While it is possible to use the walkscore.com site to estimate walk scores equivalent to the ones we estimate, the walkscore.com site does not enable you to alter the street network or the amenities, and hence cannot be used to estimate changes in walk scores as a result of new projects. In order to allow for consistency in comparison between existing and new measures, both the baseline and changes introduced by new projects are calculated from raw data in an equivalent manner.

Also note, the walkability measure does not actually measure the quality of the paths and sidewalks along which people walk or the topography of the terrain. While these can affect walkability, little research has been conducted to indicate their impact. Moreover, walkable amenities tend to congregate in walkable terrain.

PROXIMITY TO HEALTHY FOOD

Access to healthy foods is considered an important component of healthy living. Unfortunately, several sections of the BeltLine are currently in food deserts, areas with little or no close proximity to sources of healthy food. Distances to healthy food are estimated from the subarea sampling points using Claritas dataset to identify Supermarkets and Grocery (except Convenience) Stores); Meat Markets; Fish and Seafood Markets; and Fruit and Vegetable Markets. Estimates are made based on network distance to the nearest market, with 100 set to an average of .25 miles or less and 0 set to an average of 1 mile or greater.

LAND USE MIX

The BeltLine seeks to promote redevelopment that provides for mixed uses and densities. To measure this diversity, an entropy score was constructed based on five land use classes: single family, multifamily, retail/entertainment, office/institutional/ education, and industry. The measure is calculated as follows:

$$\textit{Land Use Mix} = (-1)*[(b1/a)*\ln(b1/a) + (b2/a)*\ln(b2/a) +(b3/a)*\ln(b3/a) +(b4/a)*\ln(b4/a) +(b5/a)*\ln(b5/a)]/\ln(5)$$

where

a = total square feet of all land uses
b = total square feet of specific land use, and
b1 = single family residential
b2 = multi-family residential
b3 = retail, entertainment
b4 = office, institutional, education
b5 = industrial

This measure is then multiplied by 100, with resulting values ranging from 1 (all land use is in one of the land use categories only) to 100 (each of the five land use categories contains 20% of the total land available).

COMPATIBILITY WITH SUBAREA PLANS

All subarea plans have been approved and should therefore guide future development. Judgments about the degree to which a proposal conforms to subarea plans can be assessed through professional and community judgments. As such, this measure will largely be based on qualitative assessments, and can be assessed only in the context of actual proposals.

These six variables give a sense of the design and calculation of indicators included in the DST. A complete list of the 28 indicators are more briefly described in the next section.

SUMMARY OF VARIABLES AND THEIR DATA SOURCES

A summary of the variables incorporated into the DST, their description, and their sources is provided in the following table.

Variable Name	Description	Source of Base Data
Pop_total	total population	census 2010
PopDense_SqMile	population density: persons/sq mile	census 2010
Metric_Length_mile	The total length of streets reached from a single point up to 0.5 mile in all directions based on street network is defined as metric reach	Atlanta street network from CQGRD database
Sidewalk_ratio_SBA	Streets with sidewalks, %	Impervious Surface-sidewalk, City of Atlanta GIS data
Congestion_V_CR	The percent of lane miles wherein volume over capacity exceeds Level of Service D (LOS D or F, in which V/C >0.75 and 1.00 respectively)	Atlanta street network from CQGRD database; Volume and Capacity data from Georgia DOT and Atlanta Regional Commission
Travel_5point_mins	Time to Five Points MARTA	Google Map
WalkScore	Walkability score	Claritas Data

Park_distance	Distance from major park and trail	City of Atlanta GIS data
VioCrime	Violent crimes, rate per 1,000 residents	City crime data
ProptyCrime	Property crimes, rate per 1,000 residents	City crime data
supermarket_distance	Distance to nearest major supermarket or farmers market	Claritas Data
Med_hs_income	Median household earnings in the spatial unit	ACS
Pov_Total_PCT	% of Population below poverty line	ACS
POV_bel50_PCT	% of Population below 50% poverty line	ACS
total_JOBs	total number of jobs	Claritas Data
Jobs_Acre	jobs / acre	Claritas Data
SumOfRetailNo	# of retailing establishments	Claritas Data
IndustryEstabNO	# of Industry establishments	Claritas Data
OfficeEstabNO	# of office establishments	Claritas Data
NonFamPermit_Acre	Non-housing permit / acre	Building Permit, City of Atlanta GIS data
POP_HIGHgrad_PCT	High school grads, %	ACS
POP_BACHOR_PCT	College grads, %	ACS
Park_25mile	Residents w/in .25 miles of greenspace	Park and trails, City of Atlanta GIS data
Park_Pop_000	Park acres/1000 population	Park and trails, City of Atlanta GIS data
Tree_ratio	tree coverage ratio	Georgia Land Use Trends Canopy Cover of Georgia 2008,Natural Resources Spatial Analysis Laboratory
Impervious_raio	Impervious surface ratio	Impervious Surface, City of Atlanta GIS data
HSING_1uATT_PCT	Single-family attached housing units, %	ACS
HSING_24u_PCT	Multi-family 2-4 units, %	ACs
HSING_5PLUS_PCT	Multi-family 5+ units, %	ACS
HSING_occpy_PCT	housing Occupancy rate	ACS
FamPermit_Acre	housing Building permits/ acre	Building Permit, City of Atlanta GIS data
Med_own_mcost	Median home owner monthly cost (percentage)	ACS
MedRent	median rent	ACS
Pop_Dense_Acre	population density: persons/acre	census 2010
MultiFamily	multi-family percentage	ACS
TotalPropertyValue	total property value	TAX Parcels, City of Atlanta
LandUse_Mix	Land use mix indicator	TAX Parcels, City of Atlanta
Pop_Minor_PCT	Minorities, %	census 2010
Pop_HISP_PCT	Hispanic, %	census 2010
Pop_15_PCT	<15 years, %	census 2010
Pop_over60_PCT	>59 years, %	census 2010
Brownfiled_mile	# of Brownfields per mile along beltline	Brown field, City of Atlanta
Pct_H_Spot	air pollution hot spot zone %	% area within 100 Meters of road w/10K vehicles per day to 200m of 50K road; 200m of freight yards
Flood_ratio_SBA	Environmental hazards- floods %	Flood risk zone, City of Atlanta

Table 9: Variables: Descriptions and Sources of Data

DST USER INTERFACE

The user interface for the Decision Support Tool is structured within an Excel spreadsheet. Excel, rather than Access, was used because of users' widespread familiarity with its basic functions and operations.

The user interface consists of six modules:

1. Subarea baseline data input: data concerning Subarea baseline conditions are transferred from the Access database into the spreadsheet on this page. Calculations necessary to convert input data into metrics standardized to a 100 point scale for each indicator are conducted, with results displayed numerically.

2. Project data input: data concerning proposed projects are transferred from the Access database into the spreadsheet on this page. Calculations necessary to convert input data into metrics standardized to a 100 point scale for each indicator are conducted, with results displayed numerically.
3. Weights: users can adjust weights assigned to the seven sets of indicators as well as the four indicators within each set, to emphasize specific indicators in the overall multi-criteria decision analysis.
4. Display input metrics: Presents the 28 indictors calculated in the baseline and project input spreadsheets. Calculates the seven weighted criteria (indicator sets) and the overall project score based on the weights assigned.
5. Display all metrics: Displays all 28 indicators (baseline and project) visually using a key to highlight relative differences and changes from baseline to project conditions.
6. Display summary metrics: Displays the seven criteria (indicator sets) and total project weighted scores visually using a key to highlight relative differences and changes from baseline to project conditions.

Figure 13 provides an example of the visual display of data outputs.

				Accessibility				Healthy, Active Living			
Project Name	Alt. #	Beltline Subarea	Condition	Street connectivity	Prevalence of sidewalk network	Uncongested roads (LOS = C or better)	Travel speed via transit	Walkability	Physical activity	Safety (few crimes)	Proximity to healthy food
		1	1-Subarea Background	46	96	86	70	67	70	28	83
		2	1-Subarea Background	41	95	79	70	42	81	34	59
		3	1-Subarea Background	36	96	94	61	46	74	73	70
		4	1-Subarea Background	49	96	81	83	63	74	63	75
		5	1-Subarea Background	42	98	82	86	72	89	60	82
		6	1-Subarea Background	33	96	56	54	63	74	80	70
		7	1-Subarea Background	18	87	71	44	53	71	83	32
		8	1-Subarea Background	22	91	59	48	44	46	73	46
		9	1-Subarea Background	22	89	73	62	40	82	82	70
		10	1-Subarea Background	40	94	60	81	49	79	14	77
East Side Trail, South	1	4	1-Subarea Background	49	96	81	83	63	74	63	75
			2-Project Area Background	52	96	83	84	65	80	70	92
			3-Built Project	55	100	83	84	68	82	70	92
			4-Difference from Subarea Background	5.4	3.7	2.0	1.5	5.1	8.1	7.3	16.9
			5-Change from Project Area Background	2.4	3.7	0.0	0.0	3.2	1.9	0.0	0.0
West End Trail, North	2	10	1-Subarea Background	40	94	60	81	49	79	14	77
			2-Project Area Background	42	93	70	86	49	76	12	75
			3-Built Project	43	100	70	86	50	80	12	75
			4-Difference from Subarea Background	3.3	6.8	9.9	5.2	1.0	0.8	-2.1	-1.7
			5-Change from Project Area Background	1.1	7.1	0.0	0.0	0.5	3.5	0.0	0.0
West End Trail, South	3	1	1-Subarea Background	46	96	86	70	67	70	28	83
			2-Project Area Background	45	95	84	74	58	77	-7	90
			3-Built Project	46	100	84	74	59	81	-7	90
			4-Difference from Subarea Background	2.5	4.2	2.0	3.5	4.7	5.5	-38.0	19.2
			5-Change from Project Area Background	1.6	4.6	0.0	0.0	1.3	4.1	0.0	0.0
Ansley Mall	1	6	1-Subarea Background	33	96	56	54	63	74	80	70
			2-Project Area Background	28	92	40	56	70	79	86	70
			3-Built Project	36	100	39	56	75	88	86	77
			4-Difference from Subarea Background	3.4	3.6	-17.1	1.7	11.8	14.3	6.1	6.6
			5-Change from Project Area Background	8.0	7.7	-1.3	0.0	5.2	9.7	0.0	7.4

Figure 22. Module 5, Visual Display of Indicators for Subareas and Projects

CONCLUSIONS AND NEXT STEPS

The decision support tool (DST) was designed to support TADAC, Atlanta BeltLine Inc., and stakeholders in process and program decisions, helping to clarify and enumerate the goals, objectives, and vision for the BeltLine, and allowing scenarios to be compared on their ability to effectively and equitably realize that vision.

As noted above, the DST is a process, rather than a tool box, in which each actor communicates to determine the best solution or scenario. The process of the DST has to date been divided into four stages. In the first stage, the vision and goals of the BeltLine were identified, and a strategy set to achieve the identified vision and goals. Baseline goals for the BeltLine and the Subareas were largely identified within the context of planning for the 2005 Atlanta BeltLine Redevelopment Plan, the ten Subarea Plans, and their various revisions. In the second stage, the guiding principles, applications, and overall framework for the DST were developed through a consensual process with TADAC, ABI, and other stakeholders. Third, using this strategy and framework, a way to measure and analyze possible decisions was created using demographic, economic, fiscal, transportation, and health and environmental impact metrics. Finally, the model was developed and tested.

This paper described the background for the project, outlined the framework and structure of the DST model, and explained the working of the model. Continuing into the future, five essential functions must be met.

First, the databases used to create the variables and indicators must be updated on a regular schedule. The schedule varies by variable and the timeliness with which data is refreshed.

Secondly, data for project proposals must be collected, incorporated into the model, and analyzed. This must be done for each proposal, and for each alternative being considered to that proposal. Both the number of proposals being considered by TADAC and ABI and the complexity of their alternatives will vary considerably year by year.

Thirdly, baseline conditions must be updated on an annual basis to incorporate new data. This will provide a current perspective as to conditions facing each subarea, providing a record for assessing trends over time and allowing TADAC, ABI, and stakeholders to better understand current trends.

Fourth, the DST itself should be evaluated and improved over time. This includes its framework, variable list, data protocols, indicators, and analytic techniques. Changes should be made in response to experience in using the DST and user needs and feedback.

Finally, the ongoing use and management of the DST will require technical support. The DST consists of a complex array of background databases and GIS capabilities. The User Interface, while intended for stakeholder use, will require an operator with detailed familiarity with its functions and operations.

REFERENCES

Alexander, Ernest. (2007) “Sensitivity Analysis in Complex Decision Models.” Journal of the American Planning Association. 55:3, 2007.

Andrienko, G., N. Andrienko, and P. Jankowski (2003). “Building Spatial Decision Support Tools for Individuals and Groups.” Journal of Decision Systems 12 (2): 193-208.

Antunes, C.H., Almeida, L.A., Lopes, L. & Climaco, J.N. (1994). A Decision Support System Dedicated to Discrete Multiple Criteria Problems. Decision Support Systems 12, 327-335.

Arampatzis, G., C.T. Kiranoudis, P. Scaloubacas, and D. Assimacopoulos (2004). “A GIS-based decision support system for planning urban transportation policies.” European Journal of Operational Research 152: 465-475.

Armstrong, M (1994). “Requirements for the development of GIS-based group decision-support systems.” Journal of the American Society for Information Science 45(9): 669-667.

Atlanta Development Authority. (2005). Atlanta BeltLine Redevelopment Plan.

Atlanta Development Authority. (2006). Atlanta BeltLine Project: Plan of Work for 2006-2010 Budget.

Bedard, Y., P. Gosselin, S. Rivest, M.-J. Proulx, M. Nadeau, G. Lebel, and M.-F. Gagnon (2003). “Integrating GIS components with knowledge discovery technology for environmental health decision support.” International Journal of Medical Informatics 70(1): 79-94.

Bhargava, H.K., D. Power, and D. Sun (2007). “Progress in web-based decision-support technologies.” Decision Support Systems 33(4)(2007): 1083-1095.

Brans, J.P. & Vincke, P. (1985). A Preference Ranking Organization Method: The PROMETHEE Method for Multiple Criteria Decision-Making. Management Science 31(6), 647-656.

Campbell, H.E. & Brown, R.P.C. (2003). Benefit-Cost Analysis: Financial and Economic Appraisal Using Spreadsheets, Cambridge University Press.

Cao, D., Leung, L.C., & Law, J.S. (2008). Modifying Inconsistent Comparison Matrix in Analytic Hierarchy Process: A Heuristic Approach. Decision Support Systems 44, 944-953.

Center for Quality Growth and Regional Development (CQGRD), Georgia Institute of Technology. (2008). Hospitals and Community Health HIA: A Study of Localized Health Impacts of Hospitals, sponsored by Robert Wood Johnson Foundation.

Center for Quality Growth and Regional Development (CQGRD), Georgia Institute of Technology. (2007). Atlanta BeltLine Health Impact Assessment, sponsored by the Robert Wood Johnson Foundation.

Center for Quality Growth and Regional Development (CQGRD), Georgia Institute of Technology. 2008. Atlanta BeltLine Decision Support Tool: Strategic Planning Session (Final report). Prepared for the BeltLine Tax Allocation District Advisory Committee (TADAC).

Chen, Y., Kilgour, D.M., & Hipel, K.W. (2008). Screening in Multiple Criteria Decision Analysis. Decision Support Systems 45, 278-290.

Chowdhury, R.K. & Rahman, R. (2008). Multicriteria Decision Analysis in Water Resources Management: The Malnichara Channel Improvement. International Journal of Environmental & Science Technology 5(2), 195-204.

Dyer, R.F., & Forman, E.H. (1992). Group Decision Support with the Analytical Hierarchy Process. Decision Support Systems 8, 99-124.

Frank, L.D., Sallis, J.F., Conway, T.L., Chapman, J.E., Saelens, B.E. & Bachman, W. (2006). Many Pathways from Land Use to Health: Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality. Journal of the American Planning Association 72(1), 75-87.

Fulcher, C., Barnett, Y., and Barnett, C. (2002). Spatial Analysis Software Tools for Community Decision Support. Proceedings: The Center for Spatially Integrated Social Science (CSISS) Specialist Meeting on Spatial Data Analysis Software Tools, Santa Barbara, CA, May 10, 2002.

Geertman, S. and J. Stillwell (2002). “Planning support systems: an inventory of current practice.” Computers, Environment and Urban Systems 28(2004):291–310.

Geneletti, D., Bagli, S., Napolitano, P., and Pistocchi, A. (2007). Spatial Decision Support for Strategic Environmental Assessment of Land Use Plans. A Case Study in Southern Italy, Environmental Impact Assessment Review 27, 408-423.

Hajkowicz, Stefan A., Geoff T. McDonald and Phil N. Smith. “An Evaluation of Multiple Objective Decision Support Weighting Techniques in Natural Resource Management.” Journal of Environmental Planning and Management. Vol. 43, Iss. 4, 2010.

Holz, Linda, George Kuczera and Jetse Kalma (2007). “Multiple criteria decision making: Facilitating a learning environment” Journal of Environmental Planning and Management. 49(3).

Industrial Economics, Inc. (1998). Applying Decision Support Tools for Eco-Industrial Park Planning: a Case Study in Burlington, Vermont.

Johnson, P. and Lachman, B. (2001). Rapid Scan of Decision Support System Tools for Land-Use Related Decision Making.

Kapelan, Z., D. A. Savic, and G. A. Walters (2005). “Decision-support tools for sustainable urban development.” Engineering Sustainability 158(ES3) :135-142.

Keysar, E. and A.R. Pearce (2007). “Decision Support Tools for Green Building: Facilitating Selection among New Adopters on Public Sector Projects.” Journal of Green Building 2(3): 153-171.

Mabin, V., G. King, M. Menzies, and K. Joyce (2001). “Public Sector Priority Setting Using Decision Support Tools.” Australian Journal of Public Administration 60(2): 44–59.

O’Looney, J. (2001). Sprawl decisions: A Simulation and Decision Support Tool for Citizens and Policy Makers, Government Information Quarterly 18, 309-327.

Pawlak, Z (1997). “Rough set approach to knowledge-based decision support.” European Journal of Operational Research 99(1): 48-57.

PolicyLink (2006). Building the Line to Equity: Six Steps for Achieving Equitable Transit Oriented Development in Mass.

Power, D.J., and R. Sharda (2009). “Decision Support Systems.” In Springer Handbook of Automation 2009, Part I, 1539-1548.

Pries-Heje, J., and R. Baskerville (2008). “The design-theory nexus.” MIS Quarterly 32(4): 731-755.

Reich, Y. and A. Kapeliuk (2004). “A framework for organizing the space of decision problems with application to solving subjective, context-dependent problems.” Decision Support Systems 41(2005): 1–19.

Scott, J., Williams, G., & Davis, P. (2008). Building Consensus through the Application of a Decision Support Tool for Land Managers. Australasian Journal of Environmental Management 15, 180-188.

Shim, J.P., M. Warkentin, J.F. Courtney, D.J. Power, R. Sharda, and C. Carlsson (2002). “Past, present, and future of decision support technology.” Decision Support Systems 33(2): 111-126.

Sprague, R.H. (1980). “A Framework for the Development of Decision Support Systems.” MIS Quarterly 4(4): 1-26.

Srdjevic, B. (2007). Linking Analytic Hierarchy Process and Social Choice Methods to Support Group Decision-Making in Water Management. Decision Support Systems 42, 2261-2273.

Stone Jr., B., Mednick, A.C., Holloway, T. & Spak, S.N. (2007). Is Compact Growth Good for Air Quality? Journal of the American Planning Association 73(4), 404-418

Thomas, M.R. (2002). “A GIS-based decision support system for brownfield redevelopment.” Landscape and Urban Planning 58(1): 7-23.

Tonn, Bruce, Mary English and Cheryl Travis (2010). “A Framework for Understanding and Improving Environmental Decision Making.” Journal of Environmental Planning and Management. 43(2).

MUNICIPALITIES AS ENABLERS OF CITIZEN-LED URBAN INITIATIVES - POSSIBILITIES AND CONSTRAINTS

Session T5.4 | June 2 | 9:00 – 10:30

Rosa Danenberg
KTH, SWEDEN
rosadanenberg@gmail.com

ABSTRACT: In recent years, bottom-up urban development has started growing as an alternative to conventional top-down planning. In large proportions, citizens and communities initiate small-scale interventions; suddenly seeming to form a trend. As a result, more and more cities are witnessing not only the growth of but also an interest for these initiatives, as they bear the potential to reshape urban spaces. Such alternative city-making efforts cause new dynamics in urban governance, with inevitable consequences for the controlled city planning and its administration. The emergence of enabling relationships between top-down and bottom-up actors signals an increasingly common urban practice. Various case studies show that an enabling relationship is possible, yet, how it can be optimally realized stays rather underexamined. Therefore, the seemingly growing worldwide phenomenon of ‘municipal bottom-up urban development’ necessitates an adequate governance structure. As such, the aim of this research is to contribute knowledge to how municipalities can enable citizen-led urban initiatives from a governance innovation perspective.

Empirical case-study research in Stockholm and Istanbul, derived from interviews with founders of four citizen-led urban initiatives and one municipal representative in each city, provided valuable insights to possibilities and constraints for enabling practices. On the one hand, diverging outcomes emphasize the extreme oppositional features of both cases (Stockholm and Istanbul). Firstly, both cities’ characteristics are drastically different. Secondly, the ideologies and motifs for the initiatives to emerge vary widely. Thirdly, the major constraints for citizen-led urban initiatives to relate to the municipality are considerably different. Two types of municipality’s organizational structures produce different underlying mechanisms which demonstrate the constraints. The first municipal organizational structure is steered by bureaucracy (Stockholm). It produces an administrative division that brings up constraints such as the lack of responsibility, transparency and continuity by municipal representatives. The second structure is dominated by municipal politics and governmental hierarchy (Istanbul). It produces informality, lack of transparency and a fragmented civil society. In order to cope with the constraints produced by both types of organizational structures, the initiatives have adjusted their organization to the municipality’s underlying structures.

On the other hand, this paper has in fact also come to a rather unifying conclusion. Interestingly, the suggested possibilities for an enabling relationship underline converging new urban governance arrangements. This could imply

that for the two varying types of municipality's organizational structures there is an accurate governance structure. Namely, the combination of a neighborhood council with a municipal guide, with allowance for the initiatives to adopt a politicizing attitude is found as coinciding. Especially its combination appears key to redeem varying constraints. A municipal guide steers the initiatives through bureaucratic struggles, is supported by coproduction methods, while it balances out municipal politics. Next, a neighborhood council, that is politically neutral and run by local citizens, can function as an umbrella for citizen-led urban initiatives. What is crucial is that it should cater for a more entangled relationship between municipalities and initiatives with enhanced involvement of the initiatives in decision-making processes and limited involvement of prevailing constraints pointed out in this paper.

KEYWORDS: bottom-up urban development; urban governance; social innovation; Istanbul; Stockholm.

INTRODUCTION

In recent years, bottom-up urban development has started growing as an alternative to conventional top-down planning. Small-scale local initiatives pop up at unusual places and in surprising forms and shapes (Zardini, 2008). These urban practices are collected under titles such as Everyday Urbanism, Guerrilla urbanism, DIY-urbanism and Tactical Urbanism. Citizens develop an increasing demand and interest to take control over immediate surroundings (Gerometta, et al., 2005). As a result, more and more cities are witnessing not only the growth of but also an interest for these initiatives, as they bear the potential to reshape urban spaces (Iveson, 2013). Nowadays, an increased active approach from citizens seemed to re-appear, resulting in bottom-up initiatives developed outside the regular system and intervene in urban environments (Zardini, 2008).

The implications of the alternative citizen efforts in relation to formal and structured planning framework create groundings for further exploration of governance dynamics. The consequences indicate emerging new dynamics in the urban environment, which inevitably affects the controlled city planning and its administration (Finn, 2014). Recent practise-based publications observe a growing worldwide phenomenon of municipal bottom-up urban development that needs an adequate governance structure (Miazzo and Kee, 2014; 00:/, 2011). Which demonstrate that top-down players increasingly try to find ways on how to respond to, understand and incorporate bottom-up urban actors. Yet, practical possibilities and constraints of how the enabling relationship can look like remains unexamined in urban theory (Finn, 2014).

Reinventing governance structures that allow for an enabling relationship between top-down and bottom-up urban actors benefits from a governance innovation perspective. It stimulates a more collaborative relationship between the two actors through the establishment of urban governance arrangements (Moulaert, et al., 2007). Therefore, central to this research is the exploration of the relationship between governmental actors and citizen efforts (named from now on: citizen-led urban initiatives). Adopting the lens of urban governance provides an alternative approach that emphasizes the need for new urban governance arrangements.

The objective of this research is to explore the possibilities and constraints for an enabling relationship between municipalities and citizen-led urban initiatives. This aim of this research is to contribute knowledge to how municipalities can enable citizen-led urban initiatives.

METHODS

This explorative research contributes with an academic-based theoretical framework that takes departure from Bottom-up Urbanism and utilizes the more concrete suggestions and complexities from an Urban Governance perspective. The qualitative empirical research focuses on two cases - Stockholm and Istanbul. These cities do not naturally appear in debates on bottom-up urban development and differ in many respects; however they also show slight similarities that are essential in this research. Within the cities, four citizen-led urban initiatives are selected and examined according to the possibilities and constraints of how municipalities can enable citizen-led urban initiatives. The results are interpreted from a transformative standpoint, derived from the Critical Realism paradigm. In fact, this research is aimed at exploring a structural change in urban governance arrangements. Therefore, adopting the Critical Realism paradigm helps to explore underlying mechanism and structures to create a fundamental change (Alvesson and Sköldberg, 2009).

The empirical research method used is "Case Study research – design and methods" by Yin (2009). Generally, case selection of the two cities is based on the practice-based publication 'We Own the City' by Miazzo and Kee (2014). They selected cases (Amsterdam, Hong Kong, New York, Taipei and Moscow) that give proof to a worldwide emerging trend of municipal bottom-up urban development, that even happens even in cities situated outside the conventional geographical focus areas. It inspired to examine Stockholm and Istanbul too, as the cities are not naturally associated with each other, neither with bottom-up urban development. Furthermore, in both cities, the four citizen-led urban initiatives are selected based on Finn's (2014) three indicators that categorize the DIY movement.

Firstly, the initiatives are initiated by citizens. Secondly, the initiatives increase or extend official municipal infrastructure in public space. Finally, citizens are the producers of the initiatives as well as the users and hence the main beneficiaries. The most unifying factor among them is probably their diversity (Iveson, 2013; Talen, 2014).

The empirical data is collected through the method of in-depth interviews. Interviews were held with the founder or representative of the initiative to obtain knowledge about the initiative and features of its relation with the municipality. Ethically, the relationships between the researcher and the interviewees formed an essential part of conducting research, as the relationship is about trust, continuity and collaboration (Maxwell, 2013) especially in a pioneering field like this one. The language barrier and the access to the right respondent within the municipality formed minor practical limitations to this research.

THEORY

BOTTOM-UP URBANISM

A first understanding of the concept Bottom-up urbanism benefits from employing a relative positioning in the broader concept of Urbanism. Following Kelbaugh's (2007)Urbanism paradigms, for obvious reasons, bottom-up urbanism, as centralized in this research, finds position within the Everyday Urbanism paradigm. Everyday Urbanism is considered to be the most modest, incremental and compassionate paradigm that builds upon and favors what already exists, and emerges from the bottom. In addition to building on the existence, this type of urbanism intends to improve the public's urban experience (Kelbaugh, 2007). Doing so, it forms a critical challenge for urban governance, management and planning (Finn, 2014).

THE HISTORY OF BOTTOM-UP URBANISM

Bottom-up urbanism, as the collecting term for citizen-led urban initiatives, appears as being contemporary. However, Talen (2014) argues that DIY urbanism is not new, neither are the tactics nor the driving forces. An insight to the history provides more profound understanding of the roots and ideology of the emergence of the initiatives. Where Finn (2014) traces its emergence back the mid-20th century in France, Talen (2014) argues that the history that reveals the emergence of DIY urbanism goes back even further. According to Talen (2014) arguing from the case of the U.S., DIY urbanism is part of a longer tradition of civic engagement and city improvement that peaked in in the early 19th century.

WHY CITIZEN-LED URBAN INITIATIVES RESURFACE

Zardini (2008) claims that the practices, after a temporary absence marked by a couple of decades, nowadays flow and re-emerge in new forms and at unexpected places. Since the early 2000s, Finn (2014) observes a true movement in which these actions such as art, urban activism and urban life are captured driven by shifts in thinking about citizens' roles in urban planning. Why these urban practices tend to resurface is an essential question to understand the motifs and ideology behind the emergence of the initiatives. Inevitable, explanations strongly link to contemporary thinking about the role of citizens in urban planning and development. Fundamentally, the small-scale interventions are motivated by necessity as well as carried out from optimism and enthusiasm for small-scale actions (Talen, 2014). Even though Talen (2014) argues that the emergence of the citizen initiatives is not new, Iveson (2013) signals contemporary collectivity and a will to change and transform the urban environment.

CHALLENGES FOR ACTORS

Since these urban practices are re-surfacing, it becomes vital to discover the dynamics between the two actors. What are the challenges for the relation between municipalities and citizen-led urban initiatives in municipal bottom-up urban development?. Both actors experience considerable difficulties in relation to one another (Finn, 2014).

ACTORS IN BOTTOM-UP URBANISM

New urban actors enter the urban sphere as citizen-led urban initiatives increasingly emerge and claim their rights to the urban environment. These new urban subjects will act and thus interfere with existing actors and authority-holders that govern the city; causing challenges for urban governance (Finn, 2014). Initiatives being criticized for "irrelevant or even counterproductive" (Talen, 2014, p.9), what in fact is remarkable is that "DIY activities that position themselves as local and grassroots thus paradoxically circumvent the very same community-based participatory and fair-share processes that planners have worked diligently to enact in many cities" (Finn, 2014, p.391). Moreover, active citizens push their efforts to the forefront as "a potential self-selected cohort of able and informed citizens ripe for this kind of engagement". This civic engagement is what planners are in fact continually looking for in order to increase public participation in municipal planning (Finn, 2014, p.393).

Yet, it can be asked what are the municipal officials' constraints for not being better at constructively engaging active citizens in urban planning? Brenner (2015) argues that the major problems of urbanization, today, are grounded in the inability of institutions.

CHALLENGES FOR GOVERNMENTS TO ENGAGE IN BOTTOM-UP URBANISM

Suggestions for how planners can work with these citizen efforts, Finn (2014) outlines three possible ways. The first possibility suggests creating programs "that empower citizens to become involved in local space design and management, not only through traditional advisory or commentary roles but also in more active ways" (p.393). Secondly, what Finn calls 'DIY tactics' finds form in short-term experiments. Thirdly, the use of dialog involving 'DIY advocates' might be gainful to planners to explore the utility and practicality of alternative solutions, especially as the first step to take. Conditionally, Brenner (2015) argues that it requires a certain attitude from city officials. If professions do more meaningfully engage with the urban issues, it might hold the power to utilize urban practices from bottom-up more seriously than only a decorative tool to camouflage the institutional inabilities.

Challenges and complexities that obstruct this are a somewhat underexamined field (Finn, 2014). On the one hand, City officials do in fact have also other responsibilities than solely working with citizen initiatives, which should be acknowledged and respected (Finn, 2014). Of greater risk is urban activists who challenge the status quo and frame their agenda as alternative and hold anti-statist and anti-planning mentalities (Brenner, 2015). The struggle here might be the considerable confusion or divergence among designers about the meaning and implications of the notion of bottom-up urban development, since not all of the examples of civil initiatives bear acupunctural, participatory and open-source aspects. Underlying this confusion is probably the invisibility of the process that steers to an alternative future (Brenner, 2015).

CHALLENGES FOR CITIZENS TO ENGAGE WITH MUNICIPAL PLANNING

In relation to the position and power of the state, how do citizens try to position themselves? Deslandes (2013) draws attention to the system of urban planning with focus on the accessibility for both experts and non-expert citizens to influence regulations. The dominance of government and finance capital allows professionals that are part of the system to have easier access, while citizens face 'impoverishment of individual practitioners' (Deslandes, 2013). Citizens act as 'non-expert citizens' to find ways to enter the professionalized structure and 'hack the city' from bottom-up. This is indeed a move against formal structures, but more against the entry-barriers in order to open up the system than directly addressing their colleagues, the experts in the system.

Hence, it can be understood that citizens here are perceived as individuals who act from individual convictions (Talen, 2014). Yet, they also seem to unite and conform around commonly agreed concerns and needs for action which brings them together. They share certain attitudes and the will to challenge the conventional. This results in a rather loosely organized structure. The integration of such initiatives in the government-sanctioned planning shows differences with the past; formerly the citizen's earlier aim was steered toward integration, but now a fear that its effectiveness and legitimacy gets undermined can be sensed (Talen, 2014). As well as its authenticity (Zeiger, 2011b).

THE POSSIBILITIES AND CONSTRAINTS

Complex dynamics between bottom-up and top-down urban actors inevitably raises challenges in relation to urban governance. The practicality of how municipalities relate to citizen-led urban initiatives is to a large degree determined by how the formal municipal planning copes with the potential useful input from the new urban actors from bottom-up (Finn, 2014). These issues lean towards Urban Governance discussions. Bottom-up Urbanism discussions presented earlier, tend to be predominantly U.S.-based from recent years and to provide insufficient thought.

In extension, Urban Governance gives more analytical directions based on theory that generally dates back ten years ago and is partly rooted in the U.S. but also comes from Europe. In the quest of what is urban governance, "governance is about the capacity to get things done in the face of complexity, conflict and social change: organisations, notably but not only urban governments, empower themselves by blending their resources, skills and purpose with others" (Kearns and Paddison, 2000, p.847). The situation of complexity, conflict and social change connects well with the interplay between urban actors who deal with contemporary urban challenges.

The field of Urban Governance provides 'new government arrangements' that reveals contemporary complexities in urban governance. Which is interpreted "an urban governance arrangement in this approach is understood as a specific setting of different actors with specific shared norms and values (institutions), who reach decisions on urban places" (Gerometta, et al., 2005, p.2015). Applied to this paper, they present the possibilities and constraints for

municipal bottom-up urban development. The suggestions range from, firstly, closely related to the municipal framework to, the last one, emerging entirely independent the municipal framework.

GOVERNANCE INNOVATION

Top-down actors open up the governance arrangements for a variety of non-state actors through adopting innovatory processes (Swyngedouw, 2005). Partially because today's society does not allow for only the state to govern (Tayler, 2007). Partially, because under the current crisis of the welfare state in the city, the predominant global neoliberal political-economic regime can be found which stimulates the rise of civil initiatives (Gerometta, et al., 2005). Changing urban governance include (Kearns and Paddison, 2000), firstly, multi-level activity as one of the major shifts that illustrate how city governments increasingly favor collaboration over competition among and in their relation to local actors. While it also illustrates how they struggle with the understanding and problem-solving of issues that occur on different levels. Secondly, decision-making process are becoming a more effective administration, and open and accountable politics have recently risen in importance. Thirdly, incorporating new innovative ways of working on the local, neighborhood level, such as, to be creative, to build knowledge and to access and utilize resources, local institutional capacity and social capital. This innovative approach to governance creates opportunities for citizens to enhance participatory methods and to be involved in decision-making processes.

NEW GOVERNANCE WITH CITIZENS AS TOOLMAKERS

Looking at practice to develop alternatives in urban governance transforms urban governance into 'new governance' (Blomgren Bingham, et al., 2005). With its origins in the U.S., it permits citizens and stakeholders to actively participate in the work of the government. New governance institutions should be established at the local level. Central in this perspective is the significant importance given to involvement of citizens in decision-making processes. In an environment of collaboration, activities and goals are formulated from shared visions and power. As the academic field lags behind and traditional policy makers lack collaboration, negotiation and facilitation skills, Blomgren Bingham, et al. (2005) insist on citizens as tool-makers and tool-users. Hence, the importance of the process becomes almost as crucial to its outcomes (Kearns and Paddison, 2000). The result is occurring interdependence that produces shared or blurred responsibilities. The capacity does not only lie in one place; in fact the involved actors blend their resources, skills and purposes and cross-organizational borders that empower themselves. It becomes clear that the process is emphasized rather than the end product. What remains lacking is the guidance on how, when and with whom to engage (Blomgren Bingham, et al., 2005).

CRITIQUE: RE-CENTRALIZED STATE CONTROL

However, Swyngedouw (2005) argues that such emerging innovative horizontal and networks arrangements are so-called Janus-faced. The paradox, he explains, lies in the new governance arrangements that on the one hand intend to empower society while on the other hand produce a greater autocratic governmentality. In other words "the combined outcome of this leads to often more autocratic, non-transparent systems of governance that – as institutions – wield considerable power and, thus, assign, considerable, albeit internally uneven power, to those who are entitled (through a selective random process of invitation) to participate" (p.2000). The urban governance arrangements impose more constraints to those in weaker power positions than those in more favorable positions that take advantageous of the structures (Gerometta, et al., 2005). In addition, the real influence the non-state actors are able to exercise within such newly formed governance arrangements is disputable (Taylor, 2007). In further explanation, Swyngedouw clarifies that the problem here is that the state enlarges its realm of 'governing'. What is striking is the issue of entitlement and status, meaning, who can, is, or will be allowed to participate and conversely who is willing to participate, if there is not decided to opt-out and reject participation. Next, the structure of representation within civil initiatives is also critical, as the initiatives have broadly differing instruments of deciding on representation. In contrast, established formal actors have more or less clear instruments of deciding on representation, as they have on accountability. As a consequence of unclear lines of representation, civil initiatives essentially also lack clear lines of accountability, resulting in problems with legitimacy.

This critical viewpoint, as addressed by Swyngedouw (2005), illustrates the flipside of the top-down applied environment that appeared seemingly positive for citizen-led urban initiatives to occur. Thus, "the enabling state" as a positive formulation in the governance discourse defines the role of the municipality regarding citizen-led urban initiatives as supposedly empowering (Taylor, 2007). On the face of it all, new governance arrangements emerge that include innovatory processes to engage with and give room to local urban actors. However, the opposite occurs as the government remains as a top-down actor that applies new technologies of governmentality that at the end endures the conventional, which is exactly that what the civil initiatives generally strive against. According to Taylor (2007) it shows a newly articulated and positioned state control.

Swyngedouw clearly argues that new governance arrangements tend to take place within the semi-existing governmental framework. This perspective precludes almost all government-initiated efforts to engage with civil initiatives. What possibilities and constraints are in fact left that are more hopeful regarding an enabling relationship between municipalities and citizen-led urban initiatives?

SOCIALLY INNOVATIVE URBAN DEVELOPMENT

The 'Social innovation' view might give an anticipative perspective. What can be looked for is an environment that is not as top-down implied and where innovation still plays a key role in the relations within urban governance, as innovation within urban governance is considered to release room for civil initiatives to occur. Socially innovative urban development, as introduced by Gerometta, et al (2005), has strong content (it prioritizes the satisfaction of human needs), process (through deploying innovation in relations within neighborhood governance) and empowerment dimension (pursues an increase in the socio-political capability and access to resources). It is believed to extend the exploration of alternative urban governance arrangements. In contrast to governance innovation perspective, the social innovation view emerges more from the bottom and has the ability to create structural change. Examining the extent of a socially innovative urban development it should be asked whether more actors have been equally able to enter the decision-making and participation process and whether they really have gained power and have not been disfavored due to communicative power struggles (Gerometta, et al., 2005). Yet, a number of complexities remain present in their relation to top-down state actors. Civil society never completely replaces the governmental actors but stay supplementary (Gerometta, et al., 2005). The interscalar institutional articulation is crucial to socially innovative initiatives, meaning that governmental actors from other levels should not interfere with the local context in which the initiatives operate.

POLITICIZING

Also emerging outside the municipal framework, politicizing is found as the last suggestion. A few years later than the previous suggestions, Marcuse (2009) urges the need to go from theory to implementation. Likewise, Taylor (2007) addresses the urgency for 'active subjects' that pursue an alternative agenda, and are self-steering actors outside the state that shape and influence the new governance spaces. Iveson (2013) argues that while important lessons can be learned from the different examples of citizen-led urban initiatives, the various interventions are practices that challenges existing governance structures. Disputing existing authority frameworks from a political perspective upon society is needed to counter the expert practices of authorized professionals. However, Iveson (2013) also acknowledges that for a counterhegemonic discourse to governance arrangements to occur, a certain level of power and credibility is needed. Even though the use of a space might change, the 'titles to govern' are likely to remain the same. The current circle of knowledge generation and exchange is considerably limited to the so-called imaginative monopoly that form a hindrance for urban activists to effectively engage and develop counterproposals (Stickells, 2011).

This new governance arrangements can function as a method to enter the partnership table, from where the responsibilities can be negotiated and new institutional provisions emerge that counter the privileged access in a number of ways (Taylor, 2007). In addition, the advantage is to stay close to top-down actors, to become effective in changing anything structural, while staying on safe distance to not totally get integrated to formulate own independent visions and narratives, and learn about bureaucracy.

CASE STUDY STOCKHOLM

Stockholm, as the capital of Sweden, is one of the fastest growing European cities and has been governed by a strong welfare state which witnessed a shift to privatization in the last two political terms. Sweden has a history of modest urban development where around fifty years ago modernist planning interfered and strongly influenced its planning process. The Building Decree of 1874 marked the first modern building legislation in Sweden (COMMIN, na). Since the welfare state that emerged in the middle of the 20th century, five different periods under the modern Swedish planning history took place (Engström and Cars, 2013).

The new Planning and Building Act of 1987 that give citizens legal right to participate in planning processes, was a result of increased demand for communicative planning (Wänström, 2013). This legal right was aimed to satisfy the demands for information and consultation (COMMIN, na). Next, the domestic economic crisis in the 1990s had implications for planning in various ways. Municipalities were forced to cut down budgets in the public sector, resulting in decreased infrastructural investments and subsidies to the housing sector. As a consequence, the relevance and impact of the private sector increased again. Hence, planning and urban development became less powerful. Engström and Cars (2013) denote that in the current era a multitude of actors put increasing demands on involvement in planning. The city plan for Stockholm is called "Vision Stockholm 2030" that was developed in 2006, providing goals and guidance regarding the city's intentions and objectives for sustainable development (Ptichnikova,

2012). Legislation leaves enough room for manouvre for planners to decide upon practices of communicative processes in formal planning (Wänström, 2013). Although Swedish cities score high in 2012's UN Habitat and 2010's EU ranks in terms of quality of life, yet they perform rather low on integration and equity. The social unrest during the 70s became relative with the social unrest in 2013 when riots took place in the northern suburbs (Hatherley, 2013). Stockholm is even perceived as a segregated city (Dahlin, 2013). Where a decade ago a large and relatively competent public sector provided the citizen's urban needs, nowadays, the situation has changed and the bottom-up urban development starts to emerge (Källblad, 2015).

Citizen-led urban initiatives in Stockholm:

- Cyklopen is a culture center that built its own house with semi-permission when in the need for an alternative space in the city.
- Trädgård på spåret is a community garden that uses land under a lease-contract with the City.
- The skatepark Brotherhood Plaza in Skarpnäck is self-built by a skater in collaboration with the City who gathered a community around him.
- Livstycket is a "knowledge and design center" for immigrant women who learn Swedish, integrate and utilize their creative potential through textile production.

X The City Planning Office of the City of Stockholm .

CASE STUDY ISTANBUL

Istanbul is the largest city in Turkey and under high pressure of neoliberal planning and belongs to a country ruled by autocratic political system. It stretches over two continents and grows at incredible rates. The degree of urbanization in Turkey increased from 19% in 1950 to 70% in 2010 and is estimated to reach 84% by 2050 (Unsal and Turk, 2014). From 1980s, the following trends have predominantly influenced planning and urban developments. Neoliberal globalization and preparation for closer ties with the EU combined with earthquake risks have given reasons for so-called top-down imposed urban transformation projects (Erkut and Shirazi, 2014). What is striking about these projects is the centralization of planning with little to no involvement of participatory planning processes that causes opposition and dispute at local levels.

This forms an incredible necessity for community-based urban planning. Understanding the Turkish planning system is difficult. Especially with its fragmented structure of 56 plan types and 18 authorized planning institutions (Unsal and Turk, 2014). The local government level, as mostly accurate in this research, is governed by an elected council and elected mayor. However, the system has built-in tools that bypass local authorities and undermine the integrity of the holistic development plans, which is reinforced with the lack of a legitimate comprehensive plan. For instance, the intentions of real estate developers are covered by fundamental urban planning goals like prevention of the risks of disaster. These conditions are widely applicable to a range of urban development projects in Istanbul (Unsal and Turk, 2014).

In recent years, Istanbul is being perceived as a global city. Its vision is led by neoliberal policies directed from the national government for strengthening service industry, technology and financial sector, which in fact undermine social and economic values (Akpinar, 2014). Defeating the economic crisis from 2001 and the aftermath of the Marmara earthquake put the construction sector to its core of urban development (Schwegmann, 2013). Informality in the planning system is not uncommon, neither is the informality in the housing sector as half of the buildings are informal (Schwegmann, 2013). The lacking transparency of the local and national government and participatory decision-making processes (Akpinar, 2014), combined with a strong central government and ambiguous legislation system make it hard for civil society to organize themselves and act (Schwegmann, 2013).

Citizen-led urban initiatives in Istanbul:

- İlk Adim is a Women and Children Center (WCC) that provides a house for women to socializing, personal development and integration.
- Sokak Bizim "Streets belong to us" is an advocacy organization for well-functioning public spaces that is being commissioned by the City and seeks contact with the neighborhood.
- Music for Peace is a music school that offers free music education to as many children as possible and want to give voice to peace through music.
- Design Atelier Kadıköy (TAK) strategic design management approaches by assembling strategy and design notions in order to find solutions for spatial problems in Kadıköy district .

X From the board of TAK, the interview was held with an urban planner from the City and a politician.

RESULTS

Possibilities and constraints for municipal bottom-up urban development are utilized as guiding principles for analyzing the initiatives and the insights from the municipality.

Within the existing structures of the municipal framework, Finn (2014) has suggested three possible ways to accommodate bottom-up urban development. The City Planning Administration of Stockholm carried out a Citizen Dialogue project that exactly followed Finn's suggestions. The pilot projects produced positive results, motivating politicians to decide to adopt more comprehensive public participation in the bigger planning programs. A constraint to work with these possibilities is that formal municipal structures are still relatively closed to informal initiatives (Finn, 2014). Indeed, the City of Stockholm is legally forced to rely on 'public procurement'. While this legal procedure is absent in the neighborhood Kadıköy in Istanbul, there is no strategy to select which initiative to collaborate with. Another constraint is that the municipality holds the perception that the initiatives are irrelevant or counterproductive (Finn, 2014). The City of Stockholm is found to not take the initiatives properly serious (På Spåret; Livstycket) neither its founder (Brotherhood Plaza) nor its organizational structure (Cyklopen). Perhaps as a consequence, initiatives might have formed alternative agendas and anti-statist and anti-planning mentalities (Music for Peace; Cyklopen; Livstycket), as Brenner (2015) poses. However, this should in fact be interpreted as the strategies and tactics of the initiatives' to cope with bureaucracies and the current municipal framework. In Stockholm, the initiatives have attempted to open alternative spaces (Brenner, 2015). In Istanbul, the initiatives have to a certain extent tried to hack the city from bottom-up (Deslandes, 2013) through implementing supplementary functions. In both cities this modestly succeeded, being obstructed by high entry barriers to enter decision-making process (Deslandes, 2013) and being afraid for letting the initiative's effectiveness, legitimacy and authencity be undermined when engaging more with the municipality (Zeiger, 2011b).

Taking the measures from the governance innovation perspective, in order to overcome constraints, other possibilities and constraints for an enabling relationship need to be explored. Kearns and Paddison (2000) suggest municipalities to adopt multi-level activity, process-oriented governance and innovatory methods. Strikingly, theoretical critics to applying governance innovation within existing governmental structures (Swyngedouw, 2005) are also experienced by the initiatives. The following limitations are drawn to governance innovation suggestions. 1. The limitations to multi-level activity refers to bureaucratic issues, such as the inefficiency and restrictiveness of administrative divisions (På Spåret; Sokak Bizim), the unrealistic competition of initiatives with private actors (Livstycket; Brotherhood Plaza) and the outrun of discussing larger topics by fixation on practical problems (På Spåret). This shows that bureaucracy is a more prominent factor in Stockholm than Istanbul. 2. The limitations to process-oriented governance represent the demand to increasingly participate in internal decision-making processes within the organizational structures of the initiatives (WCC; Cyklopen). 3. The limitations to innovative methods refer to Gerometta, et al. (2005) who postulate that those in more favorable positions take advantage of such methods. This is found likely, exemplified by a neighborhood with high education level (TAK), founders with relevant backgrounds (WCC; På Spåret, Music for Peace), knowledge about annual budgets application (Livstycket) and personal relations (WCC, TAK board).

Nevertheless, looking beyond the existing structures, an extensive range of possibilities is found to adopt a governance innovation perspective. It encourages to establish new governance arrangements at the local level. For instance in Istanbul: local municipalities should be given direct autonomy to give support to initiatives (WCC), partnerships should be restructured to allow municipalities to charge construction companies for social projects (TAK), applying coproduction to involve municipal official in a bigger project (Sokak Bizim). In Stockholm: the implementation of a guiding person within the municipality (Cyklopen, På Spåret), let the municipality take care of money flows, so that the initiatives can focus on their core activities (Cyklopen). Kadıköy municipality suggests to introduce a city council (TAK board) and Stockholm's City Planning Administration suggests a new tool that is top-down initiated assigned to one responsible department in order to create a new environment for citizens to bring their ideas to the municipality (City Planning Administration Stockholm).

In these suggested new urban governance arrangements, how should municipalities and initiatives relate to each other? Involvement of citizens in the work of the government is generally desired by the initiatives, potentially fulfilling the role of tool-makers and tool-users (Blomgren Bingham, et al., 2005). Nonetheless, it is bounded by certain skepticism. The skepticism in Istanbul is caused by municipal politics and drawbacks of the governmental framework. In Stockholm, it is caused by bureaucracy and neoliberal urban policies. In response, the initiatives have found out strategies and tactics to combat these underlying constraints. In Istanbul, initiatives have taken a certain position in relation to the municipalities, and the initiatives in Stockholm have considered their organization structures. Nevertheless, initiatives have ventilated possibilities for further involvement in the work of the government. Generally, supplementary functions and services feature the altered relationship, which could subsequently lead to an enabling relationship. Examples are: forming agreement over the strategy and direction with the municipality (Sokak Bizim), co-designing local disaster plans (WCC), providing the services and activities voluntarily (Sokak Bizim; TAK), offering

contribution to area development based local embedment and (På Spåret) and getting hired as a consultant and take part in municipal project team (Brotherhood Plaza). A new institution on the local level could either be, as suggested in Stockholm, to a guiding person part of the municipality and operates locally (City Planning Administration; På Spåret; Cyklopen) or, as suggested in Istanbul, in addition to an already existing municipal guide, a neighborhood council formed by local initiatives and communities to communicate and collaborate with the municipality (TAK board).

Newly or re-constructed structures aimed at establishing an enabling relationship should redeem drawbacks that are present within formal municipal framework. When applying the Socially innovative urban development view on the previously suggested new governance arrangements for an enabling relationship – a municipal guide and a neighborhood council – it finds considerable alignment. Especially its combination could be key in carrying out a social innovation view. Installing a municipal guide and a neighborhood council, both emphasize the social, innovative and local aspect of the initiatives and its level of operation. The neighborhood council reconstructs social relations and provides equal access to and power in decision-making and participation processes (Gerometta, et al. 2005) through uniting the local initiatives as an umbrella. The neighborhood council communicates directly with the municipal guide.

The approach that emerges most from bottom-up was found to be the politicizing. Although the social innovation view is relatively applicable to new governance arrangements that are suggested, it is considered to be still part of the government's realm. Politicizing could be applied perhaps, rather as an attitude to draw more power to the initiatives as political subjects (Marcuse, 2009). Distinctive about this suggestion is the urgency for active subjects that pursue al alternative agenda (Taylor, 2007). Delivering a supplementary function establishes new governance arrangements as all initiatives actively manifested themselves as new urban actors that problematized an issue which the government was unable to deliver (all initiatives). Recentralization is important to counter the centralization and expansion of the governing realm of the central government or municipality (Taylor, 2007). It is shown that a possibility is to stop going to meetings with the central government (WCC), whereas a partnership with the central municipality could also result in additional financial support (Brotherhood Plaza). Often this oppressive attitude results into an unnecessary long process characterized by frustration and distrust, as obtaining permanent land did result in a temporary contract and no further partnership (Cyklopen), realizing a place for the community partly failed due to public-private partnerships (Brotherhood Plaza) and necessities not being accepted and an abrupt ending of a partnership that involved money (Music for Peace). This also strongly relates to the monopoly of professionals that hindrances engagement counterproposals, and a learning environment (Stickells, 2011). Earlier referred to as high barriers for entry (Deslandes, 2013). The complexity for initiatives to transit from political opposition to process-engagement (Taylor, 2007) is experienced as extremely frustrating making the initiatives likely to turn into political opposition. Therefore, meeting the social innovation view is recommended, in order to bring the initiatives and municipalities in a closer relation to address urban needs. Perhaps, in addition, the initiatives could adopt a politicizing attitude to form active subjects that strengthen their positions and encourage a learning environment.

CONCLUSIONS

This paper aims to answer the following question: "How can municipalities enable citizen-led urban initiatives?". The citizen-led urban initiatives have generally emerged, on the one hand, from the need for a place outside government structures and to evade the sensed pressing neoliberal agenda in planning (Stockholm), and, on the other hand, from the need for functions and services not provided and sometimes not accepted by the municipality (Istanbul). Addressing such needs developed into an alternative approach to urban development. How the municipality can enable this alternative approach leads to new urban governance arrangements featured by possibilities and constraints.

Firstly focusing on the constraints, the discrepancy in organizational structures between initiatives and municipalities is a constant present factor that constrains the enabling relationship. Two types of municipality's organizational structures produce underlying mechanisms that demonstrate the constraints. The first municipal organizational structure, steered by bureaucracy (Stockholm), produces an administrative division that brings up constraints such as the lack of responsibility, transparency and continuity by municipal representatives. Consequently, the initiatives experience being too dependent and having a lack of knowledge how to effectively cope with bureaucracy. The second structure, dominated by municipal politics and governmental hierarchy (Istanbul), produces informality, lack of transparency and a fragmented civil society. Consequently, the initiatives experience having distrust and fear for discontinuity. In order to cope with the constraints that both types of organizational structures produce, the initiatives have adjusted their organization to the municipality's underlying structures. Thus, the initiatives balance their position and relation to the municipality in response to cope with the municipality's bureaucracy (Stockholm) and to be independent from municipal politics and governmental hierarchy (Istanbul). This rather reactive response from the initiatives to the municipality's, given underlying mechanisms and structures, seems to work to a certain extent.

Though, even within overly bureaucratic municipal structures and the sensed neoliberal agenda (Stockholm) there are possibilities for establishing a more advanced enabling relationship. For instance, through the integration of civil initiatives in Detailed Plans, the formation of partnerships between municipalities and civil society in which the municipality can hire citizens as consultants, the assignment to one responsible department to work with bottom-up input, combined with awareness-raising for this new approach within municipalities.

In addition, also within municipal structures that are overly dominated by municipal politics and governmental hierarchy (Istanbul) possibilities for an enabling relationship emerge through providing supplementary functions and services by the initiatives to the municipalities. The supplementary services and functions complement what the municipality is incompetent to deliver. While filling the gap, the initiatives establish a relationship what creates the possibility to pursue a new approach and discourse for an enabling relationship.

Yet, more possibilities for an enabling relationship can be explored through the perspective of governance innovation. New urban governance arrangements should generally be implemented on the local level, such as installing a guiding person within the municipality. This new position is aimed at guiding the initiatives through the bureaucratic struggles, supported by coproduction methods, while it balances out municipal politics and perspectives. It addresses several constraints such as transparency, responsibility and continuity. However, it does not yet address the representation of the initiatives and the development of knowledge among citizens. Furthering the governance innovation, the next possibility is to form a neighborhood council, which is politically neutral, and run by local citizens, which can function as an umbrella for more or less formalized local initiatives and communities. It copes, most of all, with the constraint of how to relate to the municipality to keep autonomy, this is now formalized. Also, the council stimulates a learning environment for both citizens and the municipality. Representation could improve through greater control and power attributed to the local level, aiming for socially innovative urban development.

Thus, this transformative approach aligns well with the structural change that is aimed by Critical Realism. The underlying mechanisms that produce possibilities for an enabling relationship are found in the creation of new urban governance arrangements. However, constraining underlying mechanisms such as accountability, legitimacy, and representation might remain crucial. Hence, when creating a more formalized organization structure, such as a neighborhood council, opportunities arise to address just neighborhood representation.

Besides the suggested new governance arrangements – the municipal guide and the neighborhood council – the initiatives might gain from adopting a politicizing attitude. Becoming an ‘active subject’ creates the ability to increase citizens’ power to participate in decision-making about e.g. formalizing structures, restructuring partnerships with private actors and prioritizing social innovation. This could either take place within the neighborhood council or outside. For the municipalities, it creates increased possibilities to partner with the active subjects to conduct pilot projects, which generate additional knowledge about its facilitating role.

Interestingly, as both cases (Stockholm and Istanbul) are extreme opposites; this research has drawn a rather unifying conclusion. Not only its city characteristics, but also the major constraints for citizen-led urban initiatives to relate to the municipality, as well as the ideologies and motifs for the initiatives to emerge are considerably different. Yet, the suggested possibilities for an enabling relationship are converging new urban governance arrangements: the combination of a neighborhood council with a municipal guide, while allowing the initiatives to adopt a politicizing attitude. This could imply that for both municipal organizational structures is an accurate governance structure. What is crucial is that it should cater for a more entangled relationship between municipalities and initiatives with enhanced involvement of the initiatives in decision-making processes and limited involvement of prevailing constraints that are pointed out in this research.

Future research on neighborhood councils and municipal guides can expand knowledge on how it can effectively contribute to an enabling relationship between municipalities and citizen-led urban initiatives. For instance, Berlin’s Neighborhood Management, “Quartiersmanagement” can form a source of inspiration and knowledge to explore the potential of a neighborhood council. Or in Stockholm, nowadays a neighborhood council “stadsdelsråd” is found in Hökarängen (hokarangenssdr.se). This example can be used to explore possibilities and constraints, and to compare with the example from Berlin. Also, studying how both urban governance arrangements perform in other country’s governance structures can give input for its generalizability.

REFERENCES

Akpinar, I. (2014). Legal and Institutional context of urban planning and urban renewal in Turkey: Thinking about Istanbul. In: G. Erkut and R. Shirazi, eds. 2014. Dimensions of Urban Re-development – The case of Beyoğlu, Istanbul. Berlin: Technische Universität Berlin. Ch.2.2.

Alvesson, M. and Sköldberg, K. (2009). Reflexive Methodology - new vistas for Qualitative Research. (2nd ed). London: SAGE Publications.

Blomgren Bingham, L. Nabatchi, T., and O'leary, R. (2005). The New Governance: Practices and Processes for Stakeholder and Citizen Participation in the Work of Government. Public Administration Review, 65(5), 547-558.

Brotherhood Plaza. Retrieved July 18, 2015, from www.skate.nu/brotherhood_plaza.asp

Brenner, N. (2015, April 1). Is "tactical urbanism" an alternative to neoliberal urbanism? MoMa,. Retrieved May 13, 2015, from http://post.at.moma.org/content_items/587-is-tactical-urbanism-an-alternative-to-neoliberal-urbanism

COMMIN, na. Promoting Spatial Development by Creating COMmon MINdscapes. BSR INTERREG III B project, na.

Cyklopen. Retrieved July 18, 2015, from http://cyklopen.se

Dahlin, A. (2013). On Urban Sustainability and Cultural Diversity. In: M.J. Lundström, C. Frederiksson, and J. Witzell (Eds.), Planning and Sustainable Development in Sweden. Stockholm: Föreningen för Samhällsplanering. Ch. 11.

Deslandes, A. (2013). Exemplary Amateurism - Thoughts on DIY Urbanism. Cultural Studies Review, 19(1), 216-227.Engström, C.J. and Cars, G. (2013). Planning in a New Reality – New Conditions, Demands and Discourses. In: M.J. Lundström, C. Frederiksson, and J. Witzell, (Eds). Planning and Sustainable Development in Sweden. Stockholm: Föreningen för Samhällsplanering. Ch.1.

Erkut, G and Shirazi, R. (2014). Introduction. In: G. Erkut and R. Shirazi (Eds). Dimensions of Urban Re-development – The case of Beyoğlu, Istanbul. Berlin: Technische Universität Berlin. Ch.1.

Finn, D. (2014). DIY urbanism: implications for cities. Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 7(4), 381-398.

Gerometta. J. Haüssermann, H. and Longo, G. (2005). Social Innovation and Civil Society in Urban Governance - Strategies for an Inclusive City. Urban Studies, 42(11), 2007–2021.

Hatherley, O. (2013, June 16). How Sweden's innovative housing programme fell foul of privatization. Retrieved December 17, 2015, from http://www.theguardian.com/commentisfree/2013/jun/16/sweden-housing-programme-privatisation

Hou, J. (2010). (Not) your everyday public space. Chapter 1 in Insurgent Public Space: Guerilla Urbanism and the Remaking of Contemporary Cities, MIT (2013), 1-16.

Huairou Commission (2010). Our Spaces. New York, USA: The Huairou Commission.

Iveson, K. (2013). Cities within the City: Do-It-Yourself Urbanism and The Right to the City.

International Journal of Urban and Regional Research, 37(3), 941-956.

Källblad, E. (2015, September 10). DIY Urbanism: building up Swedish pedal power, KTH Centre for a Sustainable Built Environment. Retrieved December 2, 2015, from https://www.kth.se/blogs/sustainable-built-environment/2015/09/diy-urbanism-building-up-swedish-pedal-power/ Kearns, A. and Paddison, R. (2000). New Challenges for Urban Governance. Urban Studies, 37(5–6), 845–850.

Kelbaugh, D. (2007). Toward an Integrated Paradigm: Further Thoughts on the Three Urbanisms. Places, 19(2), 12-19.

Livstycket. Retrieved July 18, 2015, from www.livstycket.se

Marcuse, P. (2009). From Justice Planning to Commons Planning. In: P. Marcuse, J. Connolly, J. Novy, I. Olivo, C. Potter (Eds), Searching for the Just City - Debates in urban theory and practice. Ch.5.

Maxwell, J.A. (2013). Qualitative Research Design – an interactive approach. 3rd ed. London: SAGE Miazzo, F. and Kee, T. (2014). We Own The City. Haarlem: Trancity.

Moulaert, F. Martinelli, F. Swyngedouw, E. and Gonzlezález, S. (2005). Towards Alternative M odel(s) of Local Innovation. Urban Studies, 42(11), 1969–1990.

Moulaert, F. Martinelli, F. Gonzlezález, S. and Swyngedouw, E. (2007). Introduction: social innovation and governance in European cities - Urban development between path dependency and radical innovation. European Urban and Regional Studies, 14(3), 195 209.

Music for Peace. Retrieved July 18, 2015, from http://www.sistemaeurope.org/turkey/

På Spåret. Retrieved July 18, 2015, from http://pasparet.org/

Ptichnikova, G. (2012). Current Trends in Planning System in Sweden. In: ISOCARP (International Society of City and Regional Planners) 48th ISOCARP Congress, Fast Forward: Planning in a (hyper)dynamic urban context. Russia, Perm, 10-13 September 2012. Russia: NIITIAG RAASN.

Schwegmann, M. (2013). Istanbul and the Grassroots Civil Society Organisations, Local Politics and Urban Transformation. PhD. Technische Universität Berlin.

Sokak Bizim. Retrieved July 18, 2015, from http://www.sokakbizim.org/

Stickells, L. (2011). The Right to the City: Rethinking Architecture's Social Significance. Architectural Theory Review, 16(3), 213-227.

Swyngedouw, E. (2005). Governance Innovation and the Citizen: The Janus Face of Governance-beyond-the-State. Urban Studies, 42(11), 1991–2006.

TAK. Retrieved July 18, 2015, from http://takortak.org/atolye/kadikoy/

Talen, E. (2014, September 2). Do-it-yourself urbanism: a history. Journal of Planning History, 1-14. Retrieved March 24, 2015, from http://jph.sagepub.com/content/early/2014/09/01/1538513214549325.abstract#corresp-1

Taylor, M. (2007). Community Participation in the Real World: Opportunities and Pitfalls in New Governance Spaces. Urban Studies, 44(2), 297–317.

Unsal, F. and Turk, S.S. (2014). Legal and Institutional context of urban planning and urban renewal in Turkey: Thinking about Istanbul. In: G. Erkut and R. Shirazi, (Eds) 2014. Dimensions of Urban Re-development – The case of Beyoğlu, Istanbul. Berlin: Technische Universität Berlin Ch. 2.1.

Yin, R.K (2009). Case Study Research. London: SAGE.

Zardini, M. (2008). A New Urban Takeover. In: G. Borasi and Mirko Zardini (eds). Actions: What You Can Do With the City. Montreal: Canadian Centre for Architecture (co-published by SUN).

Zeiger, M. (2011b, September). The Interventionist's Toolkit 3, Places Journal Retrieved October 28, 2015, from at: https://placesjournal.org/article/the-interventionist-toolkit-our-cities-ourselves/ 00:/ (2011). Compendium for Civic Economy. Haarlem: Trancity.

MULTI-LEVEL CLIMATE CHANGE ADAPTATION GOVERNANCE AND LOCAL GOVERNMENT PLANNING PROCESSES IN AUSTRALIA

Session T5.5 | June 2 | 11:00 – 12:30

Hartmut Fünfgeld; Robin Goodman; Stephen Rowley
Centre for Urban Research, School of Global, Urban and Social Studies, RMIT University, AUSTRALIA
hartmut.fuenfgeld@rmit.edu.au

ABSTRACT: Climate change adaptation is a typical multi-level governance challenge that requires coordination and collaboration, vertically across all levels of government and horizontally across agencies. Land use planning is one of the central instruments that can help facilitate such coordination and pave the way for strategic adaptation. In this paper, we examine the extent to which strategic thinking with regard to climate change adaptation is impacting on land use decision making frameworks in flood-prone urban contexts in Victoria, Australia. We provide a detailed analysis of strategic and regulatory planning documents. The research shows that the regulatory planning system is resistant to strategic thinking on climate change adaptation, making it difficult for municipal planners and decision-makers to be proactive.

KEYWORDS: climate change adaptation; land use planning; multi-level governance; strategic urban planning; Australia.

INTRODUCTION

By the end of this century, anthropogenic climate change is projected to result in global mean surface temperature increases of between one and 3.7 degrees Celsius relative to the 1986 to 2005, unless the signatories of the Paris climate agreement commit to more stringent reductions in greenhouse gas emissions (IPCC 2014b: 60). Globally, sea levels have risen by 3.2mm per year between 1993 and 2005 (ibid: 42), and, while singular causal links to climate change are difficult to establish, it is likely that climate change is already resulting in more frequent and more intense extreme weather events around the globe. As the atmosphere continues to warm, climate change impacts will become more pronounced, increasingly affecting human settlements and natural habitats.

Human responses to such rapid changes to the Earth system will need to be targeted, effective and innovative, if harm is to be avoided. In the years to come, climate change adaptation will become critical to minimise social, economic and environmental risks resulting from climate change across socio-ecological systems. Here, the intersection of adaptation and urban and regional planning is paramount, if present-day decision-making is to take into account the likely future climate change impacts and avoid or minimise negative impacts on human and natural systems. Land use planning, in particular, can play a central role in determining the exposure of communities, assets, and infrastructure to the effects of climate change (Hurlimann & March, 2012; IPCC, 2014a) – in particular with regard to coastal climate change risk as a result of sea level rise, for which spatial boundaries can be defined, such coastal and estuary flooding and inundation, salinization of coastal land, and coastal erosion (Abel et al., 2011; Taylor, Harman, & Inman, 2013).

Land use planning provides a set of institutional controls to incorporate sea level rise projections into present day decision-making about future land use. Where land use planning takes climate change into account, it can avoid lock-in through sunken capital; facilitate gradual, early retreat from areas subject to inundation; and allow for landward expansion of coastal conservation zones to protect coastal habitat, for example (Hurlimann & March, 2012). Importantly, land use planning determines where new settlements are built and thus bears the potential to protect people and assets from costly and dangerous climate change impacts.

In this paper, we explore the potential and actual role of land use planning in coastal climate change adaptation at the local government scale. We focus on explaining the institutional context for enabling or constraining local government coastal adaptation, by drawing on empirical and desktop-based research from the state of Victoria. Australia is a case in point when it comes to the need for reducing risks resulting from sea level rise. The coast, and coastal lifestyles, feature prominently in Australian identity and are a source of national pride and identity. Yet much of that coastline is under threat from sea level rise and its localised impacts. In Australia, approximately 85 per cent of the population live within 50 kilometres from the coast (Australian Government 2009: 14). Using 2008 replacement values, a national assessment of financial risks to coastal assets and infrastructure found that between AU$41 and 63 billion worth of residential buildings were at risk from sea level rise, and up to 247,000 buildings were identified as potentially exposed to inundation using a sea-level rise scenario of 1.1 metres (Australian Government 2009: 71)

It has widely been argued that climate change adaptation needs to take place across a range of administrative and geographic scales (Adger, Arnell, & Tompkins, 2005), with the local scale playing a particular role, as this is where

impacts will become evident and where customised, context-specific adaptation solutions need to be developed (Measham et al., 2011). In Australia as in many other OECD countries, local government has been leading efforts to assess the risks of, and adapt to, climate change. For almost a decade now, some local governments have invested in adaptation planning, by conducting climate change risk assessments, developing climate change adaptation strategies and plans, and devising decision-support tools to aide local government staff and residents to understand and act in response to identified climate change risks (Nicole Gurran, Norman, & Hamin, 2013; Mukheibir, Kuruppu, Gero, & Herriman, 2013; Webb, McKellar, & Kay, 2013).

While adaptation planning efforts and the organisational capacity to adapt differs significantly across the Australian local government sector, it could be expected that leading local governments would be using the full repertoire of institutional, technological and political mechanisms at their disposal to implement high-level adaptation strategies, e.g. in relation to coastal risk as a result from sea level rise. However, recent reviews of local government progress with adaptation found that much of their efforts remain limited to conducting risk assessments and developing adaptation plans, with actual implementation of adaptation actions only progressing slowly (N Gurran, Norman, Gilbert, & Hamin, 2011; Nicole Gurran et al., 2013).

CLIMATE CHANGE ADAPTATION CALLS FOR MULTI-LEVEL GOVERNANCE

Climate change adaptation as a policy issue cuts right across the functions of government departments and sectoral strategies (Rauken, Mydske, & Winsvold, 2014). Climate change risks, such as sea level rise or increased bushfire risk, not intersects with administrative boundaries, requiring horizontal coordination and collaboration across spatially bound institutions; they also call for vertical integration, across and within institutions (Fisher, 2013; Juhola & Westerhoff, 2011). Vertical and horizontal integration are critical to adaptation success within organisation delivering services as diverse as those of local governments – ranging from providing social services to small children and elderly, to building and maintain local roads and other critical infrastructure (Moloney & Fünfgeld, 2015). The same is true for cooperation across different tiers of government: while it may be most appropriate for adaptation measures to be devised and implemented by local government, such implementation is likely to require strategic direction, a legislative and fiscal framework, and underwriting against higher order financial risks by state/provincial and national governments in order to be effective (Adger et al., 2005).

Vertical integration of adaptation across multiple tiers of government can reduce the 'coordination' burden on local governments, where such coordination is mainly facilitated through voluntary exchange of practices among local government professionals or through external consultants. Ultimately, a lack of vertical integration and horizontal coordination runs the risk of maladaptive outcomes, e.g. situations where local solutions to reducing coastal climate change risks result in aggravated problems elsewhere (e.g. in neighbouring areas), increased greenhouse gas emissions, or disadvantaging of particular population sub-groups (Barnett & O'Neill, 2010; Juhola, Glaas, Linnér, & Neset, 2016).

Adaptation, therefore, constitutes a typical 'wicked problem' that cannot be tackled effectively using fragmented, specialised decision-making (Australian Government, 2007; Head, 2014). Adaptation involves continuously shifting goal posts, multiple stakeholders with often diverging interests, different degrees of scientific uncertainty, and, consequently, necessarily controversial solutions that need to be negotiated in the political realm. Effective and strategic adaptation can only be facilitated as part of a coherent multi-level governance framework (Corfee-Morlot et al., 2009; Hanssen, Mydske, & Dahle, 2013), where government institutions across different tiers of authority develop joint processes of decision-making that involve diverse stakeholders, from the local to the national scale; from individual residents to national peak bodies.

As there is no suitable precedent for how to organise adaptation planning across scales and across institutions, much of the adaptation effort is necessarily a form of 'governance experimentation' (Bos, Brown, & Farrelly, 2013; Castán Broto & Bulkeley, 2013), where new approaches are developed and tested; where formal and informal (social) forms of learning are engendered, and where preliminary 'solutions' are revised and adjusted as part of adaptive management practices that are based on experience and emerging knowledge (Maciver & Dallmeier, 2000). Beyond experimentation, risk management frameworks provide general approaches for responding to known risks that are increasingly applied to climate change risks (Renn & Klinke, 2013).

Within the local, regulatory context, land use planning constitutes a well-established, institutionalised form of spatial decision-making that can play a central role in facilitating coordinated responses to climate change impacts and risks. There is increasing evidence of the successful use of land use planning frameworks and mechanisms to achieve adaptation goals (Biesbroek, Swart, & Van Der Knaap, 2009; Hurlimann & March, 2012), as well as numerous calls for improving land use planning to avoid future disasters, in particular with respect to developing countries (Birkmann, Garschagen, & Setiadi, 2014; Mitchell, Enemark, & van der Molen, 2015). Australia, as a high-income country with a

highly established land use planning system, is well placed to integrate climate change risks into spatial planning regulations and practice.

CLIMATE CHANGE ADAPTATION PLANNING AND DECISION-MAKING IN AUSTRALIA

Parts of Australia, such as the Great Barrier Reef in Queensland and Southeastern Australia with its high risk of bushfires and drought, have been considered global climate change 'hot spots', requiring urgent attention if human, ecological and financial losses are to be avoided . Australia as a nation is highly exposed to the risk of climate change, with range from an increase in extreme weather events such as bushfires, flash floods and dust storms, to the loss of biodiversity through coral bleaching in the Great Barrier Reef and existential threats to farming communities in all mainland states as a result of prolonged drought and changing rainfall patterns.

Despite such significant exposure to climate change risks, Australia is well placed to tackle climate change in a proactive and coordinated manner. Its inherent adaptive capacity, i.e. the aggregate capability to plan for and respond to climate change impacts, is considered to be very high, with efficient institutions in place to coordinate adaptation planning and action.

Given the exposure of Australian socio-ecological systems to climate change, it is not surprising that adaptation has received significant political attention and, to varying degrees in recent years, bipartisan support from its national and state governments. Initial efforts to facilitate local government adaptation planning date back to 2006, when the Australian Government published a guide on climate change risk management for business and government (Australian Government & Australian Greenhouse Office, 2006), followed by a funded program called Local Adaptation Pathways, which enabled a total of 90 local governments to assess climate change risks and develop high-level adaptation responses at the local and regional scale (Kennedy, Stocker, & Burke, 2010). To counter a lack of knowledge on climate change impacts on different sectors, the Australian Government funded the National Climate Change Adaptation Research Facility (NCCARF) with AU$47 million in 2008 and AU$9 in 2014, a network of seven universities that aims at providing stakeholder-driven adaptation research across multiple disciplines and sectors (Australian Government, 2016; Burton & Mustelin, 2013). Some states followed suit and invested into their own research centres (e.g. the Victorian Centre for Climate Change Adaptation Research), clearinghouses for local government strategies and actions on adaptation (as in the case of Western Australia), or state-wide assessment of climate change risk and vulnerability (e.g. in South Australia).

By international comparison, Australian efforts to 'make sense' of climate change adaptation at the local scale to date can be considered among the leading examples of government action on adaptation – although many of these activities have come to an end or have been reframed and reduced in scope and magnitude in recent years, as governments and their priorities have changed. Despite these substantial investments, however, adaptation policy making has lagged behind. As a result, much innovative action in adaptation planning and implementation has had to take place in a policy and regulatory context where the division of responsibilities for adaptation across different tiers of government has been unresolved and local government adaptation subject to contestation and appeal. Efforts at national government level to provide a policy framework for adaptation have largely been limited to funding adaptation initiatives on a project-by-project basis, investing in climate science and other types of climate change research, and attempting to develop sector-based guidelines and auxiliary information for adaptation, e.g. a draft but never completed 'Adaptation Outlook', a proposed national adaptation assessment framework (Department of Industry, Innovation, Climate Change, Science, Tertiary Education, & DIICSERTI, 2013). In 2011, the Australian Government requested the Productivity Commission, the country's major watch dog of national economic prospects and constraints, to conduct a review of the barriers and enablers to climate change adaptation. The Productivity Commission concluded that the role for Australian governments in climate change adaptation was limited to specific areas, including designing more flexible land-use planning regulation and better aligning land-use planning with building regulation (Australian Government, 2012). Overall, the final report recommended that 'governments at all levels should embed consideration of climate change in their risk management practices' and assume its oversight role by 'ensure[ing] there is sufficient flexibility in regulatory and policy settings to allow households, businesses and communities to manage the risks of climate change' (ibid: 2).

URBAN LAND USE PLANNING CHANGES AND CLIMATE CHANGE ADAPTATION IN VICTORIA

Some state governments have been more proactive in setting adaptation policy. Victoria is Australia's most densely populated state and with a total of 6 million people its second most populous. Victoria faces significant climate change risks from sea level rise, changes to rainfall patterns and extreme weather events, in particular heatwaves and bushfires. Coastal inundation and erosion are key concerns along its coastline that spans 2,512 kilometres, especially in the densely populated urban and suburban areas of Port Philipp Bay and in low-lying areas of significant natural or economic value, such as parts of Gippsland in the east of the state.

REGULATORY FRAMEWORK FOR CONSIDERING CLIMATE CHANGE

Like some other states, Victoria introduced coastal hazards guidelines in 2009, that determined that 80 centimetres of sea level rise by 2100 needed to be factored into all decision-making affecting the coastal zone; other states adopted similar guidelines. In 2010, Victoria also legislated a Climate Change Act (Victorian Government, 2010), which required the state government to develop and revise a state-wide adaptation plan every three years that was to guide adaptation efforts across Victoria.

Apart from the coastal hazard guideline, however, land use planning policy and processes in Victoria remained largely unaffected by the provisions of the Act. Most actual decisions regarding land use and development approvals are made at local government level with reference to local planning schemes, which set the detailed use and development assessment framework. While for the most part administered at local government level, the format and much of the content of these schemes is prescribed by the Victorian state government. The state government also retains a final right of veto over any localised content local government seeks to introduce to its scheme. The state-mandated planning scheme content includes a central repository of policy guidance, the State Planning Policy Framework (SPPF), which should be taken into account in all land-use decisions. It is through the SPPF that other statements of policy, such as the Victorian Coastal Strategy (State of Victoria, 2008, 2014), are to be drawn upon in planning decision-making.

In practice, then, the extent to which the SPPF both reflects the issue of climate change, and gives specific direction as to how to resolve it, is crucial to determining on-the-ground-outcomes. This structure therefore creates a complex interplay across levels of government. Local government must administer the scheme in day-to-day decision-making and are responsible for localised strategic planning. Yet that local strategic work must reflect a state level policy framework, and the state government must approve all local planning scheme content.

The Victorian planning system includes a further player in the form of the Victorian Civil and Administrative Tribunal (VCAT), a government-funded, independent dispute resolution tribunal established under the Victorian Civil and Administrative Tribunal Act 1998. This acts as a review body to hear disputes in relation to planning decisions from both permit applicants and objectors to proposals. In theory VCAT's role is purely related to case-by-case review; its decisions do not formally set policy, or have the precedential status of a common law court of record. In practice, however, it represents the usual endpoint of a planning dispute and its decisions therefore assume considerable persuasive value. In situations where there is either ambiguity over policy direction, or an absence of policy direction, VCAT decisions assume considerable importance in guiding decision-making. This has meant VCAT has played an important role in determining actual responses to issues of climate change-related coastal inundation.

LAND USE BASED ADAPTATION IN PRACTICE

The Victorian experience highlights the importance of resolving high-level policy statements into detailed guidance as to how to resolve policy dilemmas at the level of individual planning applications. The 2008 Victorian Coastal Strategy stated that it was policy to plan for sea level rise of not less than 0.8 metres by 2100, and that new development should be "located and designed so that it can be appropriately protected from climate change's risks" (State of Victoria, 2008). This was subsequently reflected in the SPPF (through amendment VC52 in December 2008) which incorporated this wording into the SPPF at clause 15.08-2 of all Victorian planning schemes. Yet neither the Strategy nor the SPPF were very clear how this should be done. The strategy noted that "it is important to provide clear consistent direction for planning and managing the use and development of coastal, marine and estuarine environments in a way that is environmentally sustainable," but the identified policy and actions related primarily to ensuring that the strategy was reflected in schemes, rather than providing any such "clear consistent direction" (State of Victoria, 2008). This created an element of circularity: the SPPF promptly reflected the Strategy, but having done so, the specific actions invoked did not progress far beyond creating that cross reference. Absent from the Strategy's guidance was a sense of what further detail the SPPF might need to add by way of resolved land-use planning strategy; and absent from the SPPF content was any guidance as to how local councils might then proceed to resolve issues in their local area. This failure to create the intended cascading of policy from high-level state policy (the Coastal Strategy), to resolved state-level planning land-use planning policy (the SPPF), to detailed local resolution (local provisions of planning schemes) meant considerable uncertainty developed around the practical application of the direction to plan for 0.8m sea-level rise.

The implications were relatively straightforward in the case of a large residential subdivision of low-lying land, where it was clear the initial assessment should involve a vulnerability assessment to determine whether the land was suitable for the development. However the approach that should be taken in other situations was much less clear. In particular, concern quickly arose as to the appropriate approach to small-scale infill development and subdivision applications in established townships. During 2009 VCAT issued several decisions relating to smaller developments (notably Myers v South Gippsland SC [2009] VCAT 1022, Owen v Casey CC [2009] VCAT 1946, and Ronchi & Anor

v Wellington SC [2009] VCAT 1206) that wrestled with whether the direction in Strategy should prevent individual developments from proceeding, and the extent to which a detailed coastal hazard vulnerability assessment was an excessively onerous requirement for individual landowners. In the absence of further detail in the SPPF these questions were largely left for VCAT to resolve, and in the abovementioned cases VCAT was not willing to approve small-scale development without vulnerability assessments being taken. This in turn shifted the burden of detailed resolution of the implications of the Strategy's direction about planning for 0.8m sea-level rise to individual landowners to undertake on a site-by-site basis. This approach raised concerns regarding fairness and equity, especially given a great deal of development could occur without planning permission, in which case no such assessment was required. However, of broader concern is the issue of the efficacy of this policy response. Is such site-by-site strategic assessment an adequate response to a global issue that has implications for strategic planning across entire regions?

The state government responded to this sequence of decisions by appointing an Advisory Committee to provide advice about the planning framework's response to climate change in coastal areas. The Committee's report was completed in December 2010 and made a series of recommendations, including: the creation of new planning tools specifically to address climate change; that state government support strategic work to review development capacity in settled areas and adjust settlement boundaries if needed; that vulnerability assessments not be required for small-scale infill development; and that planners adopt a staggered approach to sea-level rise in decision making (Wimbush et al. 2010: 150–5). The latter point responded to what the Committee considered the "biggest issue" in preparing a land-use planning response: the rate at which planning responses should occur, and the difficulty of making iterative planning decisions in responding to a planning dilemma characterised by progressive change over long time periods (Wimbush et al., 2010). The Committee noted that the approach of preventing development that might be affected by a 0.8m rise in sea levels would likely unreasonably constrain development; and yet simply allowing a "business as usual" approach would increase risk for development constructed in the interim and jeopardise a sound strategic planning response. The Committee therefore recommended that planning take into account a shifting benchmark of 0.2m by 2040, 0.5m by 2070, and the existing 0.8m by 2100. In light of more recently available, updated projections, the recommendation for 2100 is conservative, and applying an upper bound of 1.3 metres of sea level rise by 2100, as adopted in the Dutch Delta Programme, seems to be more appropriate (IPCC 2014a: 369).

The Committee's report was publicly released in June 2012 alongside a response from the state government (State of Victoria, 2012). This largely rejected calls for new planning tools, arguing that existing tools were sufficient to facilitate a response. It acknowledged the need for ongoing strategic work to investigate impacts climate change adaptation. The key change to state planning policy that was implemented, however, was a partial adoption of the staggered planning target recommended by the Committee. This was implemented in July 2012 by amendment VC94, which allowed adoption of the 0.2m by 2040 benchmark alongside the retention of the 0.8m by 2100 figure. The 0.5m by 2070 figure benchmark was not adopted, however. The use of only two of the three recommended benchmarks can be explained by the way they were deployed, with the 0.2m figure helping to resolve the issues that had been raised by VCAT. The revised SPPF now explains the application of these benchmarks at clause 13.01-1 of schemes as follows:

> *In planning for possible sea level rise, an increase of 0.2 metres over current 1 in 100 year flood levels by 2040 may be used for new development in close proximity to existing development (urban infill)… For new greenfield development outside of town boundaries, plan for not less than 0.8 metre sea level rise by 2100.*

In development applications this has meant that the infill developments that had previously troubled VCAT could instead be approved with relatively straightforward adaptation measures such as raised floor levels. These revised benchmarks were affirmed when the Victorian Coastal Strategy was refreshed in 2014 (State of Victoria, 2014) and remains in effect through the SPPF as of writing.

The 0.2m benchmark may have found favour over the medium-term 0.5m figure because it allowed for a relatively low impact response while avoiding any overt contradiction of the Advisory Committee's recommendations. The state government had changed in late 2010 from the centre-left Labor government that had appointed the Advisory Committee, to the conservative Liberal-National coalition. Planning Minister Matthew Guy emphasised the "business as usual" aspect of the proposed response in a media release at the time of release (Victorian Government, 2012). Headed 'Coastal planning that's common sense', it noted in part:

> *'The release of this report and my response to it will clear up much of the uncertainty associated with coastal planning across regional Victoria and reinstitute coastal planning policy that is based on common sense… Regional Victoria bore the brunt of much of the previous Labor government's*

costal planning paralysis with moratoriums and extreme controls which locked many towns out of being able to grow sensibly' (Victorian Government 2012: n.p.).

BARRIERS TO STRATEGIC ADAPTATION

While it is true that the Advisory Committee did not support the continuation of the approach of requiring individual vulnerability assessments in developed areas, the omission of the interim target mean that the state government strategic response could continue to forestall more detailed strategic work or more assertive planning intervention. These actions came in a context where the major parties in Australia (but especially the conservative parties) were reluctant to embrace the need for climate change responses. The same Liberal-National coalition government, for example, would later have most of an Advisory Committee resign after changes to a draft metropolitan strategy for Melbourne, which included removal of references to the planning challenges associated with climate change (Dow, 2013; Lucas, 2014).

Given that in most cases the 0.2m target can be accommodated by simple design changes, its use in planning decision-making may actually deflect the need for more profound long-term strategic decision-making. Certainly the pressure that built from VCAT decisions through 2009 has eased, partly reflecting increased policy certainty, but also that the response to the Coastal Strategy has been resolved in a way that does not require strong intervention in current development patterns. There are still some ambiguities leading to continued VCAT scrutiny, however. For example in Lake Park Holdings Pty Ltd v East Gippsland SC [2014] VCAT 1449 the Tribunal raised the issue of whether a 77 lot subdivision within a town boundary should respond to the 0.2m or 0.8m benchmark. The very existence of sites able to accommodate relatively large-scale subdivision on low-lying land within town boundaries highlights the need for more fundamental strategic planning work at a regional scale. The preoccupation with benchmarks for individual developments has distracted from these large-scale adaptation challenges. Despite their refresh in 2014, the Coastal Strategy and SPPF still do not provide any detailed guidance as to how state and local government should implement this more detailed spatial planning through planning schemes.

There has only been one amendment to a local planning scheme; which has tried to more specifically implement concern for the impacts of climate change on coastal flooding and sea level rise since the adoption of the state wide amendment VC94 in 2012. The Shire of South Gippsland, located on the Victorian coast to the east of Melbourne, recently introduced Amendment C81 in March 2016 which applies an overlay to planning scheme maps to indicate areas where flood risk might affect potential buildings. This overlay is based on mapping that takes into account a rise of 0.8 by 2100. Prior to its introduction there was nothing to identify areas at risk from rising sea levels and as a consequence the potential impact of rising sea levels due to climate change were not considered in planning permit applications and land could be bought and sold without identification of the risks (State of Victoria 2016: 3).

This is still likely to be the case in many other coastal areas. The state wide SPPF amendment instructs councils to consider sea level rise in making decisions, but without mapping and the application of an overlay to identify which land is vulnerable, this is not likely to be possible. The overlay now applied through the South Gippsland amendment is known as an LSIO – a Land Subject to Inundation Overlay – and what it effectively means is that a permit is now required to build in the area unless the proposed building is 3.4 metres above sea level. In other words, if the land is 2 metres above sea level a building must be 1.4 metres above the ground to avoid the necessity of seeking a planning permit. The LSIO doesn't actually ban buildings in the flood prone area, nor does it ban buildings that are too close to the ground within that area. The LSIO merely stipulates that a permit is required, which then requires council officers to consider the application with reference to the scheme. The LSIO leaves open the option for a proponent to make a case why their lower development might be appropriate and not in conflict with the requirement to consider sea level rises.

This local amendment, which is clearly implementing the state government policy expressed in the state-wide amendment to the SPPF, provides a good example of the final impact that climate change consideration, with regard to flooding and inundation, is currently having on land use planning in Victoria. It could be argued that while this is obviously an improvement the altered SPPF does not constitute the type of strong and strategic action required to avoid future costs and maladaptation. It doesn't prohibit building in areas that might be affected by sea level rise, it simply asks for them to be built further off the ground – which can be described as a classic case of maladaptation that turns the precautionary principle on its head, e.g. if climate change results in greater than expected sea level rise or coastal erosion rates accelerate.

DISCUSSION: WEAK CONSIDERATION OF CLIMATE CHANGE IN LAND USE PLANNING

There are two evident reasons why the described changes to the land use planning system in Victoria don't appear to be taking the threat of climate change impacts as seriously as they might. Firstly, the political acceptance of climate change has been late and begrudging in Australia, and in fact is still absent in some areas. For example, the current

Deputy Prime Minister of Australia Mr Barnaby Joyce, leader of the National Party which traditionally represents rural people and areas, was quoted in the media in May 2016 as remarking that the current drought in his part of rural Australia was making him wonder if perhaps climate change might be real after all (Robson, 2016). Joyce has been a long term and proud sceptic who in 2012 called climate change "an indulgent and irrelevant debate because, even if climate change turns out to exist some day, we will have absolutely no impact on it whatsoever" (Robson 2016: 6).

His views mirrored those of the previous Prime Minister, Mr Tony Abbott, who has since been replaced by Mr Malcolm Turnbull. Turnbull previously indicated a commitment to climate change action but is now leader of the conservative coalition and somewhat constrained in what he can do. In the absence of political leadership at the national level, consideration of climate change continues to be regarded as optional rather than essential in many areas of public policy, even in geographic areas where local and state-level institutions are already confronted with the impacts of sea-level rise, more intense bushfires and prolonged droughts.

The second explanation for the rather weak response to climate change consideration within Victorian land use planning is that the system itself is not particularly strong or robust. Planning in Australia has been particularly affected by neoliberal thought and consequent system reform (Gleeson & Low, 2000; Ruming, Gurran, Maginn, & Goodman, 2014). It is characterised by the necessity to be flexible, and consideration of its role, at both national and state levels as being dominated by economic priorities and development facilitation (Australian Productivity Commission, 2010; Nicole Gurran & Ruming, 2015). The decision to simply require a permit, rather than ban, development likely to be eventually affected by flooding, is completely in keeping with a permissive and discretionary system which favours flexibility (Buxton & Goodman, 2014). Furthermore, the Victorian planning system, known as the Victoria Planning Provisions, are consistently worded in a language designed to be flexible and outcomes-orientated, rather than regulatory. As a consequence many developers find it hard to interpret and easy to ignore (Goodman, Buxton, Chhetri, Taylor, & Wood, 2010).

CONCLUSIONS

The case of land use planning in Victoria has highlighted a number of important challenges that can emerge when adjusting public policy to take climate change considerations into account.

Firstly, developing an institutional structure that is vertically integrated and coherent in direction takes time and is far from straightforward – even, or perhaps in particular, in well-established planning systems that form part of institutionally advanced governance arrangements. Where higher levels of government assume their power and responsibility to provide guidance, as in the case of considering sea level rise in development planning in Victoria, initial guidance tends to focus on establishing what needs to be done, rather than how it can be implemented in local contexts. For adaptation planning to become embedded as a coherent set of practices, however, it is imperative that guidance extends to how policy directions are to be applied and to increase consistency across administrative boundaries, to allow for strategic decision-making that assumes a long-term perspective. More concrete guidance on how to interpret planning frameworks at the local scale will necessarily need to remain flexible – and to some degree, this will always be a balancing act: how can state government, for example, provide guidance that reaches down to the application and implementation levels of decision-making, without risking of being too prescriptive and limiting with regard to the adaptation options that it allows for? Here, local government runs the risk of trading off its responsibility for long-terms strategic planning, handed down from state government, with 'flexible' decision-making that might favour short terms interests of investments into the local economy, e.g. in cases where individual strategic adaptation decisions about new developments are effectively left to planning officers who decide on granting approvals on a case-by-case basis, in the absence of coherent strategic guidance.

Secondly, and connected to the previous point, adaptation planning and decision-making is highly political, because, if considered appropriately and strategically, it challenges existing paradigms of permissive and discretionary decision-making with respect to land use planning. With regard to coastal development in the context of sea level rise and its impacts, robust adaptation planning inherently calls for restriction of land use, government intervention and precautionary decision-making – policy virtues that are diametrically opposed to a neoliberal agenda. Therefore, climate change adaptation highlights that seemingly high levels of adaptive capacity due to mature and well-established land use planning governance cannot be equated with an automatic translation into robust adaptation outcomes. Apart from the local political and administrative filters that influence any local land use planning decision, the planning system in Victoria itself acts as a systemic barrier to strategic, land-use based adaptation to sea level rise, because it displays a strong reluctance to regulate and limit land use options, evidenced by, for example, the Victorian Planning Minister's 2012 media release.

Given that the likely range of global sea-level rise for 2046-65 is 0.17 to 0.32 metres under the most optimistic RCP2.6 low emissions scenario (modelling strong global action to reduce greenhouse gas emissions) and 0.22 to 0.38 metres under the highest emissions scenario RCP8.5 relative to the 1986-2005 period(IPCC 2014c: 60), the

revised SPPF benchmark and newly introduced time horizon of 0.2 metres of sea level rise by 2040 is optimistic. This is concerning because, as a clear benchmark, it has indeed managed to reduce decision-making uncertainty and reduced the number of planning decisions going to VCAT; however, at the same time, it has made it quasi impossible for local government to be proactive and apply more conservative decision-making that adopts the upper envelope of projected sea level rise as a standard, e.g. 0.30 metres by 2040.

From a sustainability and strategic planning point of view, such nuances can have a profound impact in years to come: allowing houses to be built in areas that may get regularly inundated within two or three decades of being built places a significant risk onto immediate future generations, who will have to pay for the costs of poor political leadership and non-interventionist policy making. As the case study of the Victorian land use planning system has shown, land use planning is far from being used to facilitate strategic adaptation in the coastal zone – despite increasing bipartisan support for climate change adaption. Lack of political leadership and institutional inertia will continue to uphold a planning system that favours granting approvals for forms of land use that may prove to have been gross decision-making failures.

REFERENCES

Abel, N., Gorddard, R., Harman, B., Leitch, A., Langridge, J., Ryan, A., & Heyenga, S. (2011). Sea level rise, coastal development and planned retreat: analytical framework, governance principles and an Australian case study. Environmental Science & Policy, 14(3), 279–288. http://doi.org/10.1016/j.envsci.2010.12.002

Adger, N. W., Arnell, N. W., & Tompkins, E. L. (2005). Successful adaptation to climate change across scales. Global Environmental Change Part A, 15(2), 77–86. http://doi.org/10.1016/j.gloenvcha.2004.12.005

Australian Government. (2007). Tackling Wicked Problems: A Public Policy Perspective. (Australian Public Service Commission, Ed.). Canberra: Commonwealth of Australia.

Australian Government. (2009). Climate Change Risks to Australia's Coast: A First Pass National Assessment. Canberra: Department of Climate Change.

Australian Government. (2012). Barriers to Effective Climate Change Adaptation, Report No. 59, Final Inquiry Report. Canberra. Retrieved from http://www.pc.gov.au/__data/assets/pdf_file/0008/119663/climate-change-adaptation.pdf

Australian Government. (2016). National Climate Change Adaptation Research Facility. Retrieved May 30, 2016, from https://www.environment.gov.au/climate-change/adaptation/climate-change-adaptation-program/research-facility

Australian Government, & Australian Greenhouse Office. (2006). Climate change impacts and risk management: a guide for business and government. Canberra. Retrieved from http://www.climatechange.gov.au/what-you-can-do/local-government/~/media/publications/local-govt/risk-management.pdf

Australian Productivity Commission. (2010). Performance Benchmarking of Australian Business Regulation : Occupational Health & Safety Productivity Commission (Vol. 1). Canberra: Australian Government Productivity Commission. Retrieved from http://www.pc.gov.au/inquiries/completed/regulation-benchmarking-food-safety/report/food-safety-report.pdf

Barnett, J., & O'Neill, S. (2010). Maladaptation. Global Environmental Change, 20, 211–213.

Biesbroek, G. R., Swart, R. J., & Van Der Knaap, W. G. M. (2009). The mitigation–adaptation dichotomy and the role of spatial planning. Habitat International, 33(3), 230–237. http://doi.org/10.1016/j.habitatint.2008.10.001

Birkmann, J., Garschagen, M., & Setiadi, N. (2014). New challenges for adaptive urban governance in highly dynamic environments: Revisiting planning systems and tools for adaptive and strategic planning. Urban Climate, 7, 115–133. http://doi.org/10.1016/j.uclim.2014.01.006

Bos, J. J., Brown, R. R., & Farrelly, M. A. (2013). A design framework for creating social learning situations. Global Environmental Change, 23(2), 398–412. Retrieved from http://www.sciencedirect.com/science/article/pii/S0959378012001434

Burton, P., & Mustelin, J. (2013). Planning for Climate Change: Is Greater Public Participation the Key to Success? Urban Policy and Research, 31(4), 399–415. http://doi.org/10.1080/08111146.2013.778196

Buxton, M., & Goodman, R. (2014). The impact of planning "reform" on the Victorian land use planning system. Australian Planner, 51(2), 132–140. http://doi.org/10.1080/07293682.2014.892866

Castán Broto, V., & Bulkeley, H. (2013). A survey of urban climate change experiments in 100 cities. Global Environmental Change, 23(1), 92–102. Retrieved from http://www.sciencedirect.com/science/article/pii/S0959378012000891

Corfee-Morlot, J., Kamal-Chaoui, L., Donovan, M. G., Cochran, I., Robert, A., & Teasdale, P. J. (2009). Cities , Climate Change and Multilevel Governance (OECD Environmental Working Papers No. 14). OECD Environmental Working Papers. Paris. Retrieved from http://www.oecd.org/governance/regional-policy/44232263.pdf

Department of Industry, Innovation, Climate Change, Science, R. and, Tertiary Education, & DIICSERTI. (2013). Climate Adaptation Outlook: A Proposed National Adaptation Assessment Framework. Canberra. Retrieved from http://www.preventionweb.net/english/professional/publications/v.php?id=33806&a=email&utm_source=pw_email

Dow, A. (2013, December). State planning panel quits in protest. The Age.

Fisher, D. R. (2013). Understanding the relationship between subnational and national climate change politics in the United States: toward a theory of boomerang federalism. Environment and Planning C: Government and Policy, 31(5), 769–784. Retrieved from http://www.envplan.com/abstract.cgi?id=c11186

Gleeson, B., & Low, N. (2000). "Unfinished Business": Neoliberal Planning Reform in Australia. Urban Policy and Research, 18(1), 7–28. http://doi.org/10.1080/08111140008727821

Goodman, R., Buxton, M., Chhetri, P., Taylor, E., & Wood, G. (2010). Planning and the characteristics of housing supply in Melbourne. AHURI Final Report.

Gurran, N., Norman, B., Gilbert, C., & Hamin, E. (2011). Planning for climate change adaptation in Coastal Australia: State of practice. Design. Sydney. Retrieved from http://www.seachangetaskforce.org.au/Publications/Planning for climate change in coastal Australia State of Practice.pdf

Gurran, N., Norman, B., & Hamin, E. (2013). Climate change adaptation in coastal Australia: An audit of planning practice. Ocean & Coastal Management, 86, 100–109. Retrieved from http://www.sciencedirect.com/science/article/pii/S0964569112002955

Gurran, N., & Ruming, K. (2015). Less planning, more development? Housing and urban reform discourses in Australia. Journal of Economic Policy Reform, 1–19. http://doi.org/10.1080/17487870.2015.1065184

Hanssen, G. S., Mydske, P. K., & Dahle, E. (2013). Multi-level coordination of climate change adaptation: by national hierarchical steering or by regional network governance? Local Environment, 18(8), 869–887. http://doi.org/10.1080/13549839.2012.738657

Head, B. W. (2014). Evidence, uncertainty, and wicked problems in climate change decision making in Australia. Environment and Planning C: Government and Policy, 32(4), 663–679. http://doi.org/10.1068/c1240

Hurlimann, A. C., & March, A. P. (2012). The role of spatial planning in adapting to climate change. Wiley Interdisciplinary Reviews: Climate Change, 3(5), 477–488. Retrieved from http://dx.doi.org/10.1002/wcc.183

IPCC. (2014a). Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

IPCC. (2014b). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. Geneva: Intergovernmental Panel on Climate Change.

IPCC. (2014c). Summary for Policymakers. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. Geneva: Intergovernmental Panel on Climate Change (IPCC). http://doi.org/10.1017/CBO9781107415324

Juhola, S., Glaas, E., Linnér, B.-O., & Neset, T.-S. (2016). Redefining maladaptation. Environmental Science & Policy, 55, 135–140. http://doi.org/10.1016/j.envsci.2015.09.014

Juhola, S., & Westerhoff, L. (2011). Challenges of adaptation to climate change across multiple scales: a case study of network governance in two European countries. Environmental Science & Policy, 14(3), 239–247. http://doi.org/10.1016/j.envsci.2010.12.006

Kennedy, D., Stocker, L., & Burke, G. (2010). Australian local government action on climate change adaptation: some critical reflections to assist decision-making. Local Environment: The International Journal of Justice and Sustainability, 15(9), 805–816. http://doi.org/10.1080/13549839.2010.514602

Lucas, C. (2014, November). 40-year plan for Melbourne watered down. The Age.

Maciver, D. C., & Dallmeier, F. (2000). Adaptation to Climate Change and Variability: Adaptive Management. Environmental Monitoring and Assessment, 61(1), 1–8. http://doi.org/10.1023/a:1006308512816

Measham, T. G., Preston, B. L., Smith, T. F., Brooke, C., Gorddard, R., Withycombe, G., & Morrison, C. (2011). Adapting to climate change through local municipal planning: barriers and challenges. Mitigation and Adaptation Strategies for Global Change, 16(8), 1–21. http://doi.org/10.1007/s11027-011-9301-2

Mitchell, D., Enemark, S., & van der Molen, P. (2015). Climate resilient urban development: Why responsible land governance is important. Land Use Policy, 48, 190–198. http://doi.org/10.1016/j.landusepol.2015.05.026

Moloney, S., & Fünfgeld, H. (2015). Emergent processes of adaptive capacity building: Local government climate change alliances and networks in Melbourne. Urban Climate, 14, 30–40. http://doi.org/10.1016/j.uclim.2015.06.009

Mukheibir, P., Kuruppu, N., Gero, A., & Herriman, J. (2013). Overcoming cross-scale challenges to climate change adaptation for local government: a focus on Australia. Climatic Change, 121(2), 271–283. http://doi.org/10.1007/s10584-013-0880-7

Rauken, T., Mydske, P. K., & Winsvold, M. (2014). Mainstreaming climate change adaptation at the local level. Local Environment, 1–16. http://doi.org/10.1080/13549839.2014.880412

Renn, O., & Klinke, A. (2013). A Framework of Adaptive Risk Governance for Urban Planning. Sustainability, 5(5), 2036–2059. http://doi.org/10.3390/su5052036

Robson, F. (2016, May 21). A Sceptic Faces the Reality of Climate Change. The Age. Melbourne.

Ruming, K. J., Gurran, N., Maginn, P. J., & Goodman, R. (2014). A national planning agenda? Unpacking the influence of federal urban policy on state planning reform. Australian Planner, 51(2), 108–121. http://doi.org/10.1080/07293682.2014.894105

State of Victoria. (2008). Victorian Coastal Strategy. Melbourne: State of Victoria / Victorian Coastal Council.

State of Victoria. (2012, June). Coastal Climate Change Advisory Committee: Response from the Minister for Planning. Melbourne: Victorian Government.

State of Victoria. (2014). Victorian Coastal Strategy 2014. Melbourne: State of Victoria / Victorian Coastal Council.

State of Victoria. (2016). South Gippsland Planning Scheme Amendment C81 Land Subject to Inundation Overlay. Melbourne: Planning Panels Victoria. Retrieved from http://dsewebapps.dse.vic.gov.au/Shared/ats.nsf/(attachmentopen)/7D98E5C7615FA9DCCA257FA20078C646/$File/South+Gippsland+C81+Panel+Report.pdf

Taylor, B. M., Harman, B. P., & Inman, M. (2013). Scaling-Up, Scaling-Down, and Scaling-Out: Local Planning Strategies for Sea-Level Rise in New South Wales, Australia. Geographical Research, 51(3), 292–303. http://doi.org/10.1111/1745-5871.12011

Victorian Government. (2010). Climate Change Act 2010. Change. Melbourne: Victorian Government. Retrieved from http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubLawToday.nsf/95c43dd4eac71a68ca256dde00056e7b/5c0e606e76b324c7ca25796d0014de79!OpenDocument

Victorian Government. (2012, June 5). Media Release: Coastal planning that's commonsense. Melbourne: Victorian Government. Retrieved from http://www.aeol.com.au/databases/news/vic_coastal_planning_thats_commonsense.htm?zoom_highlight=sustainable+communities+conferences

Webb, R. J., McKellar, R., & Kay, R. (2013). Climate change adaptation in Australia: experience, challenges and capability development. Australasian Journal of Environmental Management, 20(4), 320–337. http://doi.org/10.1080/14486563.2013.835285

Wimbush, N., Harty, C., Martin, H., & Wilson, C. (2010, December). Coastal Climate Change Advisory Committee: Final Report - Volume 1. Victorian Government.

THE SIGNIFICANCE OF ENVIRONMENTAL SUSTAINABILITY IN ERBIL CITY URBAN PLANNING

Session T5.5 | June 2 | 11:00 – 12:30

Karwan Taha
The University of Sheffield, Department of Urban Studies and Planning, UNITED KINGDOM
kmtaha1@sheffield.ac.uk

ABSTRACT: Erbil, locally called Hawler, is the capital of the Kurdistan Regional Government of Iraq has progressed rapidly due to the construction of different urban development projects in various urban development sectors. The urban development projects converted previously open areas including agricultural land to built-up. This challenge sustainability and cause environmental sensitivity. Simultaneously, the KRG initiated environmental sustainable development strategy for the region. Thus, in the context of land use change, this paper seeks to reveal whether and how spatial planning and governance aid environmental sustainability in urban centres. In this sense, three main enquiries emerged first concerning the decision-making processes regarding licensing investment projects, then the source and interpretation of environmental sustainability ideas in the urban policy documents and through the processes. Finally, the reflection of the environmental ideas in the implementation processes. The paper employed the sociological institutionalist approach to providing a better understanding of decision-making processes and discourse analysis in order to provide analysis of actors interpretation to environmental sustainability ideas. Case study as a methodology is adopted, and qualitative methods of data collecting are used. The findings suggest that there is a lack of coordination among involved parties in the decision-making processes. It also revealed that there is a lack of shared understanding among actors involved in the processes. These suggest that the environmental dimension of sustainable development is absence to a wide range in the field of urban development.

KEYWORDS: Erbil; Kurdistan; KRG; environment; sustainability; urban planning; investment.

INTRODUCTION

Erbil, locally called Hawler, is the capital of the Kurdistan Regional Government (KRG) of Iraq. The city has been continuously inhabited for 6000 to 8000 years according to historical sources (Brunn and Williams, 1992). Erbil was also named the tourist capital of Arabian countries in 2014 (National Geographic, 2014). The title was gained in a conference held in Cairo in which the city competed against Beirut in Lebanon, Taif in Saudi Arabia, and Sharjah in UAE (Muhammad, 2012). While the city's skyline used to be famous because of ancient monuments (Maher, 2013), nowadays it is changing due to the rapid urban growth (Ibrahim et al., 2015). The growth of Erbil resulted from the construction of different urban development projects in a variety of urban development sectors (Maher, 2013). This paper acknowledges the historical value and the nature of the city regarding its ability to develop in a variety of urban development sectors (KRG, 2007) such as industry, commerce, and tourism. However, some of this development has undesirable environmental impacts, in which highlight need for finding ways to reduce them. Thus, this paper investigates whether and how ideas about the environment flow through planning and development organisations involved.

The rapid urban growth in the Kurdistan region of Iraq, especially of Erbil city, highlights the need for better planning and management of Erbil city development (Rassam and Dezayi, 2006; Ebraheem, 2013) to ensure a better life for future generations. Over the last two decades, the city has seen rapid urban growth (Ibrahim et al., 2015). In particular, the rapid expansion occurred after 2006 when the new investment law passed by the KRG shortly after the fall of Saddam Hussein's regime. The implementation of this law resulted in a fast urban expansion in which converted thousands of acres of open areas mostly, previously agricultural land, to built-up areas. Various urban development projects are constructed by investors on the previously agricultural lands in which converted to different urban activities such as residential, commercial, tourist, and industrial activities. Although the KRG initiated sustainability strategy in the region, some of the completed projects provide examples of environmentally sensitive planning for the city. On the other hand, the preservation of open areas including agricultural lands is a strategy that

adopted by the government. This large-scale preservation strategy is greenbelt which was set up with goals of enhancing the environment and also limiting the urban expansion in Erbil (KRG,2009). Therefore, these lead us to an argument whether or not spatial planning and governance in Kurdistan aids environmental sustainability (ES) in urban centres. This argument directed me as an architect and Erbil planner to focus on this subject. Moreover, choosing Erbil is not only due to its political value as the capital of the KRG but also, it is a fast growing city which in turn reflects other Kurdish cities in the region. Therefore, three sets of enquiries are raised in order to provide a better understanding of the urban development processes and ES ideas in these processes.

To start with, understanding how the decision-making processes concerning investment projects work is essential. Its essence is attributable to the mechanism and processes in which a number of concerned governmental organisations are involved. These processes need detailed investigation from the starting steps which is the receipt of an application form from an investor, until land allocation procedures for a project. The second set of enquiries is studying the idea of ES in the governments' urban policy documents, and how actors in the processes understood it. This enquiry is set in order to probe the source of the ES ideas, then how it emerged, and finally how actors construe its meaning. The final set of questions is about studying whether these ideas have an influence on urban development processes, in particular, probing whether and which environmental aspects have dominant position through the processes by determining its outcome.

The study employs theories of discourse in order to find out the various interpretations of environmental sustainability in practice. It also uses sociological institutionalism approach for framing discourses and practices. The sociological institutionalism as indicated by Vivien Lowndes investigates the formal rules and informal structures and pays attention to the ways by which institutional bodies embody values, norms, interests and power (Lowndes, 1996). The institutional context generates power but the power is not equally distributed among different parts. It supports organising and empowering certain groups, simultaneously marginalising others (Thelen, 1999), in which legitimate order (Lowndes, 2005;March and Olsen, 2006) but the role of dominant actors is significant because the organisational fields are managed by powerful players (Powell and DiMaggio, 1991). Discourse analysis explains how various interpretation of ES in practice, have impact in practice. It also explains how ideas go from actors to collective actions and what is the actors' perception and reaction to a phenomenon (Schmidt, 2010, p. 2). Schmidt highlighted that the SI "concentrate on social agents who act accordingly to the logic of appropriateness with political institution defined as socially constituted and culturally frames and norms" (Schmidt, 2010a, p. 2). It explains the embedding of meaning in practice, and the discovery of how things are made and what mechanisms used (Hajer and Versteeg, 2005, p. 175).

The format of this paper starts with an explanation of the research methodology adopted and a justification of the used data collection methods. Then, it explains the criteria that guide selecting the studied cases. This is followed by presenting the findings, then a discussion of them in the light of literature. Finally, a conclusion is drawn in which ends up this paper.

METHODOLOGY AND METHODS

In order to examine the questions raised above, there is a need for a methodology which guides analysis and paves the way to providing a detailed explanation. This paper depended on case study as a research methodology. It also adopted three qualitative tools of data collection, which are conducting semi-structured interviews, collecting governmental documents, and revealing data through direct observation of the processes. The direct observation method was employed to reveal how the decision-making processes really work concerning newly proposed investment projects, and what the position of environmental ideas in these processes is. This has been done through attending three decision-making meetings in the concerned governmental organisations which involved in processing urban development projects. This investigation reveals both whether and how sustainability ideas exist and flow through the decision-making processes, and actors' interaction in the processes. The aim of this was to obtain first-hand knowledge about the practices of the policies from the employees rather than indirect information obtained in the interviews (Merriam, 2009, p. 117). Besides, all the required knowledge may not be obtainable, articulable, recountable, or constructable through the interview (Mason, 2002). The methods adopted have generated rich data.

Bringing these applied methods together rested on a realist position. Besides, they provide this project with vital data which, while recognising the complexities, it supports the deconstruction of the processes. Thus, the applied methods elaborated in provided a better understanding of the context and also providing responses to the raised questions. However, before going to the findings section, it may be worth presenting how the cases are selected and what criteria are adopted in identifying them.

CASE STUDIES SELECTION

The overall case study is Erbil which can represent other fast growing cities in the region. However, within the city, smaller cases of particular projects are identified in three urban development sectors. This in order to investigate whether and how ideas about environmental sustainability are employed in these projects.

Certain sets of criteria proposed by the researcher in which guided this study in identifying the cases. The first sets of criteria are linked to the context of the study which is Erbil/KRG, and the second sets are linked to global environmental agendas. In terms of contextual criteria, firstly, the cases have to be implemented on previously agricultural land. In other words, these suggest their contribution to the land use changes from previous agriculture to the built-up area. Secondly, in parallel with the first criterion, the projects have been implemented after 2006. That is to say, they have to be an outcome of the investment law which was voted for and passed by the Kurdistan National Assembly (Parliament) in July 2006. This suggests the impact of this newly passed law on urban expansion and the rapid change in land use. Finally, the identified cases have to be in different urban development sectors.

More fundamentally, the second set of criteria for identifying cases are categorised due to the environmental impact of the cases. Thus, insights from two interconnected environmental agendas have been extracted, which are brown/green agendas priorities and distinctions.

'Brown' and 'Green Agendas' – the terms are used in the literature to identify two broad approaches to sustainable urban development. The first, which is dominant and familiar to urbanists, is related to sanitary and environmental health problems in which lead to direct and immediate environmental health concerns'. Environmentalists promote the second set of issues and described by McGranahan and Satterthwaite as the 'Green Agenda'. The contribution of consuming urban-based production and transferring waste to the ecosystem results in the decrease of resources and change in global climate, the side effects of which may appear in the long term. Regarding the argument of which agenda should be prioritised, proponents of brown and green agendas have not reached an agreement. In particular, conflicts are serious in countries where the environmental management capacity is weak and environmental health problems are serious, for example, Africa's urban areas, Asia, and Latin America (McGranahan and Satterthwaite, 2002).

Land use is another concern of brown-green agenda proponents. The green agenda's supporters point to the fertile agricultural lands which have encroached on by most growing urban centres (McGranahan and Satterthwaite, 2002, p. 52). Such growth also puts considerable pressure on the natural resources surrounding cities (Hassan and Zetter, 2002, p. 22) and these changes are damaging rural ecosystems. Similarly, Brown Agenda proponents share the concern that such development may burden low-income households instead of enhancing their home conditions because urban development can increase land prices' and takes place in locations distant from workplaces. Proponents of the Brown Agenda insist on use land manipulation for the service of low-income people and making their living conditions better in a proper and healthy way. The sustainable urban development would instead increase land supply and keep costs down for all development land in order to improve the life conditions for households by providing secure, well-located housing better services (McGranahan and Satterthwaite, 2002, p. 52).

Regarding the identifying case studies, the brown-green agendas priorities helped to create a framework in which guided our decision. Thus, three cases were selected in which criteria concerning both agendas applied. The manipulation and use of land versus protection of land and support of nature, with immediate impact versus delayed impact (McGranahan and Satterthwaite, 2002).

Bringing together both sets of criteria guided us to study in detail three cases in three different urban development sectors. This reflects what happened on the ground, what environmental impact these cases have, and which environmental aspect is prioritised. Thus, the first case was a gated community project, followed by an industrial project, and the last one was a project within the Greenbelt strategic plan. Apart from the applied criteria, the studied cases could reflect the diversity of the implemented projects and they might also provide a generalizable understanding of the real situation in the context of the study.

DISCUSSION OF FINDINGS

The following sections present a summary of a discussion of findings which starts with the enquiry of the decision-making processes, then the source of ES, and its meanings, followed by the present of these ideas in the development processes. However, before presenting the findings it worth exploring the nature of the involved governmental organisation and the complexity of the urban development processes. The processes of licensing investment project start with the receipt of a proposed urban development project by investment directorate and goes

through different procedures in different involved governmental organisations including land allocation processes. Figure 1 shows the decision-making processes regarding licensing investment project in Erbil.

THE DECISION-MAKING PROCESSES REGARDING LICENSING INVESTMENT PROJECTS IN ERBIL

The decision-making processes consist of several stages including land allocation, in which different governmental organisations are involved. The coordination among the involved governmental structures and actors within them are explored. The findings suggest that there is a lack of coordination between the concerned governmental establishments and involved actors. Besides, partially the reasons behind that are attributable to a lack of orientation and lack of coordination of goals. These findings are investigated through direct observation method at various stages, and interviewing the involved actors. For instance, an interviewee stated that "there is no coordination, every single governmental organisation works for itself, we do not have a clear vision for the future of our region" (A. Hiwa, interviews. 2014, August 27). While this admits the lack of coordination, this attributed to the lack of coordination of goals. Another interviewee from the environment agency state that "well simply there is no coordination between the governmental bodies" (N. Bardi, interviews. 2015, April 21).

These suggest that the actors involved are conscious and knowledgeable regarding what happening surround them. They also know the importance of coordination among involved parties in the development processes. However, the majority of these actors who confess that there is an absence of coordination are part of a coordinated committee in which they participate in the decision-making regarding proposed projects. This raises the question of 'why not?'. Here the power distribution among involved actors is varied. This variety is attributable to a variety of aspects which related are the institutional factors and actors. To start with, the institutional context generates power but the power is not equally distributed among different parts. An example about that could be derived from a newly passed law in an old organisational context. This could provide power and priority to a particular party while marginalising other parties. These institutional characteristics are highlighted in the literature. Thelen (1999) asserted that institutions are reproducing and distributing particular patterns of power unequally. In this it supports organising and empowering certain groups, simultaneously marginalising others (Thelen, 1999), this characteristic suggest that institutions have strong structures (Lowndes, 1996) but the role of dominant actors is significant because the organisational fields are managed by powerful players (Powell and DiMaggio, 1991). This, in particular in the context of changing interests or power shifting relationships between powerful actors (Lowndes, 1996). The idea of power is linked cohesively with the notion of institutions. Institutional studies deals directly with power relations (Hall and Taylor, 1996). The power relations are partly based on the introduction of the formal and informal rules of the game, and it also acknowledges the embodiment of values and power relationship (Lowndes, 2001) in which provides legitimate order (March and Olsen, 2006).

Here the questions about the source of actors' power could raise and this is at the heart of institutionalist approach. The source of actor's power in the context is derived from formal and informal networks, with internal and external sources. Formally, formal rules allow power for a particular agent with a specific role in an identified position. Informally, actors get external support from politics aiding businesses who work within or outside the governmental organisations structure and enhance actors' position. Further, power could be sourced from discursive roots which allow actor communicate ideas and influence institutional context.

Turning now to the empirical pieces of evidence the absence of coordination among involved organisations is attributable to the presence of inherited laws alongside newly established ones which are incompatible. The old organisations operate according to an inherited institution while the newly established structures work due to new approaches. This issue is understandable by some agencies. For instance, the below excerpt is from an interview transcription conducted with a key official which involved in initiating governments policy with foreign corporations.

> *'Unfortunately, the formulation of our governmental institutions is slow and not working efficiently. This is because of the old system that lots of governmental organisations still depend on in the administration routine. Though some new government agencies work due to kind of new approaches, however, bridging them with the old structures is not functioning properly. You know, it is like bringing back a Range Rover to 100 years ago how it will work, well? it will climb mountains. But people do not accepting it because they are not used to it.' (A.Darezh, interviews. 2015, April 20)*

Although the interviewee seems attempt to distance himself from the society, his description about the functionality of bringing together old and new organisations seems justifiable. The challenge of bringing together new and old systems in which operate due to the institutional context is relevant to the institutional constraints. The coexistence of old and new institutions has important implications for strategies of empirical investigations (Lowndes, 2005). Another key actor confesses that there is a privilege of certain law on others.

> *'There are some contradictions between the new investment law and other old laws, but the law of investment is a modern encouraging law which has more privileges. Another point that I want to emphasise is the new investment laws ability to neglect any previous laws in case they contradict it. This means the investment law not only have privilege but it also filled the gap of any administration, and legal problems may occur.' (D. Seid, interviews. 2015, March 17)*

This, on the one hand, suggests that the interviewed official is knowledgeable about the contradictions between the new and the old formal institutions. He also confesses the power of certain institution on other institutions. However, on the other hand, this may mean whatever the is outcome the action is legitimised by the formal law. This finding regarding both the institutional contradicts and the legitimate order are consistent with what cited in the literature. The presence of old and new institutions in which may compete or contradict are highlighted Lowndes (2005) in which they legitimate order (Lowndes, 2005;March and Olsen, 2006) for certain action.

Regarding informal rules, interesting results have been found in which suggest that what guide the decision-making is not only the formal rules of the game but also norms, and values have their meaningful existence in the processes. For instance below is an excerpt from an interview with an official involved in the processes.

> *'Well, the available rules and regulations may not constrain some projects to be implemented. However, I remember my colleagues and me in the committee have refused a case because we thought it hurts our people. An investor applied for licensing a tobacco (hookah) production project. We thought that's not serving people then we refused it. Although we knew that according to the law and regulations we may not refuse it, in particular, the project has passed through the first assessment committees routine. However, our committee as we were five architects in the committee rejected the whole idea because we thought it is not serving people. Actually, there is no law allowing us to refuse it but we felt that the project is not right that's why we refused it. Though all of us agreed upon the refuse, but our justifications were different. Mine was due to religious values, another members intention never related to religion but he felt that's not good for people's health. Other members felt that this is not the real investment thus this investor could apply through other channels but not the investment.' (A.Safar, interviews. 2014, August 25)*

Here values that actors hold underpinned their decisions. The interesting finding here is that different value systems in which derived from actors "assumptive world" [1] or "appreciative system" [2] oriented to the same goal which is the so-called serving public. This is unique in terms of the orientation of goals and also provides similar understanding to the same aspect. On the other hand, and in contrast to the previous example, actors value system aid different decisions. For example, in another case an investor applied for alcoholic production manufacturer, different opinions emerged by actors involved in the processes. An actor rejects it because she states: "I reject this project not because I am a Muslim woman, but I do not think this project is necessary" (A.Shewa, p interviews. 2015, April 23). While another actor accepts it as his justification is that "as far as people consume alcohol there is need for this project because it serves our economy. Why we need to import alcoholic production if we have our manufacture" (M.Lawand, interviews. 2015, April 22). Here actors framing system, such as values, norm, interest (Young et al., 1980, p. 58) conflict and create multiple social realities. Thereby, different interpretations of a social phenomenon occur which aid disagreements and consequently aiding to different acts (Fischer and Forester, 1993).

Another aspect is relevant to actors creativeness in overcoming the structural constraints in the processes. The findings suggest that the available regulations are not constraining actors through the processes. Alternatively, actors can think creatively and decide on particular projects. However, the justification, in this case, is due to the rarity and need of certain project as this excerpt extracted from an interview with a key employee involved effectively in the processes.

> *'Well, I mean what makes us process or refuse a proposed project are not the available regulations. It is true that the regulations are quite important; however they are not the only criteria we depend on. For instance, the rarity of projects sometimes makes us decide on a project. Let me give you an example; our committee received a proposed project which was a compact desk CD manufacturer. In Kurdistan, even in Iraq, there is no CD production manufacture. The proposed project couldn't pass through our criteria. However, we passed it because as a result of the*

[1] The term assumptive world is used by Young referring to the way that individuals make sense of the world depending on the involved aspects in their framing system, such as values, norm, interest, and so on (Young, Mason, and Mills, 1980, p. 58)

2 The term appreciative system is coined by Vickers. His thought is that there is always an appreciative system that actors construct their frames on. Therefore, reality is apprehended by actors frame system driven from a variety of interlinked aspects including facts, values, and interests (Fischer and Forester, 1993).

committee's discussion we agreed that this project is really important. It is rare as there is no similar project in the region. Instead of importing CD to our region from China or whatever country we can produce it here in Erbil which this may serve the city and the region as a whole. I mean the criteria are something like a guideline and some basic general principles, but it does not constrain us in approving some projects that we think it is benefits of our region and citizens.' (A.Darezh, interviews. 2015, April 20)

Agents are self-conscious and self-knowledge, they know how to articulate, discuss, and then legitimatise their thoughts and acting upon it (Schmidt, 2010; 2015). They also have control over processes (Lowndes and Roberts, 2013, p. 197). Thus, the creative actor can manipulate structures. The rational approach attribute this attitude to actors self-interest (Hay, 2002). While this study does not deny agents behaviour regarding self-interest, in this sense the situation is different because the structural manipulation is used for public service and the general benefit rather than self-interest.

THE SOURCE AND MEANINGS OF ES IDEAS

The second set of the questions relevant to provide an understanding of the source of ES ideas in the policy documents, with its meanings. Dealing with this enquiry was done through studying the government's documents. The governmental urban policy documents were collected to find out the presence of environmental ideas. Thus, the relevant documents were categorised, read and analysed in terms of the present of the ES ideas and the source of them. A recurrent theme in the interviews was a sense amongst interviewees that the environmental terms and ideas in which interpreted locally, are initiated by foreign initiatives. The preliminary results show that majority of both the physical and the urban planning documents which contain ES ideas have designed and initiated by foreign companies. This is investigated by studying the relevant documents. Besides, that there are number of foreign consultants who have a contract with governments organisations. For example, in the sense of investigating the source of ES ideas in governments documents a key official provided me with the following answer:

'To shorten your way, and to be direct, the source of the idea of sustainability from the Ministry of (X) is that there are lots of consultants, the consultants are foreign they talk about sustainability and sustainable development. However, when it comes to implementation stage, employees may not have any knowledge about it... There is also a need for preparing society for that…The economic boost in a very limited time did not let us taking other dimensions of sustainability into a count. If you discuss with any responsible officials they say, please leave these theoretical things and let's see the reality.' (A.Hiwa, interviews. 2014, August 27)

Here two interesting themes were drawn. First, the interviewee provided a direct answer to the research question which is probed by the researcher depending on other methods of data collection. Second, the respondent attempts to distance himself from the government's decision-making processes and shift responsibilities while he is involved in the processes. This my reveals actor attempts through their discursive ability to shift responsibilities and communicate critically. This reveals that some actors know that there is something wrong in the process that's why their attempt is to show themselves at a distance from it. Simultaneously, it reveals that some actors trapped in a system which they think it does not work efficiently but feels powerless to change.

THE SOURCE AND MEANINGS OF ES IDEAS

Concerning the quest of ES meanings in the local context, the results indicate that there is an absence of shared understanding of the idea of environmental sustainability among actors at different levels of the decision-making processes. Thus, varieties of interpretation to the concept of environmental sustainability have been provided in which derived from actors knowledge. This finding is not surprising because the nature of defining ES as a pillar of sustainable development (SD) is ambiguous. However, the characteristic of ambiguity and its impact on the processes is different from what have been underlined in the literature. For instance, Levy (2009) attributes the difference in interpreting the ideas is based on actors interests and values in manipulating meanings in a way that serves them (Levy, 2009, p. 13). However, this study attributes these varieties of interpretation rather to actors' knowledge about it, and the structures in which produce them.

Overall concerning the second set of questions, five broad categories have drawn from the analysed data. However, the dominant interpretation among the majority of participants seems to some extent relevant to green agendas priorities. The second category seems relevant to brown agendas discourses. The third category is the interpretation due to actors' discipline. The fourth category is non-environmental interpretation. The final category is the lack of recognition and knowledge about the subject. The link between the provided categories and what creates the variety of definitions seems relevant to agents' background knowledge in the context, with the structures that produce them.

To start with a significant number of interviewee's interpreted environmental sustainable development in the sense of green agenda priorities in which the dominant discourse is regarding the preservation of nature, saving ecosystem, and air quality.

> *'The environment has delivered to us how we can improve it and prevent damaging to hand it out to future generations. Everyone knows that most of the things that happening around the globe are the result of lack of environmental balance which derived from human activities. Consequently, lead to extinction of some creatures, deforestation, global warming, and losing fertile land.' (K.Ari, interviews. 2015, March 26)*

This suggests that the interview is reflective to green agendas environmental discourses in which engage with the preservation of nature. Another interviewee is sensible about the land use changes in terms of change from agricultural to other urban activities:

> *'We have limited land which cannot be reproduced, land is not reproducible. If we keep develop land then what will happen for the future generation. What we need is a clear vision for the future to manage our land effectively and wisely.' (A.Hiwa, interviews. 2014, August 27)*

Other actor's thoughts about environmental concerns seem relevant to brown agendas discourse. For instance, an urbanist who is involved in the urban development processes have concerns about the development in which elements from brown agendas could be drawn upon his vision.

> *'Erbil Down Town project is a huge project. Al-E'mmar Company will implement it I thought what will happen to the sewage of this project and it is not far from the city centre. The land has been allocated for it inside Erbil close to Gulan Tower. How can the government provide electricity for this huge project? That's not our mistake. What will happen to the sewage? Providing these infrastructure services are governments responsibility they have to come and decide what they are going to do with the sanitary in Erbil.' (K.Harem, interviews. 2015, April 7).*

These concerns are relevant to brown agendas ideas. In addition to that, it seems that this actor is predicting the risks of inadequate environmental management but he found himself powerless through the urban development system.

Others whom again involved in the urban policy development processes have provided specific interpretations but seem their knowledge boundaries limited to some green agenda ideas with green architecture discourses. This is not strange as in the context of the study planning issues are mostly apprehended by physical planning and dealt with by architects. Thus, in response to the meanings of environmental sustainability, the powerful discourse among urban planners (architects) was about the enhancement of green areas in projects, the use of environmentally friendly materials, and the renewable energy.

The fourth category is a non-environmental interpretation of the word. For instance, concerning the meaning of environmental sustainable development (ESD), below is an excerpt from a transcription of an interview with a key official.

> *'Concerning sustainable development, the industrial project should have RAD. By RAD, I mean research and development department. In our region, this is a bit hard. I think some industrial projects have this such as Ava Medica, Pioneer for medicine production, Safi Danone for dairy production which is a brand in the Middle East, and they opened a branch in Erbil, and Erbil steel. I know these companies have RAD department. You know there will not be development if there is no RAD department... Because let me explain what is sustainable development. Well, development cannot be achieved without research, and what is sustainability? Sustainability means continuously. Thus, it means continuous development. The same thing is applicable to environmental sustainability there is a need for RAD in all development sectors.' (A.Shewa, interviews. 2015, April 23)*

On the one hand, while this interpretation is a non-environmental interpretation of the word and in environmentalists' perspective worrying, this interpretation is provided by an official has effective attendance through the decision-making processes. On the other hand, this may suggest this participant's consciousness of the status of research in the development processes. In which she connected the concept of ES with research and development.

Finally, other involved actors have purely confessed that they have no ideas about ES and its meanings, though their existence through the decision-making processes is undeniable. For instance, an actor in a high administration position in the decision-making processes confesses that they do not have an idea about it: "Concerning

environmental sustainability, I am sorry I don't know what it about" (G.Dlsoz, interviews. 2015, April 26). Another key official state that: "Well, I'm not sure… what do you mean by environmental sustainability?" (A.Shari, interviews. 2015, August 27), and "Sorry, we don't have anything about that in our directorate, and personally I don't have knowledge about it" (T.Jutyar, interviews. 2014, April 24) is another actors response who involved in the processes.

Although these responses were not very encouraging, they suggest clearly that some main actors have very limited or in worse condition no knowledge about sustainability, while they are an effective part of the processes and also their governmental organisation is effective bodies concerning land and urban development issues. One may ask if actors do not have any idea about their governments' strategy, then how the outcome of these strategies could be shaped. This may also raise enquiries about the structures that providing understanding and guidelines concerning its strategies.

The above-provided examples through the emerged categories are relevant to discourse analysis approach. When actors interpret policy meanings differently leads to misunderstanding and complexity of problems and this creates contestation. So, the discourse analysis explains how diversity in the actors' perceptions of a phenomenon influences the definition of it. The actor's different perception of environmental phenomena leads to imposing of different frames. This strength in discourse analysis leads to its capacity to answer how questions as stated by Hajer and Versteeg. This direction of discourse analysis explains why certain environmental policy "does or does not come about" (Hajer and Versteeg, 2005), by explaining to what extent the outcome of an environmental policy match or does not match the policy itself. Thus, it makes a useful distinction between discourse and practice (Arts and Buizer, 2008, p. 341). In other words, and more empirically it suggests the difference between the policy and its implementation.

THE ES IDEAS AND IMPLEMENTATION PROCESSES

The final set of questions was about investigating whether and how environmental ideas reflected in the development processes, in particular whether and which environmental aspect has dominant position through the processes by determining the outcome.

The preliminary findings suggest that the environmental ideas existence in the processes is weak. This has a reflection in the implemented projects. The weakness of the status of the environment in the processes is attributable to the weakness of environmental agencies. The environmental agencies lack capacity including human to manage the scale of urban development projects. Another essential cause is relevant to the absence of institutionalising environmental ideas. Formally, there are regulations and procedures oblige developers' proposed projects pass through it. This supposed to suggest that the environmental agencies have a powerful position in the processes, but in reality, this has not a great impact, as practically the outcome of the projects suggest that the environmental criteria neglected to a great extent.

This reveals that the environmental aspects of sustainability are presented in the documents rather than practice. However, in some cases, few criteria have implemented. For instance, one of the imposed measures suggests that the investor has to cultivate trees and provide irrigation system in which depend on waste water to be reused, this exists in many projects. However, the developer while did the first condition which is cultivating trees, the second part which is the methods of irrigation is neglected. This could attribute to a variety of interconnected aspects in which relevant to the social organisation, policy per se, and institutional context which underline the distribution of power. The decision-making processes and the outcome of identified project are not only about the hierarchical system, regulations, rather than the mechanisms of communication and control that highlights power-interest networks and relationship between the involved actors with agencies. As identified by Barrett (2004) what shapes the outcome of policy is the nature of interaction during the processes (Barrett, 2004).

CONCLUSION

This study set out to determine whether or not spatial planning and governance aid environmental sustainability in the city of Erbil. Thus, three main enquiries rose in which relevant to the decision-making processes concerning urban development processes, the source of ES and its interpretation, and the investigation of environmental ideas in the development processes. The evidence from this study suggests that there is a lack of coordination between different involved governmental organisations in the decision-making processes concerning urban development projects. In addition to that, the idea of ES is absence through the processes. The reason behind that attributed to a variety of aspects in which related to the institutional settings and actors within them. The investigation has also shown that while the ES ideas are initiated by foreign initiatives, there is a lack of shared understanding among local planners. The absence of shared understanding attributable to the ambiguous nature of ES, also actors' knowledge about it underpins the variety of interpretation. This is one reason, other reasons relevant to the institutional settings and actors within them. Therefore, it seems that the interaction of environmental aspects through the development processes are absent except for bureaucratic purposes.

Overall, this study has attempted to investigate the flow of environmental ideas through non-environmental organisations dealing with spatial planning in Erbil, in which adds to the body of literature. The empirical findings in this study provide a new understanding of the significance of shared understanding of the environmental ideas in the policy development. It also opens other doors relevant to the implication of environmental regulations, and the rule of the law and accountability in these processes. However, the scope of this study was limited concerning following up these issues. It also did not include reviewing the environmental regulations in which suggested by the environmental agency. Further investigations might be needed regarding finding out to what extent the environmental documents such as Environmental Impact Assessment (EIA) have been consulted through the implementation of urban development projects. In addition, examining the quality and relevant of an EIA report to an urban development project per se is another subject that could be studied. These issues may suggest further researches in this field.

ACKNOWLEDGMENT

I would like to thank IUPEA/ the UPE 12 symposium organisers for accepting this paper to be presented at the conference. I also would like to thank the Department of Urban Studies and Planning/ The University of Sheffield for their partial financial support to attend and present this paper. Special thanks go to my supervisory team Dr Stephen Connelly and Dr Matthew Cotton for their continuous support and invaluable guidance. Finally, I would like to appreciate the Human Capacity Development Programme (HCDP/KRG) for sponsoring this study.

REFERENCES

Arts, B., & Buizer, M. (2008). Forests, discourses, institutions: A discursive-institutional analysis of global forest governance. Forest Policy and Economics, 11(5–6), 340–347. http://doi.org/10.1016/j.forpol.2008.10.004

Barrett, S., & Fudge, C. (1981). Policy and Action Essays on the Implementation of Public Policy. London: Methuen.

Barrett, S. (2004). Implementation Studies: Time for a Revival? Personal Reflections on 20 Years of Implementation Studies. Public Administration, 82(2), 249–262. http://doi.org/10.1111/j.0033-3298.2004.00393.x

Brunn, S., & Williams, J. (1992). Cities of the World : World Regional Urban Development (2nd ed.). New York: HarperCollins College Publishers.

Ebraheem, S. (2013). The impact of architectural identity on nation branding: the case study of Iraqi Kurdistan. (PhD Thesis, Manchester Metropolitan University, Manchester, United Kingdom). Retrieved from http://www.sciencedirect.com.eresources.shef.ac.uk/science/article/pii/S0264275115001018

Rein, M. & Schön, D. (1993). Reframing Policy Discourse. In Fischer, F., & Forester, J. (Eds.), The Argumentative Turn in Policy Analysis and Planning. (145-166). London: UCL Press.

Hajer, M., & Versteeg, W. (2005). A Decade of Discourse Analysis of Environmental Politics: Achievements, Challenges, Perspectives. Journal of Environmental Policy & Planning, 7(3), 175–184. http://doi.org/10.1080/15239080500339646

Hall, P., & Taylor, R. (1996). Political Science and the Three New Institutionalisms. Political Studies, 44(5), 936–957. http://doi.org/10.1111/j.1467-9248.1996.tb00343.x

Howlett et al., M. (2009). Studying public policy : Policy Cycles and Policy Subsystems. (Third edition). New York: Oxford University Press.

Ibrahim, R., Mushatat, S., & Abdelmonem, M. (2015). Erbil. Cities, 49, 14–25. http://doi.org/10.1016/j.cities.2015.07.001

Levy, C. (2009). Urbanisation without Social Justice is Not Sustainable. Palette, UCL Journal of Sustainable Cities, July. Retrieved from http://discovery.ucl.ac.uk/1330189/

Lowndes, V. (1996). Varieties of New Institutionalism: A Critical Appraisal. Public Administration, 74(2), 181–197. http://doi.org/10.1111/j.1467-9299.1996.tb00865.x

Lowndes, V. (2001). Rescuing Aunt Sally: Taking institutional theory seriously in urban politics. Urban Studies, 38(11), 1953–1971. 10.1080/00420980120080871

Lowndes, V. (2005). Something Old, Something New, Something Borrowed …. Policy Studies, 26(3–4), 291–309. http://doi.org/10.1080/01442870500198361

Lowndes, V., & Roberts, M. (2013). Why Institutions Matter. London, United Kingdom: Palgrave Macmillan.

Maher, A. (2013). Iraq 10 years on: Good times in Kurdish Irbil. Retrieved 6 October 2013, from http://www.bbc.co.uk/news/world-middle-east-21900576

March, J., & Olsen, J. (2006). Elaborating the new institutionalism. In Rhodes W., Binder, S. Rockman, B. (Eds.). The Oxford Handbook of Political Institutions (pp. 3–23). Great Britain: Oxford University Press.

Mason, J. (2002). Qualitative researching (2nd ed.). London: Sage.

McGranahan, G., & Satterthwaite, D. (2002). Environmental health or ecological sustainability? Reconciling the brown and green agendas in urban development. In Pugh, C. (Ed). Sustainable cities in developing countries: theory and practice at the Millenium. London: Earthscan.

Merriam, S. (2009). Qualitative research : A Guide to Design and Implementation (Rev. ed.). San Francisco: Jossey-Bass.

KRG. (2007). Erbil City Master Plan Report. Erbil, Iraqi Kurdistan: Author

KRG. (2009). Erbil Inner Greenbelt Master Plan Report. Erbil, Iraqi Kurdistan: Author

Muhammad, B. (2012). Erbil named 2014 Arab Tourism Capital. Retrieved 29 September 2013, from http://www.krg.org/a/d.aspx?l=12&a=45887

National Geographic. (2014). Best Trips 2014. Retrieved 16 January 2014, from http://travel.nationalgeographic.com/travel/best-trips-2014/#/erbil-international-hotel-arbil-iraq_72693_600x450.jpg

Powell, W., & DiMaggio, P. (1991). Introduction. In Powell, W., & DiMaggio, P. (Eds), The New Institutionalism in Organizational Analysis (1-40). Chicago; London: University of Chicago Press.

Rassam, S., & Dezayi, M. (2006). Planning and Development Control in Erbil (p. 75). Jordan Amman: UN-HABITAT. Retrieved from http://siteresources.worldbank.org/IRFFI/64168382-1092419001661/20857497/HabitatIraqUrbanSectorStrengtheningProject.pdf

Schmidt, V. A. (2008). Discursive Institutionalism: The Explanatory Power of Ideas and Discourse. Annual Review of Political Science, 11(1), 303–326. http://doi.org/10.1146/annurev.polisci.11.060606.135342

Schmidt, V. A. (2015). Discursive institutionalism: Deliberation, Justice, Protest, and Emotion. In Fischer F., Torgerson D., Durnová A., Orsinin M. (Eds.). Handbook of Critical Policy Studies (pp. 171–190). UK: Edward Elgar Publishing.

Thelen, K. (1999). Historical Institutionalism in Comparative Politics. Annual Review of Political Science, 2(1), 369–404. http://doi.org/10.1146/annurev.polisci.2.1.369

Young, K., Mason, C., & Mills, L. (1980). Urban Governments and Economic Change (p. 95). UK: Social Science Research Council.

DENSIFYING ECUADORIAN MIDDLE CITIES. QUESTIONS, PROBLEMS, DESIGN ISSUES

Session T5.6 | June 2 | 16:00 – 17:30

Antonio di Campli; María de los Angeles Cuenca; María Fernanda Luzuriaga; Holger Patricio Cuadrado
antoniodicampli@gmail.com; mdcuenca@utpl.edu.ec; mfluzuriaga@utpl.edu.ec; hpcuadrado@utpl.edu.ec

ABSTRACT: Many contemporary Ecuadorian middle cities are characterized by particular processes of spatial and social fragmentation related with environmental issues and marked by repetitive low-density urban fabrics.

The relatively small extension of middle-sized cities, moreover, is not accompanied by the definition of polycentric urban structures, on the contrary, here urban growth phenomena almost always strengthen the tertiary, commercial

and administrative roles of consolidated central parts of the city that were already characterized by such features. This phenomenon causes strong commuters movements between downtown and the suburbs.

The purpose of this research is to identify strategies for a spatial and social recomposition of Ecuadorian middle cities and for the redefinition, in most inclusive ways, of its particular forms of dwelling and social interaction at the scale of proximity.

The hypothesis is that precise urban space densification strategies focused on the invention of particular devices characterized by a superposition off uses and functions will help make the urban mosaic of medium size cities more livable and inclusive, configuring a geography of places designed as membrane space between neighborhood inhabited by different social classes.

Research methods put together spatial with social analyses defining specific intervention areas and design themes expressed by densification 'scenarios'. Strategy of urban densification are described by urban densification 'protocols' replicable in different Ecuadorian middle cities. Densification, definitely, here is understood a a series of counter-project defining strategies of consolidation and intensification of uses and social exchanges more than increasing of volumes or inhabitants per hectare.

These counter-projects presuppose a collective ownership and self-management of space founded on the permanent participation of the interested parties with their multiple, varied, and even contradictory interests, skills and visions. It thus also presupposes confrontation. The counter-project help to surpass separations and dissociations between social groups, spaces and finally times. On the horizon, then, it is not a matter of quantities of dense urban fabrics, rather it is a matter of producing space capable to redefine dwelling practices at the proximity scale in a more just and inclusive way.

KEYWORDS: densification; middle cities; social inclusion; membrane; device.

DENSIFYING ECUADORIAN MIDDLE CITIES. QUESTIONS, PROBLEMS, DESIGN ISSUES.

In Ecuadorian middle cities, the solution of specific urban design problems and the redefinition, in a more inclusive sense, of some forms of dwelling and social interaction at the proximity scale, can be pursued through precise urban densification strategies focused on the invention of particular spatial 'devices' characterized by a superposition of uses and functions able to define dense forms of uses and social exchanges along actually residual environmental spaces and nets. The term 'device' is intended in a Foucaltian sense as a machinery apparatus, dispositif (Foucault 1971, 1975), which enhance different forms of power within the city trying to address, in this case, the question of how notions of just/unjust space relate to issues of densification. The configuration of these devices will help make the urban mosaic of Ecuadorian medium-sized cities more spatially diversified and socially inclusive, configuring a geography of places designed as 'membrane' spaces between neighborhoods inhabited by different social classes.

To support this hypothesis, the following text is articulated in three parts: the first part presents a reflection on some Latin American city characters and problems, the second part describes more precisely contemporary Ecuadorian middle cities problems, the last part identifies some urban design strategies.

The Latin American city is generally described by architects, planners and social science scholars, as an 'extreme' space marked by persistent and articulated processes of spatial and social fragmentation usually associated with images of indefinite and uncontrollable urban growths (Gilbert, 1994; Davis, 2007; Kinsbruner, 2010; Franko, 2007). Social, historical, political and economic reasons for such processes have been largely investigated especially in social sciences where, both Latin American and European, different traditions and practices of research, have identified a number of elements that we can synthetically order in two large fields.

The first field consists of spatial and territorial figures and issues. The logics construction of Latin American urban spaces are largely the output of its formal matrix described by the figure of the grid or damero (Joseph and Szuchman, 1995; Rodgers et al. 2012). It is an abstract, purely geometric space, indifferent to physical and social contexts, conceived as a replicable prototype. The grid is made of lines ideally directed towards infinity, defined by movements rather than figurations. A highly symbolic space whose signs correspond to names or numbers. It does not contain places. The desire of isotropy and the search for egalitarian settlement conditions through the abstraction of the damero is however contradicted, since the times of the first colonizations, by a particular dual condition where the utopian social order of the founded cities confronted itself almost immediately with his double, the indigenous city, sometimes planned according to specific social conditions, as in the case of the Jesuit reductions in Paraguay, sometimes built according to regular patterns and symbolic connotations (Carrión, 2001).

The principles of separation and dependence, the dual character of the colonial urban space articulated according to the center-periphery structure has been reproduced in larger scale relations. In Latin America the city, is basically the

only place where to look for the 'good life' (Gutiérrez, 1993; Cummins and Rappaport, 2012). This phenomenon causes constant migration of rural populations eager for social redemption to urban areas.

The second field, marked by political themes, is defined by issues of poor democracy in decision-making and management processes and the persistence of colonial forms in the constructions of urban space. In urban contexts inhabited by lower middle or poor classes, redevelopment and regeneration public initiatives aimed at bringing illegally formed districts into formality are hampered by particular forms of resistance to power and authority on the part of social groups that should theoretically benefit form these transformations. It is a resistance strategy expressed through a non-adherence to more regulated forms of dwelling, public action seeks to promote (Orbea Travez, 2015; di Campli, 2011).

The lack of trust, especially poorest city dwellers express about the purpose and often paternalistic attitudes characterizing processes of informal neighborhoods urban regeneration, produces unexpected effects of dysregulations and trigger a variety of unexpected speculative processes. Examples of such drifts can be found observing some processes characterizing some social housing neighborhood built to solve the residential crisis of informal settlements in Ecuadorian or Colombian medium-sized and large cities whose residents, in many cases, prefer to rent new apartments allocated to them and build for themselves other houses in distant new informal settlements. These new illegal residential areas, built following the redevelopment and inclusion in the perimeter of the formal city of consolidated informal settlements, in turn, require new infrastructure and new services that are often realized through political and electoral exchanges (Orbea Travez, 2015; Carrión, 1973, 1983, 1985).

The transition of these spaces from a condition of illegality to a state of legality, triggers replication of the same process of expansion of the urban space. A process result of an implicit form of blackmail addressed to public administrations by the inhabitants of abusive neighborhoods. The desire for informality, in any case, is not eternal. Improvement of economic conditions of the inhabitants corresponds to a desire of formality and to a greater ability to adhere to models and ways of living of the formal districts.

In a context marked by such processes and logics, the social fabric tends ‘to decant’ in the urban space recomposing itself in layers or homogeneous social groups. If this distinction in the past was mainly linked to ethnic issues (neighborhoods for whites people, mestizos, natives, blacks), what today has gained importance is the economic status although some social groups such as the natives persist in settling in exclusive communities or mingling only with low class mestizos. The result is an urban mosaic where each tile corresponds to specific social groups, urban landscapes, forms of use of the space. A mosaic which in many cases tend to have more and more extended pieces as one moves outward from the center of the city. These processes of fragmentation, separation and definition of asymmetrical relationships between different parts of the city, identify urban areas where each part has a specific role and character, defined functions and inhabited by a distinct social group. The Latin American city, despite its chaotic image, appears to be regulated by rather precise orders and principles (Keiner et al., 2011; Van Cott, 2008).

The place where urban studies and social sciences scholars traditionally observed these phenomena has almost always been the metropolitan city (Perlman, 2010; Bredenoord et al., 2014).

Rio de Janeiro, Buenos Aires, Bogota, Caracas and Lima, were places of investigation and experimentations of complex planning, urban and social design strategies whose successes and failures have been widely debated worldwide. Attention to major centers, to the issues they raise and to the solutions where identified for them, has, indirectly, suggested that in Latin America, the urban question is essentially defined by themes and problems of the metropolis and that the design solutions tested in these areas are substantially exportable in other urban contexts (Burdett, 2014; Lerner, 2014; McGuirk, 2015).

In recent years, however, phenomena such as the political stability of the continent, the general improvement of economic conditions, the emergence and consolidation of the middle class, a general increase in infrastructure resources both at urban and territorial scale, are triggering unprecedented changes in the forms and dwelling imaginaries. From the beginning of the Noughties, across the continent it has emerged, in the discourses of various subjects and social groups, architects, urban planners or politicians, a desire for a different urbanity or cityness, an anxious search for new urban space conditions characterized by less rarefied, less divided, more compact and more cozy dwelling conditions. The preference for less introverted settlement forms, the affirmation of discourses on urban sustainability, ecology, on the importance of public space, the recovery of old incrementalist housing strategies or the success of urban acupuncture experimentations, basically insist, using different arguments or objectives, on the search for a more ‘dense’ urban space.

This desire of density, in the social, spatial and functional sense, is one of the main symptoms that describe the unstable, liquid, condition of contemporary Latin American city. (Salazar, 2001; Rincón Avellaneda, 2004;

Aguiló et al., 2009; Villasante, 1997; Pérez Bustamante and Salinas Varela, 2011; Vera and Padilla, 2011).

At the same time, in many Latin American contexts it is possible to assist to a change in the settlement arrangement at the territorial scale in a less hierarchical sense characterized by the emergence of networks of medium-sized centers that are triggering phenomena of regionalization of economies as well as of territories.

All the above described phenomena are well-connected to one another and define together the outlines of a new urban question which, unlike the classic themes of the Latin American city, requires precise and adequate design strategies (Secchi, 2013).

One of the territories where these phenomena are more visible is Ecuador, a country characterized by a settlement structure arranged according to 'cantonal' logics, supported by an articulated network of medium-sized cities. In Ecuador, this category includes cities with 200,000 and 400,000 inhabitants. Examples are cities such as Riobamba, Ibarra, Ambato, Loja, Machala and, under certain aspects, Cuenca.

This settlement frame, since the early 2000s, following the triggering of migratory inflows from rural areas and the return of previously emigrated abroad families, has acquired a growing strength, unexpectedly capable, in many ways, to balance the might and the attractive power of the couple Quito - Guayaquil, cities with approximately three million inhabitants, respectively, the political and economic capital of the country (Orbea Travez, 2015).

Processes of growth and urban transformations that have characterized in recent years Ecuadorians middle cities tend to present themselves as more controllable than those featuring larger centers as middle cities appear to be less marked by phenomena of uncontrolled expansion of residential suburbs, urban violence and social insecurity that traditionally characterize urban landscapes of metropolitan cities. In many cases, these dynamics are not devoid of dysregulations and serious problems, but medium-sized cities, under certain aspects, have been able to define less conflictual, although not fully integrated, conditions for cohabitation between different groups and social classes. In particular the phenomenon of informality in these cities appears less dramatic, interbreeding or binding in an ambiguous way to the logics of construction of the formal city, thus making processes of distortion often indistinguishable from those of a clumsy urban planning (Carrión, 2001; Centro ecuatoriano de investigación geografica, 1983, 1986). In particular, contemporary Ecuadorian medium-sized cities' urban growth processes are largely outcome of particular economic speculation phenomena promoted by middle class families and by people immigrated since the early 2000s, in countries like Spain or Italy who, have having improved their economic conditions now decide to come back to Ecuador investing their savings in the construction of residential buildings for their families or to be placed on the housing market as houses to rent. Differently from previous phenomena of urbanization that took place in the country, middle class families investments, from the Noughties onward, are no longer directed solely towards the two major centers of Quito and Guayaquil, but to the network of medium-sized urban centers (Orbea Travez, 2015).

Dwelling imaginaries and the economic strength of these actors makes the theme of urban growth project and control, of the cohabitation between different classes and social groups, the solution of the problems of informality and infrastructural equipment, different from those characterizing great size cities which enjoyed a long tradition of research and urban design experiences.

However, some specific processes and problems characterize Ecuadorian medium-sized cities.

The first element that acquires relevance here is the presence of well-defined desires and dwelling imaginaries. These visions and practices appear to be more consolidated and therefore less malleable than those characterizing, for example, some dwelling situations that are identifiable in many large cities peripheries. In Ecuadorian middle cities, the ideal, real or imagined, freedom of choice between alternative forms of living that seems possible to invent in the isotropic urban space is almost always denied by the preference given to the typology of the row house in blocks defined by more or less regular grids and road alignments. Forms of construction of new residential areas are marked by incremental spatial and constructive logics, and by the adoption of particularly 'showy' architectural languages. Here the house is image more than space, a device by which the status and economic condition of the family who live there is affirmed. This prevalence of the visual over the spatial describes the competitive and mental character of many Ecuadorian middle cities urban landscapes.

The satisfaction and enjoyment that people show with respect to these forms of design and construction of residential spaces are an example of these consolidated dwelling practices and imaginaries (Klaufus, 2009, Ouweneel, 2012).

A second element is constituted by the fact that the geometric damero informing Ecuadorian middle cities urban spaces, in its informal as well as in its consolidated and central parts, is almost always indifferent to the environmental system which, in this way, is considered as a residual space marked by phenomena such as hydraulic

or geological risk, ecological instability and degradation. In the overlap and interaction between the abstract grid and the physical urban 'palimpsest', a friction is produced and the environmental system, in its various articulations such as, hydrographic net, geological jumps, agricultural or forest areas, is redefined as a threshold between parts of the city inhabited by different social groups and classes. But, this residual condition, unexpectedly, in some cases, contains a promise. Urban analyses, surveys and field interviews to inhabitants demonstrated that, often, thresholds are places where it is possible to observe forms of social interaction between different social strata, upper classes and lower classes. These dangerous situations are, in many cases, the only real 'public spaces', this is to say, places where some forms of social interaction, conflicts and exchange, are put in scene.

The relatively small extension of middle-sized cities, moreover, is not accompanied by the definition of polycentric urban structures, on the contrary, here growth phenomena almost always strengthen the tertiary, commercial and administrative roles of consolidated central parts of the city that were already characterized by such features. This phenomenon, associated with an ex-asperated functional connotation of urban fabric, helps to highlight a third question, the presence of strong commuters movements between downtown and the suburbs.

A place where these phenomena are easy to observe is Loja, a colonial city located in southern Ecuador of about 200,000 inhabitants, located in an Andean mountain basin corresponding to the Zamora river valley, near the Amazon plains. Loja, unlike other medium-sized cities such as Riobamba or Cuenca, seems to be devoid of particular spatial or urban landscape qualities, therefore it can be considered as a prototypical Ecuadorian middle city. This city, in the last 20 years has transformed itself from a local scale services provider town to an attractive immigration center of rural population from the southern provinces of the country. Lojan urban growth processes have been partly regulated and indulged, producing, however, some effects such as an excessive pressure on the colonial central district, the privileged place for trade and service ac-tivities, and a poor connotation of new suburbs that can be describes in many parts as pure resi-dential neighborhoods.

Investigations on Loja were conducted through urban and social analyses, interviews with local stakeholders and inhabitants that have highlighted some issues on characters, problems and dwelling practices in Loja.

SILENT DWELLING

It is possible to synthetically describe the Lojan urban space as a composition of specialized places, a space functionally and socially divided, marked by clearly defined both spatially and temporally rhythms and forms of dwelling. In general terms, especially in its peripheral parts, this is an urban space that seems weakly appropriated by inhabitants, only some specific practices such as spots of formal and informal commerce or sport activities mark the space. It is therefore a place where forms of dwellings tend to acquire some extreme characters. It is possible to recognize a dense dwelling, which manifests itself, according to well-defined rhythms in some of its more central parts colonized by a variety of forms and commercials practices. At the same time, in most of its exclusively peripheral residential parts, in the richer as well as in poorer ones, a silent and rarified dwelling appears. The public space seems to be substantially considered just an infrastructure for mobility, social interaction practices are evident only in some public or private equipments such as small parks or other welfare amenities.

Separation, alignment, distinction, preeminence of the image over materials and spatial qualites, in its extensive residential parts of the city, urban space, even if it doesn't present particular social insecurity, conditions, offers substantially limited social exchanges opportunities beyond the house front door.

The condition of alienation Lojan dwellers experience in the peripheral built environment they inhabit leads to 'disillusion', which leaves space almost totally blank. A blankness that words convey. Here the consumption of urban landscapes or architecture as pure images dominates. Lojan urban fabric is primarily appreciated and evaluated by way of vision alone, akin to either a thing in a gallery or on a screen, on in an advertisement, rather than the setting in which, especially upper and lower middle-class people, live.

Overall the Lojan urban environment is characterized by spaces that are strange: homogeneous, rationalized, and constrictive. At the same time they are totally dislocated without throughout the Zamora valley according to some repetitive and banal patterns.

The reward of alienation this urban space offers is less some kind of liberating homogeneity and anonymity, than, it recalls a paradoxical situation made up of the dissolution of formal boundaries between 'felicity' and 'misery', and the harsh separations, found in 'public facilities' blocks of terraced houses, 'dwelling environment', that are divided and assigned in isolated fashion to unconnected sites, in spaces which are themselves specialized.

The silent form of dwelling that arises from this situation is set apart from consciousness as a matter of necessity.

Finding a purpose for urban design here is exceedingly difficult; architecture here is just an excess value, an urban adornment or icon. In this context, the expansion of the city is still conceived and realized according to implicitly colonial logics, as an automatic and uncritical repetition of abstract geometrical grids or importation of landscapes. This approach transform buildings and neighborhoods into commodities, products. This urban environment includes widespread disregard for the everyday life and is threatened with dissolution.

ON THE SURFACE: REPETITION EVERYWHERE

Carefully observing Loja, its outskirts and its newer parts, it is possible to affirm that everything here resembles everything else. Urban fabrics, residential typologies, spatial patterns, are repetitive and reproduced as stamps on paper. Such sameness analogizes both abstraction and control, leading toward a degree of indistinguishability between architecture and the city that seems pervasive.

Here everything is cyclical repetition through linear repetition.

Repetition is not a consequence of incompetence, or even a poverty of imagination, but rather is rendered inevitable by a range of spatial practices repeated without reflections. Loja's repetitious urban spaces are the outcome of repetitious gestures (those of architects, planners, dwellers, property developers) associated with two instruments which are both duplicatable and designed to duplicate: the damero and the row house. On the surface, the dominance of repetition could be construed as simply the product of atrophied imaginations. Such a view, though holds the myth of expertise in reserve, while setting aside the possibility that it is space as a product, subject to economies of scale in production, reproducible and attaining its greatest value by being an exchangeable commodity, that overwhelmed the use value of space. In this sense, the quantifiable trumps the qualitative: are these space interchangeable because they are homologous? Or are they homogeneous so that they can be exchanged, bought and sold, with the only differences between thumbing those assessable in money, i.e. quantifiable terms? Whether or not one believes that repetition is a result of a certain similarity between these spaces or a requirement of their status as objects, what is certain is that in Loja repetition reigns supreme.

An urban space of this kind is a product strictu sensu: it is something reproducible, the consequence of repetitive behaviours. Reproducibility, abstraction and quantifiability, the visual dominates the realm of products, akin to the importance of package designing the appeal and sale of products.

What characterizes many of Loja peripheral urban settings is their pronounced visual appearance. They are made with the visible in mind: the visibility of status, people and things, of spaces, and of whatever is contained by them. The predominance of visualization conceals repetitiveness. People look and take sight, take seeing for life itself. People here build on the basis of images.

It is in this condition characterized by persistent colonial spatial logics, by the absence of an articulated and diversified urban space, the home becomes a complex universe of overlapping reference, daily rituals, practical needs, tacit desires and ambitions that talk together in architectural space.

OVERCOMING CARTESIAN (AND CORTESIAN) LOGICS

The colonial idea of smooth and geometrical urban space recalls the concept of space as empty as conceived by Descartes and the absolutist tendencies of Cartesian logics. The limitation of these views of space is that they encourage is mainly an abstract mathematical idea of space, which makes consideration about 'social exchange' seem quite weird, fostering an idea of architecture and of urban settings as an autonomous objects in space, positioned mainly for aesthetic appreciation.

Intended in this way, space is decoupled from time, and thus considerations of social life as unfolding in urban space almost disappear. Briefly stated, 'counter-projects' are then here useful then to redefine urban spaces on the basis of its specificities and to bridge the gap between the mental and social realm, between the implicit colonial habits still conforming contemporary dwelling practices and the space of inhabitants who deal with material things. To realize this, the centrality of social life and social practices in discussion about urban space must be recuperated (Lefebvre, 1968).

The endless extension and rigid separation of abstract geometrical spaces, which exhibit a dominant trend toward fragmentation seems a trend subordinated to automatic ways of thinking of planners, inhabitants as well as of real estate developers. Moreover, separation and fragmentation are the primary conditions and means by which this spatial logics preserves itself producing a constant process of colonization of new areas in order to replicate itself. This kind of urban space seems to be shaped to eradicate spatial differences and to communicate intolerance for it (Park, 1967; Balbo, 1993; Lefebvre, 2003; Davis, 2006).

Working under persistent opaque colonial logics produce and reproduce urban spaces that embody a close association between daily routine and urban reality, within routes and networks which link up the places set aside for work, private life, and localized leisure equipments. By reproducing the feature of a Latin-American colonial space, architects, planners or inhabitants are destined to continuously establish the most extreme separation between places and dwellers. Spaces for social life are almost impossible to achieve under these conditions. In this context, whenever urban reconfigurations, transformations or densifications are discussed in terms of functions or physical densities, in terms of quantities or indicators, the discussion has again left the realm of the social and entered onto that of the abstract. Understanding urbanism according to criteria of objects thus risks insisting on considering architecture and urbanism into items of exchange deprived of their social contents. It is important to recuperate the social. (Lefebvre, 1996, 1992).

AGAINST THE NATIVE GRAIN. COUNTER-PROJECTS

The link between fragmentation of Ecuadorian middle cites and the persistence of colonial logics characterized by specialization, rarefaction, functional and social separation, is not coincidental, their association is inevitable. Thus, a truly alternative space would necessarily entail recapturing connections, redefining new ‘densities’, among dissociated elements and spaces.

There is in Loja an enduring concrete presence of ‘counter-spaces’ (Soja, 2010), and the persistence of certain modes of social life habituated to them. In neighborhoods such as Ciudad Victoria and Ciudad Alegria, parts of the urban environmental system, corresponding to hydrographic nets, are at the same time a residual and dangerous areas sometimes, unexpectedly, hosting interactions or social exchange practices by people coming from neighborhoods inhabited by different social classes. Here the presence of residual vegetable gardens foster some commercial activities; the steep slopes of the quebradas work at the same time as garbage dumps and as playgrounds where middle class and low class youngsters meet. In barrios such as Tierras Coloradas or Obrapia, the pattern of the grid is disturbed by spots of collective space functioning according to precise temporal rhythms, locally knowns as Canchas/Kanchas. These are rectangular dusty spaces dedicated to sports activities that work, especially during weekends, as ‘social condensers’, attracting, at its borders, social groups of different ages, trade and food sales. It is a kind of public space characterizing ancient pre-Columbian settlements that, under certain aspects, is still alive in contemporary Andean cities.

In these instable and poorly defined spaces, then, lies a possibility to construct new spatial codes where the lived, planned and perceived realms can be finally interrelated.

Main objective, then, in the re-qualification of Ecuadorian middle cities, is to define counter-projects, counter-proposals and counter-spaces. This task is a shift from a ‘problematic of space’, or the assertion of an all-encompassing networks of explanations which are a direct expression of abstraction and reductionism in densification strategies, to ‘spatial practices’ (Bourdieu 1984; de Certeau, 1984).

This approach throw into question the primacy of the visual realm in urban regeneration practices, i.e., densification as a quest for metropolitan images, and the graphic dimension which belongs, as one of its chief properties, to an abstract space, a space leading to a generalized state of deprivation.

Anyway it is important to acknowledge that articulating counterproposals and realizing them is no easy task. The obstacle faced by counter-plans or counter-projects may be enumerated. The most serious is the fact that on one side there are ranged resources and strategies on a vast scale while in opposition to these forces stand only limited knowledge and limited interests of generally medium-sized and small territorial spheres. All the same, the necessary innovations can only come out from interaction between projects and counter-projects, planning and counter-planning. it is only through these collisions that proposals for surpassing reality can be invented. It is an optimist attitude.

PROTOCOLS OF LOJA

In order to address some specific urban design problems characterizing Ecuadorian middle cities, two hypothesis can be investigated and tested.

The first hypothesis is that a spatial and social recomposition of Ecuadorian medium-sized cities and a redefinition in most inclusive ways of the forms of dwelling and of social interaction at the proximity scale can be pursued through precise urban space densification strategies.

Talking about urban this specific theme, some clarifications need to be done.

Traditional meanings associated to the concept of urban density are related to current popular discourses such as economic sustainability, reduction of consumption of land, urban sprawl containment. These policies and design techniques are the outcomes of a set of researches and experiences absolutely important and highly relevant. These densification strategies, however, in these contexts, seem able to solve only few problems, mainly related to questions of compactness of urban space, mixité or co-presence of multiple functions, improvement of urban landscapes. These are forms of densification that trigger virtuous uses of abandoned or underutilized urban spaces, reducing problems of the small-scale mobility, relieve the demand for social housing, but, under many aspects, these strategies seem not address directly some relevant issues, social conditions and dwelling practices characterizing contemporary Ecuadorian middle cities (Amin and Thrift, 2002; Amphoux et al. 2003; Bruegmann, 2005; Koek and Maas, van Rijs, 2013; MVRDV, 2006; Schramm, 2008; Gehl, 2011; Sergison, Bates, 2104; Tröger, 2014).

Alternative ideas about urban densification strategies, then, can be defined focusing on the experimentation and the invention of particular devices space of social interaction characterized by a superposition of uses and functions able to define dense forms of use in actually residual spaces. The configuration of these devices will make the urban mosaic of medium-sized cities more livable and inclusive, configuring a geography of places designed as 'membranes' spaces between neighborhoods inhabited by different social classes. The devices are located within the lattice environmental system, quebradas or minor hydrographic nets, actually working as barriers, contact zones or interface zones, between neighborhoods inhabited by different social classes. These in-between linear spaces may be considered as potential sites of subversiveness precisely because the positive rendering of the gaps it describes simultaneously links and separates opposed conditions in just the ways that overly rationalized urban patterns attempt to erase.

Devices and correspond to systems of spaces conceived in section as a sequence of layers that hosts functions and possibilities of use that can be very different: sports equipment, gardens, commercial spaces, nurseries, small craft workshops, recreational areas, schools. Such sequences of layers may correspond to interiors, open spaces or to transitions between inside and outside. These device are physically designed as a sequence of narrow ribbons diluted along the articulations of the environmental system. From the environmental point of view, these 'membranes' are themselves hydraulic machines able to collect and purify rainwaters and waste-waters connecting themselves and improving the ecology of the quebradas.

This strategy of densification neither correspond to an attempt to make the existing urban fabric more porous or functionally mixed, nor it is not based on the adoption of European public space models such as squares, boulevard or arcades. This strategy accepts the functionalist and, in some ways, 'hypermodern' character of this urban space, inserting densification devices in the contact zones between today socially and spatially separated neighborhoods. In the identification and configuration of these devices a central role is therefore given to the upgrading of the environmental network that is redefined in some of its parte as a 'membrane', a contact and and social interaction zone between parts of the city and social groups now separated from each other, inventing new ecological qualities and features.

This particular strategy of densification intended as consolidation and intensification of borders of existing neighborhoods identifies a number of new public open spaces, public facilities, spaces for leisure, commerce and labor, intended as social and environmental interaction devices.

These devices may have from time to time a semi-public, communitarian or fully public character.

A membrane is a selective barrier, not a smooth open surface. It allows some things to pass through it but stops others. In this sense it may acquire the structure and character of an urban interior crossable by subjects, functions, processes.

The result is the definition of a number of innovative 'social condenser', central places able to host a variety of social exchange process related to leisure, commerce, work or sport activities, which will help reduce the current center-periphery commuting movements and able to reinterpret the friction between the abstract grid informing the existing urban fabrics and the residual environmental system. The definition of these spatial devices will redefine in more inclusive way relations between districts inhabited by different social classes, increasing urban comfort qualities. These devices will finally help an incremental physical densification process in its surrounding neighborhoods as its inhabitants with adequate centralities, urban comfort conditions, workspaces and leisure time equipments, will trigger processes of incremental resi-dential modifications. In the Latin American incrementalism tradition, characterized by progressive housing strategies and and participatory design to architecture and urban development, it is possible to see how well-equipped neighborhoods evolve in a definitely physically dense and socially rooted way.

In the persistent colonial dwelling tradition characterizing these territories, inhabitants when they improve their economic or social conditions, move into richer district. In this sense, the strategy of densification here proposed is an attempt to question and criticize this attitude of unrootedness.

Densification, definitely, here is understood a a series of counter-project defining protocols of consolidation and intensification of uses and social exchanges more than increasing of volumes or inhabitants per hectare.

These counter-projects presuppose a collective ownership and self-management of space founded on the permanent participation of the interested parties with their multiple, varied, and even contradictory interests, skills and visions. It thus also presupposes confrontation. The counter-project help to surpass separations and dissociations between social groups, spaces and finally times. On the horizon, then, it is not a matter of quantities of dense urban fabrics, rather it is a matter of producing space capable to redefine dwelling practices at the proximity scale in a more just and inclusive way. These counter-projects represent a challenge of a utopian sort, an utopia of real projects reliant on an orientation rather than a system for their emergence.

The second hypothesis is that the current massive residential growths and the resulting processes of consumption of land and commuting movements will not be solved by traditional policies of urban densification such as the construction of new residential-commercial buildings in the periphery or downtown vacant lots. These problems can be solved in the long run, only through innovative economic and social policies able to put in crisis the persisting colonial imaginaries about rural territories as only productive areas, and through policies able to strengthen the role of small urban centers. What is missing is a public discourse around economies and dwelling imaginaries in rural areas. As long as countryside inhabitants will see the city as the only place where to find the 'good life' the influx of people directed to middle and large cities, will not stop.

This strategy of urban densification address some very specific problems. The goal is to solve some current dwelling problems where social and environmental issues are interrelated. In this sense it is conceived as a design 'protocol' replicable in different Ecuadorian middle cities.

REFERENCES

Aguiló, D., Arteaga, G. and Pedraza, R. (2009) Soportes para la densificación: renovación de poblaciones periféricas en Santiago, Revista ARQ, 050.

Alexander, C. (1964) Notes on the Synthesis of Form. Cambridge, MA: Harvard University Press.

Alexander, C. (1977) A Pattern Language, Towns, Buildings,Constructions. New York: Oxford University Press.

Alexander, C. and Chermayeff, S. (1965) Community and Privacy: Toward a New Architecture of Humanism. New York: Doubleday.

Amin, A. and Thrift, N. (2002) Cities: Reimagining the Urban. Cambridge: Polity.

Amphoux, P., Heynen, H., Vanderburgh, D. and Vöckler, K. (2003) Inside Density: International Colloquium on Architecture ans Cities #1. Carouge: La Lettre volée.

Arpa, J. And Fernández Per, A. (2007) Density Projects: 36 New Concepts on Collective Housing. Vitoria Gasteiz: A+t architecture publishers.

Arpa, J. And Fernández Per, A. (2008) The Public Chance: New Urban Landscapes. Vitoria-Gasteiz: A+t Architecture Publishers.

Arpa, J. And Fernández Per, A. (2010) Next: Collective Housing in Progress. Vitoria-Gasteiz: A+t Architecture Publishers.

Arpa, J., Fernández Per, A. and Mozas, J. (2007) DBook: Density, Data, Diagrams, Dwellings, Vitoria-Gasteiz: A+t Architecture Publishers.

Arpa, J., Fernández Per, A. and Mozas, J. (2009) HoCo: Density Housing Construction & Costs, Vitoria-Gasteiz: A+t Architecture Publishers.

Arpa, J., Fernández Per, A. and Mozas, J. (2011) Density is Home: Housing, A+t Research Group, Vitoria-Gasteiz: a+t architecture publishers.

Arpa, J., Fernández Per, A. and Mozas, J. (2014) This is Hybrid. Vitoria-Gasteiz: A+t Architecture Publishers.

Available at: http://works.bepress.com/fernando_carrion/684

Balbo, M. (1993) Urban Planning and the Fragmented City of Developing Countries, Third World Planning Review, vol. 15, 1, 23–35.

Bates S. and Sergison, J. (2014) High-Rise, High-Density. Cambridge, MA: Harvard University Graduate School of Design.

Beall, J., Kanbur R. and Rodgers, D. (eds.) (2012) Latin American Urban Development into the Twenty First Century: Towards a Renewed Perspective on the City. New York: Palgrave Macmillan.

Bourdieu, P. (1984) Distinction: A Social Critique of the Judgement of Taste. New York: Routledge.

Bredenoord, J., van Lindert, P. and Smets, P. (eds.) (2014) Affordable Housing in the Urban Global South. New York: Routledge.

Brenna, E., Chamies, J., Fuchs, R. J., Lo, F. and Uitto J. I. (eds.) (1994) Mega-city Growth ant the Future. Tokyo-New York: United Nations University Press.

Bruegmann, R. (2005) Sprawl: A Compact History. Chicago: University of Chicago Press.

Burdett, R. (2014) Uneven Growth: Tactical Urbanisms for Expanding Megacities. New York: The Museum of Modern Art.

Caldeira, T. P. R. (2000) City of Walls: Crime, Segregation, and Citizenship in São Paulo. Berkeley, CA: University of California Press.

Campoli, J. (2012) Made for Walking: Density and Neighborhood Form. Phoenix, AZ: Lincoln Institute of Land Policy.

Campoli, J. and MacLean, A. S. (2007) Visualizing Density. Phoenix, AZ: Lincoln Institute of Land Policy.

Carrión, F. (1980) Ecología urbana en Quito durante la década de los setenta. In: Ibarra, V., Puente, S., Saavedra, F. (eds.), La ciudad y el medio ambiente en América Latina, Mexico: El Colegio de México. Available at: http://works.bepress.com/fernando_carrion/35

Carrión, F. (2001) La ciudad construida. Urbanismo en América Latina, Quito, EC: Flacso, Quito.

Carrión, F. (2014) Urbicidio o la producción del olvido. In: Observatorio Cultural, Chile: Ed. Cristóbal Bianchi, Consejo Nacional de la Cultura y las Artes, pp. 76-83.

Carrión, D. (1979) Quito, Renta del suelo y segregación urbana, Quito, EC: Ediciones Quito.

Carrión, D. (1985) Reflexiones sobre el habitat urbano, Quito, EC: Centro de Investigaciones Ciudad.

Carrión, F., Carrión, D. and Flores, E. (1983) La renovación urbana en Quito. Quito, EC: CAE.

Centro ecuatoriano de investigación geografica (1983) El Manejo del espacio en el Ecuador: etapas claves. Quito, EC: IGM de Ecuador.

Centro ecuatoriano de investigación geografica (1986) El espacio urbano en el Ecuador. Red urbana, región y crecimiento. Quito, EC: IGM de Ecuador.

Citton, Y. (2005) Créolectures et politiques membraniques, Multitudes, 22, dossier « Créoles », 203-211 (on line:
http://www.cairn.info/article.php?ID_REVUE=MULT&ID_NUMPUBLIE=MULT_022&ID_ARTICLE=MULT_022_0203).

Cooper Marcus, C. and Sarkissian, W. (1988) Housing As If People Mattered: Site Design Guidelines for Medium-Density Family Housing. Oakland, CA: University of California Press.

Costa Duran, S. and Karakus, G. (2009) High Density Housing. Barcelona:Loft.

Cummins, T. and Rappaport, J. (2012) Beyond the Lettered City: Indigenous Literacies in the Andes. Durham: Duke University Press.

Davis, M. (2007) Planet of Slums. London: Verso.

de Certeau, M. (1984) The Practice of Everyday Life. Berkeley: University of California Press.

De Geyter, X. (2002) After Sprawl, Rotterdam: Nai Publishers/De Singel.

de Lapuerta, J. M. (2008) Collective Housing. A Manual. Barcelona: Actar.

del Real, P. and Gyger, H. (eds.) 82013) Latin American Modern Architectures. New York: Routledge.

di Campli, A. (2011) Espacios criollos, Traza. n.2, Bogotà, CO: Publicaciones Unisalle.

Druot, F., Lacaton, A. and Vassal, J.-P. (2007) Plus. Barcelona: Gustavo Gili.

Fernández Per, A. and Mozas, J. (2006) Density. Vitoria-Gasteiz: A+t architecture publishers.

Foucault, M. (1971) L'ordre du discours. Paris: Gallimard.

Foucault, M. (1975) Surveiller et punir. Naissance de la prison. Paris: Gallimard.

Franko, P. (2007) The Puzzle of Latin American Economic Development. Plymouth: Rowan & Littlefield.

Gausa, M. (1998) Housing: New Alternatives, New Systems. Barcelona: Actar.

Gehl, J. (2011) Life Between Buildings: Using Public Space. Washington DC: Island Press.

Gilbert, A. (1994) The Latin American City. London: Latin America Bureau.

Gilbert, A. (1996) Megacity in Latin America. Tokyo-New York: United Nations University Press.

Gutiérrez, R. (1993) Pueblos de indios : otro urbanismo en la región andina, Quito, EC: Abya-Yala.

Harvey, D. (1973) Social Justice and the City. London: Edward Arnold.

Hauser, P. (1961) Urbanization in Latin America. New York: UNESCO.

Irazábal, C. (2008) Ordinary Places/Extraordinary Events: Citizenship, Democracy and Public Space in Latin America. New York: Routledge.

Isbell, W. (1977) Rural Foundation Urbanism, Urbana: University of Illinois Press.

Jáuregui, J. M. (2003) The Favela-Bairro project. Cambridge: Harvard University Graduate School of Design.

Joseph, G. M. and Szuchman, M. D. (1995) I Saw a City Invincible: Urban Portraits of Latin America, Plymouth: Rowman & Littlefield.

Keiner, M., Salmerón, D., Schmid, W. A. and Zegras, C. (eds.) (2011) From Understanding to Action: Sustainable Urban Development in Medium-Sized Cities in Africa and Latin America. New York: Springer.

Kinsbruner, J. (2010) The Colonial Spanish-American City: Urban Life in the Age of Atlantic Capitalism, Austin: University of Texas Press.

Klaufus, C. (2009) Construir la ciudad andina: planificación y autoconstrucción en Riobamba y Cuenca. Quito: Abya-Yala.

Koek, R., Maas, W. and van Rijs, J. (eds.) (2013) MVRDV: FARMAX Excursions on Density. Rotterdam: nai010 Publishers.

Lefebvre, H. (1968) Le droit a la ville. Paris: Anthropos.

Lefebvre, H. (1972) Espace et politique. Paris: Anthropos.

Lefebvre, H. (1992) The Production of Space. Oxford:Wiley.

Lefebvre, H. (1996) Writings on Cities. Oxford: Blackwell.

Lefebvre, H. (2003) The Urban Revolution. Minneapolis: University of Minnesota Press.

Lerner, J. (2014) Urban Acupuncture. Celebrating Pinpricks of Change that Enrich City Life. Washington: Island Press.

Leupen, B. and Mooij, H. (2012) Housing Design: A Manual. Rotterdam: NAi Publishers.

Lo, F. and Marcotullio, P.J. (eds.) (2001) Globalization and the sustainability of cities in the Asia Pacific Region, Tokyo-New York: United Nations University Press.

Magnago Lampugnani, V., Pryor, E. G., Pau, S.-H. and Spengler, T. (eds) (1993) Hong Kong Architecture: The Aesthetics of Density. New York: Prestel.

McGuirk, J. (2015) Radical Cities: Across Latin America in Search of a New Architecture. London: Verso.

Meta Berghauser Pont, Per Haupt (2010) Spacematrix: Space, Density and Urban Form. Rotterdam: nai010 publishers.

MVRDV (2006) KM3-Excursions on Capacities. Barcelona: Actar.

National Association of City Transportation Officials (2013) Urban Street Design Guide, Washington DC: Island Press.

Orbea Trávez, H. (2014) Interview, Quito, 17 november.

Ouweneel A. (ed.) (2012) Andeans and and Their Use of Cultural Resources Space, Gender, Rights & Identity. Amsterdam: CEDLA.

Park, R. (1967) On Social Control and Collective Behavior. Chicago.

Pérez Bustamante, L. and Salinas Varela, E. (2011) Procesos urbanos recientes en el Área Metropolitana de Concepción: transformaciones morfológicas y tipologías de ocupación, Revista de geografía Norte Grande, 49, September, 79-97. On-line:

http://www.scielo.cl/scielo.php?pid=S0718-34022011000200006&script=sci_arttext

Perlman, J. (2010) Favela: Four Decades of Living on the Edge in Rio de Janeiro. New York: Oxford University Press.

Rakodi, C. (ed.) (1997) The Urban Challenge in Africa. Tokyo-New York: United Nations University Press.

Rawls, J. (1971) A Theory of Justice. Cambridge, Harvard University Press.

Rincón Avellaneda, P. (2004) Análisis de los procesos de re-densificación en Bogotá. ¿Una alternativa al crecimiento urbano sostenible?, Revista Bitácora Urbano Territorial, 008.

Romero, J. L. (1999) Latinoamérica: las ciudades y las ideas. Medellin, CO: Editorial Universidad de Antioquia.

Saggio, A. (2014) Louis Sauer, The Architect of Low-rise High-Density Housing. lulu.com

Said, E. (1993) Culture and Imperialism. New York: Vintage Books.

Salazar, J. (2001) ¿Expansión o Densificación? Reflexiones en torno al caso Bogotá, Revista Bitácora Urbano Territorial, 005.

Schittich, C. (2004) Detail: High-Density Housing. Basel: Birkhäuser.

Schramm, H. (2008) Low Rise High Density Horizontale verdichtungsformen im Wohnbau. Wien: Springer.

Secchi, B. (2013) La città dei ricchi e la città dei poveri. Bari: Laterza.

Sherwood, R. (1981) Modern Housing Prototypes. Cambridge, MA: Harvard University Press.

Soja, E. (2010) Seeking Spatial Justice, Minneapolis: University of Minnesota Press.

Tomoko, S. (2010) Total Housing: Alternatives to Urban Sprawl. Barcelona: Actar.

Tröger, E. (2014) Density & Atmosphere. Basel:Birkhäuser.

Van Cott, D. L. (2008) Radical Democracy in the Andes. New York: Cambridge University Press.

Vera, J. and Padilla, A. (2011) Aproximación a la génesis de la contribución de la densidad en la noción de "ciudad compacta", Revista EURE, 112.

Vienna University of Technology Department for Building Construction and Design (2012) HB2, Housing Density. Wien: Ambra, Wien.

Villasante, T. (1996) ¿Cómo hacer sustentables las ciudades?, Publicación América Latina Hoy, 015.

Wolf, M. (2014) Architecture of Density. Berlin: Peperoni Books.

Young, I. M. (1990), Justice and the Politics of Difference. Princeton: Princeton University Press.

Young, I. M. (2000), Inclusion and Democracy. Oxford: Oxford University Press.

PILOT PROJECTS AND THEIR SIGNIFICANCE IN APPROACHING CHALLENGES – EXEMPLIFIED BY REFUGEE AID

Session T5.6 | June 2 | 16:00 – 17:30

Elena Gilcher; Gerhard Steinebach
Chair of Town Planning, University of Kaiserslautern, GERMANY
elena.gilcher@ru.uni-kl.de; gerhard.steinebach@ru.uni-kl.de

ABSTRACT: Pilot projects aim at generating knowledge for novel challenges of spatial planning. In this paper, we illustrate a pilot project. We depict the lifecycle of this pilot project, from the emergence of the challenge to its execution and continuous evaluation. To illustrate these stages, we exemplify each of them with the current issue of aid for the rush of refugees. Our aim is to establish criteria for identifying conclusions that qualify for general application. These criteria can be transferred to other settings and thus serve for future best practice guidelines.

KEYWORDS: spatial planning; pilot projects; refugees.

INTRODUCTION

Models are developed in various scientific disciplines to reduce the complexity of reality. Models formally describe "some aspects of the physical and social world around us for the purposes of understanding and communication" (Mylopoulos, 1992). They are simplified illustrations of real systems or issues they help to understand. Simplification is characterized by at least three features:

- Illustration – a model is always an illustration of a real object and a representation of its artificial or natural original.
- Reduction – a model does not cover all the attributes of the original. But those that appear generally relevant to the model developer or model user.
- Pragmatism – models are not uniquely associated with its originals. They fulfill a substitution function for certain subjects, within certain time intervals and under restriction to certain intellectual or physical operations.

Every scientific discipline has its own model systematics. In chemistry, e.g., models are devised and used from macroscopic and microscopic observations and test results. They can be indicative of properties and reactions of atoms, ions, molecules and materials. They also serve for the illustration of particles and reactions.

In spatial planning, it is not feasible to create a model and test a hypothesis on it. Spatial planning must go for real world experiments that are realized in the form of pilot projects. A pilot project is a small-scale, short-term experiment that evaluates feasibility, time, cost, adverse events and effect size in attempt to predict an appropriate sample size. The pilot project's acceptability and efficiency are tested in real field experiments. They are conducted in order to generate knowledge and experiences required for the design and deployment of general solutions to a large-scale

problem. They are commonly employed to study novel challenges. Thereby, they test approaches by instance, not by theoretical considerations only. In order to achieve meaningful results, pilot projects have to be scientific monitored.

BACKGROUND

PILOT PROJECTS IN GERMAN SPATIAL PLANNING

For spatial planning, pilot projects are an important research instrument as they represent real field experiments (Henckel et al., 2010). Therefore, pilot projects differ from conventional planning tasks as they do not follow pre-defined processes to attain a target. Their processes are composed of new, individual activities, each distinguishable and continuously evaluated during the project period (Wiechmann et al., 2012). Activities are, e.g., developing and implementing innovative and practical solutions in collaboration with local stakeholders in politics, economy and the civil society. I.e., they are process- and practice-oriented implementations of proposed approaches. As spatial planning decisions usually concern a large population, public authorities like the federal government or the federal states of Germany provide the required financial resources. Pilot projects are selected, developed, accompanied and evaluated by scientific companions. They aim at attaining statements about suitability and practicality of urban or spatial planning concepts. Tools, their effects, side effects, acceptance as well as effort and expenses are of interest (Henckel et al., 2010). A pilot project aiming at a specific target is then carried out in multiple regions or municipalities that serve as an example for the addressed problem's relevant population. Continuous evaluation of the activities implemented in the project is most important. Therefore, cooperation between science and the executing local stakeholders is a priority task. The role of academia is strengthened compared to established conception processes of the federal government and the federal states of Germany (Einig, 2011). In this paper, we focus on the continuous project evaluation. It is fundamental for employing the knowledge derived in a pilot municipality, e.g., for drafting bills that improve the legal framework.

RUNNING EXAMPLE: CREATING A SAMPLE PILOT PROJECT

We will illustrate the advantages of thorough and systematic evaluation by a sample pilot project. Pilot projects share a common lifecycle (see Figure 1) and we will exemplify each stage's practical execution and evaluation by a running example. We chose the unprecedented rush of refugees that currently imposes a great challenge on spatial planning authorities in Europe. It constitutes novel issues, especially to municipalities, to be dealt with. In 2015, Germany registered more than one million refugees and asylum applicants. The European Commission (EC) estimates that between the beginning of 2016 and the end of 2017 up to three million asylum applicants will arrive in Europe (EC, 2015). Due to its novelty, there are no experiences to rely on and thus evaluated solution approaches do not exist. Therefore, the government is likely to initiate a pilot project.

Figure 1: Stages of a Pilot Project

STAGE 1: IDENTIFICATION OF A NOVEL CHALLENGE In SPATIAL PLANNING

The federal government or states apply pilot projects if they identify a novel challenge of spatial planning and its research questions cannot be answered in a different way, e.g., by evaluation of existing experience-based knowledge. Such a challenge is characterized by a significant impact on spatial planning. In the last years, challenges affecting spatial planning were, among others, demographic change, globalization (worldwide competition of locations, economization, knowledge-based society, spatial concentration), sustainable spatial development, climatic change and climate protection as well as environment protection. These challenges have several consequences at federal, federal state and municipal level and solutions to rise to them must be found. The identification of a novel challenge is the first stage in a pilot projects' life.

RUNNING EXAMPLE: FLIGHT AND EMIGRATION TO EUROPE

A novel challenge currently affecting spatial planning is the unprecedented rush of refugees. Armed conflicts, persecution, generalized violence, and violations of human rights caused forced displacement around the world during the last years. This results in millions of individuals being compelled to flee either within or out of their country. By the end of 2014, approx. 59.5 million individuals were violently displaced worldwide (see Figure 2). This global figure included 19.5 million refugees (14.4 million under UNHCR's1 mandate and 5.1 million Palestinian refugees registered by UNRWA2), 38.2 million internally displaced persons (IDPs) and 1.8 million asylum applicants. In 2015, the number of asylum applicants, refugees and IDPs worldwide continued to grow and it is estimated that this figure has surpassed 60 million by far. The main cause of this trend has been the war in the Syrian Arab Republic. In addition to the Syrian crisis, the outbreak of armed conflicts or deterioration of ongoing ones in Afghanistan, Burundi, the Democratic Republic of Congo, Mali, Somalia, South Sudan and Ukraine, among others, have contributed to prevailing trends. Globally, the Syrian Arab Republic is currently the largest source country of refugees followed by Afghanistan, Somalia and South Sudan (2015). Refugees are predominantly hosted by their neighboring countries. The main hosting countries are Turkey, Pakistan, Lebanon, the Islamic Republic of Iran und Ethiopia (UNHCR, 2015).

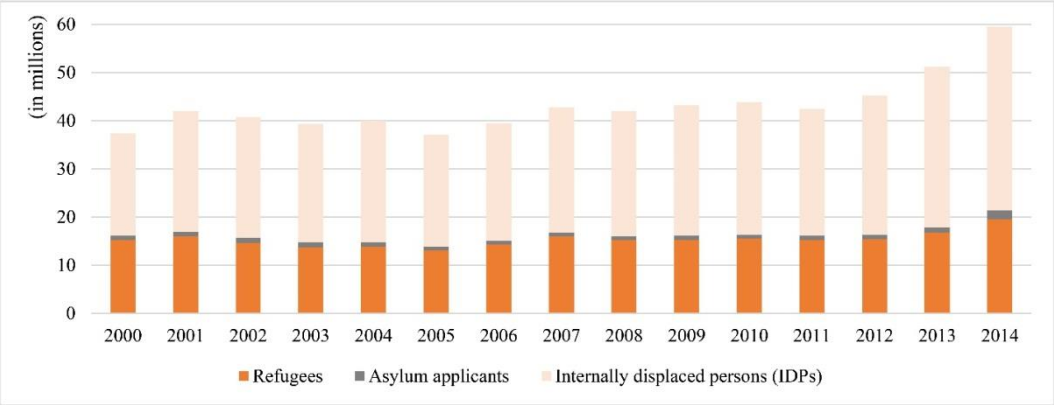


Figure 2: Displacement in the 21st century. Adapted from: UNHCR, 2015.

In the course of this development, Europe also experienced exceptionally large numbers of refugees, asylum applicants and migrants in 2015. This migration movement to Europe is the highest since the end of World War II. Immigrants mainly arrive via the Mediterranean Sea, making Greece, Italy and Spain their foremost country of entrance to Europe. Only a fraction arrives overland travelling through Southeast Europe. The majority is from the Syrian Arab Republic, Afghanistan, Iraq and other conflict-affected countries and regions (UNHCR, 2015).

In 2015, the main destination in Europe was Germany. In this year, almost 1.1 million asylum applicants (FOCUS Online, 2016) arrived in Germany. They were mostly registered in the German EASY System that manages the distribution of asylum applicants throughout the country (BAMF, 2016b). Furthermore, approx. 477,000 asylum applications were filed. Note, that the number of the newly registered refugees is much higher due to the required waiting time between registration and application for asylum. In November 2015, the number of registrations exceeded its previous peak from 1992. This constitutes the highest number of asylum applications in German history. From 2014 to 2015, this number increased by 135%. The top five nationalities of asylum applications are the Syrian Arab Republic, Albania, Kosovo, Afghanistan and Iraq (BAMF, 2016a). After registration in the EASY System, asylum applicants are allocated to an initial reception facility, chosen solely according to currently available capacity. There are acceptance quotas for the individual German states. They define the percentage of asylum applicants each

[1] United Nations High Commissioner for Refugees (UNHCR)
[2] United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

federal state is obliged to accept. It is defined according to the “Königstein Formula” that combines tax revenue and the population of the states. Updates are carried out in a yearly schedule (BAMF, 2016b).

In 1992, a similar migrant movement was recorded in Germany due to the fall of the Berlin Wall, the Gulf war, the Yugoslav Wars as well as the deteriorating situation in the Kurdish populated part of Turkey. This development caused an immigration of almost 440,000 asylum applicants from Eastern and Southeastern Europe (BPB, 2005). Therefore, the migration movement at the beginning of the 1990s has not had a similar extent as the current one. Additionally the migrants came from other regions as well as different cultural backgrounds. Therefore the current situation is considered novel.

The EC estimates that between the beginning of 2016 and the end of 2017 up to three million asylum applicants arrive in Europe (EC, 2015). In the first quarter of 2016, 280,324 (Faigle et al., 2016) refugees and asylum applicants arrived in Europe. The interdiction of the main refugee route across the Aegean Sea and the winter-season are causes for the dramatic decline of the numbers of new arrivals compared to the numbers at the end of 2015. In the same period, the German EASY System registered 173,707 asylum applicants and the German Federal Office for Migration and Refugees registered 181,405 asylum applications (ZEIT ONLINE, 2016). Although the arrivals of refugees and asylum applicants decreased, refugees and asylum applicants will still arrive in Europe and especially in Germany. Thus, the EC retains its predicted figures of arriving refugees and asylum applicants for 2016 and 2017.

RUNNING EXAMPLE: ISSUES AND CHANCES

The basic motivation is to accommodate the arriving refugees and asylum applicants in a way that the quality of living is high, the costs for it are as low as possible and requirements for a successful integration are created preferably well.

To achieve these aims, the parameters of the refugees and asylum applicants must be taken into account: the magnitude of current migration movement, the refugees’ age, gender and cultural background, e.g., ethnicity, race, socioeconomic status, religion, language, as well as educational qualification lead to several challenges. These challenges can be differentiated into short-, mid-, and long-term issues. Short-term issues are, e.g., the initial reception of refugees and asylum applicants and their appropriate allocation. Examples for mid- and long-term issues are spatial concentration of ethnic groups entitled to political asylum, integration into the labor market, social integration and cultural participation (Steinebach, 2016). As this migration movement is unprecedented, there are no experiences or confirmed knowledge to rise to these challenges.

But the current migration movement does not only constitute difficulties. Considering existing demographic challenges, the excellent situation of the German labor market in international comparison, the dwindling supply of skilled workers and the favorable fiscal situation, it possesses the potential to have mid- and long-term benefits for Germany. However, this requires the successful integration into the labor market and into the society – a major effort for the local population as well as for the refugees and asylum applicants.

In comparison to other European countries, Germany has to face significantly larger demographic changes. For more than 40 years, the domestic population declines and it is expected to continue to do so in the next years. Immigration repeatedly prevented a decline in population. Since 2010, Germany attracted a net of 1.8 million persons. With the result that, despite a domestic population decline of 932,000 people, the overall population increased by 820,000 (Folkerts-Landau, 2015).

Not only regular immigration, but also the refugees and asylum applicants have a positive effect on the age distribution of the German population. In the past, the average age of immigrants on arrival was 23.3 years. This is well below the average age of the population in total (44.5 years) and residents without an immigration background (46.8 years) (Folkerts-Landau, 2015). The refugees and asylum applicants now arriving are also significantly younger (see Figure 3). Among the refugees and asylum applicants, the proportion of under-18-year-olds amounts to approx. 30% and of the 18- to 64-year-olds to approx. 70%. In the German population, 15% are younger than 18 years and 62% are between 18 and 64 years old. This results in a “rejuvenating effect”.

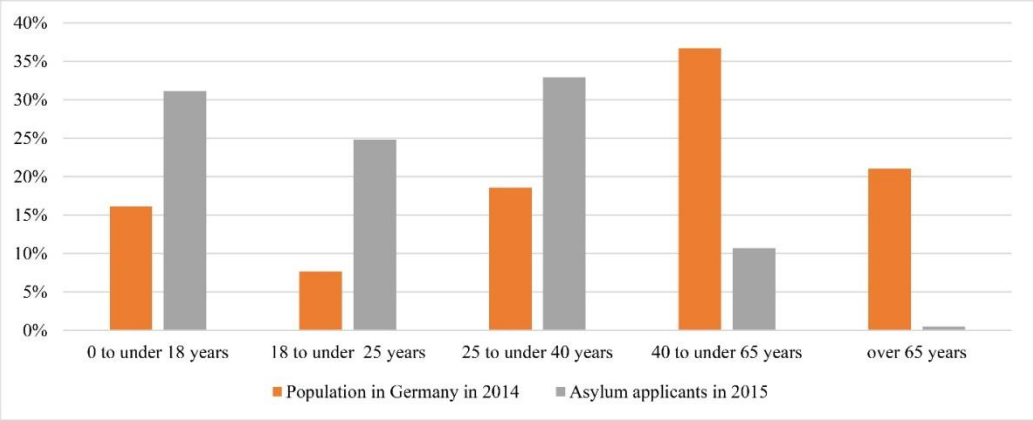


Figure 3: Comparison of age distribution of German population and asylum applicants. Adapted from: Folkerts-Landau, 2015

In the light of demographic change, the rush of refugees can lead to chances especially for shrinking municipalities in structurally weak areas. These municipalities are heavily hit by the decline and the ageing of population causing, e.g., underutilized technical and social infrastructure and vacant (residential) buildings. The allocation of the refugees and asylum applicants can suspend these implications of demographic change and can contribute to a change of the age distribution towards a younger population.

However, due to the novelty of the illustrated issue, there are no reliable experiences and evaluated solution approaches proving if the presented notions are correct. Therefore, it is necessary to initiate a pilot project. The initiators funding the project aim to close the gap in knowledge about handling the listed issues and chances in a way that allows to leverage the depicted chances.

STAGE 2 – CREATION AND PUBLIC BIDDING

The government's pilot projects aim to strengthen the role of municipalities as initiators, partners and recipients of research, development and innovation for a sustainable development of German regions. The collaboration of municipalities with science, industry and civil society organizations should evoke new impulses for the regions' future. Many decisions for a sustainable development are made at municipal level and thus municipalities and their facilities are first recipients and stakeholders for research in sustainability. If municipalities initiate and develop new ideas and solutions in conjunction with science, the chances of their permanent implementation increase. Municipalities should be able to use their creative scope and to actively rise to the challenges of structural changes.

FUNDING PURPOSE

Application-oriented research and development projects are funded. On the one hand, they are used for research and development of new solutions and concepts for municipalities. On the other hand, applications for research and development projects can be filed. They target implementations for test purposes as well as adjustment and further development of existing solutions and concepts. New proof-of-concepts must have potential for implementation in other German municipalities (BMBF, 2014).

The most important requirement for change and adaptation in German municipalities is open-mindedness, acceptance as well as active and broad participation of decision-makers, citizens and social groups. Answers and solutions have to be found on a wide base. The aim is to gain new perspectives and to provide chances. Exploring new avenues, activating citizens as well as conveying even unpopular measures will be emphasized in the public bidding. Therefore, communication, motivation and participation are key factors for coping with future changes in municipalities. One aim of the public bidding is the development and testing of concepts for communication, motivation and participation. These concepts will be developed and/or tested by municipalities in collaboration with relevant experts or designated facilities (BMBF, 2014).

The pilot project should be monitored by a scientific institution. The institution fulfills organizational and substantive tasks. The main objective is the synthesis and preparation of results. As a specific number of projects is selected and funded, the comprehensive interconnection of the projects is another main objective. It includes the following tasks:

- analysis and synthesis of the findings of the funded project on the superordinate level,
- processing and transferring the project's findings to different target groups,
- preparation and implementation of workshops, discussion forums and status seminars,
- development and distribution of information leaflets for the funding project,

- networking with relevant national and European research activities.

FUNDING BENEFICIARIES

The pilot project primarily addresses municipalities and their facilities. Joint projects of municipalities in cooperation with science and/or companies and/or civil society organizations with expertise in the intended topic are worth of funding. The results of the pilot project must have benefits for German municipalities and have to be transferable. Furthermore, collaboration between municipalities is explicitly desired. A joint project can be carried out within a region or transregionally. In case of a transregional collaboration, municipalities facing similar problems and aiming to develop common and transferable solutions should work together (BMBF, 2014).

CRITERIA IN THE PUBLIC BIDDING AND EVALUATION

The application process consists of two stages.

In the first stage, meaningful project outlines have to be submitted for each project proposal. In the case of a joint project, the designated project coordinator must submit a common project proposal (BMBF, 2014).

The received project proposals are evaluated according to the following criteria (BMBF, 2014):

- importance of the objective target: social need and relevance for sustainable and demographically solid development of German regions,
- quality of the approach,
- innovativeness,
- qualification of the partners,
- adequacy of the budget expenses/costs; provision of own resources by municipal facilities,
- application potential,
- applicability of the results for other German municipalities, prospects for nationwide implication of the results, transferability.

The following criteria are specific for the assessment of the project proposals for the scientific monitoring (BMBF, 2014):

- the concepts' quality of the scientific monitoring,
- profile, scientific/technical excellence and previous experience of the applicant,
- effectiveness and efficiency of the proposed organization and management of the project.

The received and peer review-enabled project proposals are evaluated according to the listed criteria, potentially with the help of external reviewers. Based on the reviews, the project ideas deemed appropriate for funding are selected. The initiators will notify the applicants of the result in writing (BMBF, 2014).

In the second stage of the application process, the promoter asks the applicants of positively evaluated project proposals, to submit an official application for funding. After final evaluation, it will be decided, if the project is worth funding (BMBF, 2014).

RUNNING EXAMPLE: PROJECT DESCRIPTION

In 2015, the rush of refugees caused short-term solutions especially for the initial reception of refugees and asylum applicants. Municipalities could not consider mid- and long-term issues exceeding the urgent initial reception yet. These include the question about municipal planning and design options arising from the distribution of refugees during their initial reception. In addition, if the distribution of refugees effects the forecast of demographic change of the relevant municipality and how these can be used for the purpose of a sustainable municipal development.

The allocation of refugees and asylum applicants as part of the initial reception can lead to chances in structurally weak regions suffering from demographic change. But after recognition of the refugees and at the end of residential obligation, emigration from structurally weak areas towards urban areas is expected. Then, established structures of accommodation and initial integration will become obsolete again. However, in urban areas with high population pressure, the shortage of housing opportunities becomes worse. In comparison to possible integration options in rural areas, a spatial concentration of ethnic groups entitled to political asylum can lead to "ghettoization".

The planned pilot project starts at this initial position: It is the overall aim to develop innovative, practically relevant solution approaches in collaboration with municipal stakeholders. These solution approaches should help to

specifically improve the possibility of permanent integration of asylum applicants in regions and municipalities with high demographic challenges.

Key issues are the availability of housing and jobs as well as opportunities of social and cultural participation. Rural regions offer specific chances. There is usually a strong community network for volunteering and clubs offer opportunities for participation. In addition, the possible use of vacant properties in town centers provides accommodation and thus better perspectives of integration. However, agglomerations possess a better developed social and technical infrastructure. The aim is to derive win-win-situations, including municipal stakeholders of politics, economics and civil society.

In the pilot project perspectives and approaches will be developed for the successful and permanent integration of refugees and asylum applicants in decentral located municipalities with high demographic challenges. Municipalities were mainly responding stakeholders in the urgent phase of the refugees' initial treatment and reception. The pilot project aims to support municipalities in the change to be proactive in the refugees' and asylum applicants' integration and settlement for the purpose of a sustainable local and regional development. This should be achieved by the use of dialogue and cooperation formats at the participating municipal locations. Furthermore, resources and expertise of relevant municipal, economic and civil society stakeholders will be pooled.

The following research questions are of particular importance and should be answered during the pilot project:

- What measures can be taken to facilitate the reception of refugees and asylum applicants in the municipalities?
- What are factors for refugees and asylum applicants to stay in rural areas?
- What kinds of measures offer particularly good conditions for the integration on the (local) labor market? What conditions should be created for this purpose and how can these suitable formats be implemented?
- What are spatial implications of the reception of refugees in regions with high demographic challenges in periods between initial reception and recognition as well as afterwards?

RUNNING EXAMPLE: CRITERIA IN THE PUBLIC BIDDING

In the context of our running example, we study a project proposal that requires stakeholders to apply in groups, not individually. Therefore, academic or private institutions interested in the scientific monitoring role have to find pilot municipalities and vice versa. This constitutes the first evaluation within the pilot project's lifecycle. In particular, interested scientific stakeholders preselect their potential partner municipalities based on the following criteria:

- Municipalities have to face outstanding challenges due to demographic change,
- municipalities have to be located in structurally weak rural areas,
- locally, a keen interest, strong commitment and initiatives of civic participation should exist in the reception and permanent integration of refugees and asylum applicants in rural areas,
- municipalities should have an extraordinary way of dealing with demographic challenges,
- municipalities should be open-minded towards innovative solution approaches and collaboration formats,
- local stakeholders should have a vivid interest in participating in the pilot project.

STAGE 3 – APPLICATIONS

The government's pilot project public bidding usually attracts many applicants from the various stakeholders that are envisioned to take part. Depending on the public bidding, it is possible that stakeholders apply individually or in groups.

The municipalities apply by describing their initial situation, current requirements and challenges. The application for participating in the pilot project contains a statement of meeting the criteria given in the public bidding, a definition of objectives as well as a proposal of projects planned to realize during the funding period.

Academia or private institutions can apply in the scientific monitoring role. They demonstrate a possible way to evaluate individual projects and processes of the pilot project. In their application, they have to show, that they meet the criteria given in the project proposal.

It is also common that academia or private institutions interested in the scientific monitoring role have to find pilot municipalities as part of the application.

RUNNING EXAMPLE: FIRST EVALUATION

In our running example, the institutions interested in the scientific monitoring role have to find pilot municipalities, in which projects are performed during the funding period. These municipalities have to meet the criteria already given in the project proposal. On the basis of the listed criteria and detailed preliminary interviews with the mayors of the municipalities, two municipalities are supposed to be chosen by each scientific stakeholder.

The pilot project involves the funded project partners (municipalities and academic institutes conducting the scientific monitoring), associated collaboration and transfer partners as well as a group of experts.

STAGE 4 – EVALUATION OF THE RECEIVED APPLICATIONS BY THE INITIATOR

The federal government or states evaluate the received applications on the basis of various criteria. Most important among them are:

- an application's innovativeness in the proposals to cope with the novel challenges researched in the project, as well as
- the assessment of the municipality's potential pilot function, sample function and transferability of results, i.e., if the municipality can serve as a comprehensive example.

Moreover, in this second evaluation, the project initiators can comparatively analyze different applications. This allows to compare the scientific stakeholders that chose their regional partners in the previous step. Only a small number of applications is selected for participation in a pilot project. Thus, these projects are a competitive instrument of the current spatial planning framework.

RUNNING EXAMPLE: EVALUATION

The project application has to meet the criteria listed in the proposal by the government (see Stage 2).

In regard to innovativeness, the outlined pilot project creates and deploys potential for innovation: The linkage of the topics "integration of the refugees and asylum applicants" and "demographic change" in the light of a sustainable local and regional development is novel. Concerning its novelty and high actuality, it is not sufficiently researched yet. There is also a lack of practical and innovative solutions, drawing on the overwhelming engagement of the initial reception and distribution of refugees in Germany. Nor are mid- and long-term strategies and options present for the permanent accommodation. Neither is the integration into civil society and labor market, especially in peripherally located municipalities. Thus, the social need and relevance for a sustainable and demographically solid development exists.

The pilot project initiates the development and testing of these options. It also provides a moderated platform and qualifying structures. The planned initiation and methodically advice of "Crowd-Solutions"-formats taking various relevant stakeholders and their expertise, resources and ideas into account considers an innovative approach. The examined questions themselves are also regarded as a novel idea. The research and implementation design of the pilot project is explicitly created in an open and unbiased way. Furthermore, additional questions are considered in collaboration with the project group and with the stakeholders during the period of the pilot project.

In addition to the innovativeness of the pilot project and the results, transferability and applicability of the findings is crucial. The evaluation by the proposed advisory panel ensures the scientific quality of the research services and the implementation of the developed solutions. This aspect plays a central role in the evaluation by the initiator.

All things considered, the project application meets the criteria of the evaluation created by the initiator and the presented pilot project is among the selected proposals.

STAGE 5 – EXECUTION OF THE PILOT PROJECT

A controlled distribution of refugees in urban and rural areas is only possible for the duration of the asylum procedure. Once they are persons entitled to political asylum, they have the right for freedom of movement. In the time of the asylum procedure, linkages between the refugees and the municipalities and regions must be created.

RUNNING EXAMPLE: MEASURES FOR A FACILITATED RECEPTION

The commitment and open-mindedness of the local population and motivation of the refugees and asylum applicants is the basis for a successful integration. The population's voluntary engagement is of particular importance. Therefore, a participation process with the citizens is started as they are aware of the strengths, weaknesses as well

as potentials of their municipality. In workshops they set topics and develop individual projects. In this way, the participants can get different points of view and can clarify regionally relevant subjects and important activities. During the period of the pilot project, innovative and practical solutions and individual projects in each topic are developed in working groups. Working groups are a qualified organization and communication structure for the participation of citizens and stakeholders. The working group should meet at a regular basis to communicate effectively next steps and perspectives.

The municipality can engage a refugee coordinator for better integration of refugees and asylum applicants. The coordinator should be experienced in refugee work and is responsible for the following tasks (Verbandsgemeinde Linz am Rhein, 2016):

- Coordination of existing initiatives in the municipalities and region,
- contact for the population and volunteer helpers,
- facilitating existing services and developing new services, e.g., musical society and sports club,
- formation of regional networks comprising all stakeholders of refugee aid in the region,
- construction and establishment of meeting points, e.g., a Café International,
- perpetuation of continuous support and integration.

The refugee coordinator is also responsible for the personal care of the refugees and asylum applicants in the municipality. He also coordinates the duties with the contact persons in adjacent municipalities. The coordinator takes care of the initial reception of the arriving refugees and guides them in their daily life. Furthermore, the municipality is looking for dedicated helpers, supporting the refugees and asylum applicants as welcome sponsors and helping them to settle and find their way in the new environment (Verbandsgemeinde Linz am Rhein, 2016).

In the accommodation and catering of the refugees and asylum applicants, furnishing and household equipment play an important role and determine a large part of human capacity of municipalities. The municipalities develop an app that serves as a platform for information and exchange as well as a file-sharing site facilitating regionally restricted supply and demand. Thereby, the software provides a remedy and effects the municipality's economy. Diverse, cost effective corresponding software modules exist and the software only needs to be tailored to the municipality. Thus, such a platform should be set up shortly and can make the daily routine of the municipal employees and volunteers easier.

The engagement of a refugee coordinator is evaluated positively. The refugees and asylum applicants have a contact person if they need help or information at their arrival in the municipality as well as in their permanent integration. The coordinator also acts as a central contact person for the population, feeds them with information and coordinates voluntary engagement. The coordinator and the welcome sponsors can continuously exchange information about achieved successes and occurred obstacles as well as integration factors. These factors can be considered in their future work. Constant public relations activities via various media are crucial to make sure, that the offer exists and is accepted. If the engagement of one refugee coordinator and the support by the welcome sponsors is not sufficient, another coordinator has to be employed or the responsibilities have to be limited. The development of an app serving as a platform and exchange can make the daily work of the municipality, the refugee coordinator and welcome sponsors easier. Quick access to real time information and permanent update of the data lead to a saving of time.

RUNNING EXAMPLE: INTEGRATION INTO CIVIL SOCIETY

In addition to accommodation and catering of the refugees and asylum applicants, especially the supply of information is a huge difficulty. Mainly, this takes place in paper form and with stale data. Since approx. 80% of the arriving refugees and asylum applicants use a Smartphone or have access to one, an application can be developed, providing all relevant information, communal and multilingual. The app serves as a guide for refugees and asylum applicants, as it supports with addresses, tips and advice regarding the usual procedures and next steps. It contains many general information to everyday life and practice in Germany and about the country itself. Furthermore, it has up to date and dynamic information on local events and services (Heinrich & Reuter Solutions GmbH, 2016; Integreat App, 2016).

In this way, the app eases the orientation and integration to Germany, supporting the refugees and asylum applicants as well as the municipalities and their volunteers.

Figure 3, the refugees' and asylum applicants' age distribution in 2015, shows that they mostly arrive as families in Germany. Children under 16 years are accompanied by at least one responsible adult – usually father and/or mother. Assuming that each child was accompanied by exactly one responsible parent, 60% of all refugees were a part of a family. It is the general presumption, that families with children are hearty welcomed in villages and small towns than in larger cities and their integration is easier than, e.g., of single young men. The contact approach between the

German and foreign children will force this, as they care little about nationalities. Especially in manageable structures of villages and small towns the people know each other. The integration of immigrated children and their parents through local children and their parents will succeed faster than in larger cities. Indeed, the number of inhabitants is larger there, but they disappear in anonymity. Usually, the integration can be built on good working village structures – from sports club to neighborly help (Braun and Simons, 2015).

A further factor arises from the compulsory school attendance for all children. Especially in structurally weak rural areas, the school capacity is underutilized, leading to closing schools. The immigration of the refugees and asylum applicants is often one – and probably the last – chance for the preservation of local schools (Braun and Simons, 2015). An individual project is started, guiding refugee children required to attend school by professionals. They help children with their homework and encourage them to learn and speak German. In addition, play time should not be neglected. A holistic education exceeds the communication of pure expertise. The children are offered an opportunity to play together, to paint, to tinker or to read. The project opens opportunities to children and their families as well as interested volunteers for social transgression, intercultural learning and local encounter and understanding. The professionals are supported by volunteers, who are an important part of the work on which the project is built on. Voluntary work is of significant importance for the project's success (Diakonisches Werk Augsburg e.V., 2016). The aspect of compulsory education leads to chances for the integration of the refugees and asylum applicants as well as the preservation of local social infrastructure.

The integration of refugees and asylum applicants into civil society is a major concern of municipalities. It is important to use present opportunities like the availability of Smartphones. Refugees and asylum applicants can be taught German values, culture, way of life and language in an interactive way. The up to date information about events and local services encourages them to participate and to make contact with local people. However, it must be ensured, that the app is a long-term project and it will be permanently supplied with current information. This is the only way to simplify and to guarantee a permanent integration.

The contact of German and foreign children may also lead to a better and permanent integration. In addition to kindergarten and school, other opportunities for meeting and getting to know need to be constituted. Vacant buildings can be converted to meeting points for families, where the children can play and parents get to know each other and can become friends. The population and the refugees and asylum applicants become acquainted with the different cultures and ways of living facilitating a better integration. The establishment of relations in the local population can be an incentive for a permanent residence in rural areas. Thus, the social and technical infrastructure is used to capacity again and vacant single-family homes are reinhabited.

RUNNING EXAMPLE: INTEGRATION INTO LABOR MARKET

Primarily, integration is successful if refugees and asylum applicants can get a job. In rural areas affected by emigration, the chances for a job are higher than in growing metropolitan areas. An indicator for the chances on the labor market is the number of registered, vacant positions in relation to the population of working age. In big cities like Munich and Hamburg the number of open positions is smaller than in medium-sized towns or rural counties. The reason is simple: In the last years, the number of jobs increased in Munich etc. faster than in rural areas. But the number of employees also rose significantly due to an immigration to these agglomerations. In contrast, the increasing labor demand in rural areas has to face a labor emigration. The conception in rural areas are no jobs available, is simply wrong (Braun and Simons, 2015). Local companies offer internships to ease the access to the German work environment, to gain knowledge about the refugees' and asylum applicants' professional qualification and, if necessary, to improve it. In addition, refugees and asylum applicants get in contact with the local population, can communicate and socialize. During an internship, refugees do not only learn practical skills. The general attitude towards work and German values – punctuality, discipline and reliability – can also be taught. After a successful termination of the internship, the refugees might get a job offer (Heimbach and Wenig, 2016).

The lack of German language is often an obstacle for entering an employment. However, the early acquisition of German language skills is considered as an important element for the integration into labor market. Companies offering internships and jobs as well as volunteers can offer language courses.

In addition to the integration into civil society, the integration into labor market is of central importance. However, the lack of language skills and their qualification are often obstacles for the inception of an employment. But without an adequate qualification, an integration into labor market is even more difficult. Therefore, an internship in local companies is a preferred way to get familiar with the German way of working and to improve qualifications. The refugees and asylum applicants can learn German in the offered language courses and can become friends with the employees. This is a central integration factor. However, the local companies and their employees should provide more opportunities for socializing, e.g., regular soccer matches after work or a shared breakfast once a week. In this

way, the built friendships can be cemented and the integration into labor market as well as civil society is considerably eased.

STAGE 6 – FINAL EVALUATION

The evaluation processes in this final stage of a project's life have not seen much treatment in the literature. In our refugee aid example, we presented real world experiences that are currently made – in pilot projects as well as other initiatives. They cover aspects like the collaboration of stakeholders and refugees that should lead to better integration.

The pilot project shows that the current rush of refugees implicates several challenges. Especially structurally weak rural areas affected by emigration can benefit from migration movement. The refugees and asylum applicants reinhabit vacant buildings, e.g., single-family homes, use local social and technical infrastructure with the result that its preservation is ensured and can compensate the shortage of skilled workers.

Open-mindedness, civic engagement and volunteering are central requirements in the integration of refugees and asylum applicants. At the beginning of the pilot project, the municipal stakeholders and citizens define goals – long-term and short-term goals – as well as the motivation for taking part in the pilot project. In this way, the motivation and engagement is increased.

Furthermore, innovative solution approaches need to be developed due to the novelty of this challenge. The experiences, knowledge and creativity of the various stakeholders involved in the pilot project is in demand.

In addition to the innovativeness of the pilot project and the results, the transferability and applicability of the findings is crucial. The project results are made publicly available by various transfer media like events, information- and online platforms, application oriented manuals and scientific publications. Events for the transfer of the findings to other municipalities and regions will take place at the end of the project. Furthermore, local stakeholders participating in the pilot project are interviewed to have first-hand knowledge of the pilot project's successes and obstacles. In this way, the pilot project is truthfully and efficiently evaluated.

CONCLUSION

In this paper, we focused on the evaluation processes of pilot projects. These are, the continuous evaluation of the proposal's activities as well as the final evaluation that is supposed to identify generally applicable conclusions that can be transferred to large-scale problem solutions.

An evaluation is crucial as gained information, knowledge and experiences of the various stakeholders can be continuously exchanged, and aims and measures can be adjusted during the pilot project. Thus, current findings are included in future work and changing external conditions are taken into account. A continuous evaluation of the process and the results ensures that scientific criteria and also applicability, affordability and transferability are considered in the project. In the end, solutions, ideas and research results are formed. They can be used for the transfer to other municipalities in Germany.

REFERENCES

Braun, R. and Simons, H. (2015). Familien aufs Land - Teil 2: Flüchtlinge kommen überwiegend als Familien und die sind in der Kleinstadt schneller integrierbar - der Staat muss deswegen lenkend eingreifen. empirica paper Nr. 230. Berlin. Retrieved from http://www.empirica-institut.de/kufa/empi230rbhs.pdf (accessed 05/26/2016)

Diakonisches Werk Augsburg e.V. (2016). flap - Flüchtlingskinderbetreuung: Ein Augsburger Projekt. Retrieved from http://www.flap-diakonie-augsburg.de/ (accessed 05/26/2016)

Einig, K. (2011). Funktionen und Folgen von Modellvorhaben für die Politikberatung. Informationen zur Raumentwicklung (IzR). (7/8), 435–451.

European Commission (EC) (2015). Autumn 2015 Economic Forecast: Moderate recovery despite challenges. Retrieved from http://europa.eu/rapid/press-release_IP-15-5996_en.htm (accessed 05/01/2016)

Faigle, P., Frehse, L., Stahnke, J., Blickle, P., & Venohr, S. (2016). Die neuen tödlichen Routen nach Europa. Retrieved from http://www.zeit.de/politik/2016-04/fluechtlingsrouten-europa-mittelmeer (accessed 05/01/2016)

Federal Agency for Civic Education (BPB) (2005). Flucht und Asyl seit 1990. Retrieved from http://www.bpb.de/gesellschaft/migration/dossier-migration/56443/flucht-und-asyl-seit-1990 (accessed 05/01/2016)

Federal Ministry of Education and Research (BMBF) (2014). Bekanntmachungen. Retrieved from https://www.bmbf.de/foerderungen/bekanntmachung.php?B=959 (accessed 05/27/2016)

Federal Office for Migration and Refugees (BAMF) (2016a). Das Bundesamt in Zahlen 2015: Asyl. Nürnberg/Germany. Retrieved from http://www.bamf.de/SharedDocs/Anlagen/DE/Publikationen/Broschueren/bundesamt-in-zahlen-2015-asyl.pdf?__blob=publicationFile (accessed 05/01/2016)

Federal Office for Migration and Refugees (BAMF). (2016b). The distribution of asylum applicants. Retrieved from http://www.bamf.de/EN/Migration/AsylFluechtlinge/Asylverfahren/Verteilung/verteilung-node.html (accessed 05/01/2016)

FOCUS Online. (2016). Rekord-Zuwanderung: Nie kamen mehr Flüchtlinge nach Deutschland als 2015. Retrieved from http://www.focus.de/politik/de-maiziere-stellt-zahlen-vor-rekord-zuwanderung-nie-kamen-mehr-fluechtlinge-nach-deutschland-als-2015_id_5193046.html (accessed 05/01/2016)

Folkerts-Landau, D. (2015). Flüchtlingszustrom: Eine Chance für Deutschland. Frankfurt am Main/Germany. Retrieved from: https://www.dbresearch.de/PROD/DBR_INTERNET_DE-PROD/PROD0000000000365615.pdf (accessed 05/29/2016)

Heimbach, T. and Wenig, C. (2016). So aufwendig ist die Integration von Flüchtlingen. Retrieved from http://www.welt.de/wirtschaft/article153429450/So-aufwendig-ist-die-Integration-von-Fluechtlingen.html (accessed 05/26/2016)

Heinrich & Reuter Solutions GmbH. (2016). Welcome App Germany. Retrieved from http://welcome-app-concept.de/en/ (accessed 05/26/2016)

Henckel, D., Kuczkowski, K. von, Lau, P., Pahl-Weber, E., & Stellmacher, F. (Eds.). (2010). Planen - Bauen - Umwelt: Ein Handbuch (1st ed.). Wiesbaden/Germany: VS Verlag.

Integreat App. (2016). About the project. Retrieved from http://integreat-app.de/en/#start (accessed 05/26/2016)

Mylopoulos, J. (1992). Conceptual Modelling and Telos1. In P. Loucopoulos and R. Zicari (Eds.), Conceptual Modeling, Databases, and Case: An Integrated View of Information Systems Development, 49–68.

Steinebach, G. (2016). LevoPark, Bad Segeberg, Konversion einer Kaserne in eine Erstunterkunft für 2.000 Asylbewerber und die Integration in Arbeitsmarkt und Gesellschaft. Kaiserslautern/Germany.

United Nations High Commissioner for Refugees (UNHCR) (2015). UNHCR Global Trends - World at War: Forced Displacement in 2014. Geneva/Switzerland. Retrieved from http://unhcr.org/556725e69.html (accessed 05/01/2016)

Verbandsgemeinde Linz am Rhein (2016). Bürgerportal AktivRegion Rhein-Wied: Flüchtlingskoordinatorin. Retrieved from https://www.aktivregion-rhein-wied.de/ar-rhein-wied/info_modul.nsf/vwSeiten/seite26?OpenDocument (accessed 05/26/2016)

Wiechmann, T., Mörl, K., & Vock, A. (2012). Evaluation von Modellvorhaben in der Raumordnung. Informationen zur Raumentwicklung (IzR). (1/2), 79–90.

ZEIT ONLINE. (2016). Weniger Flüchtlinge, mehr Asylanträge. Retrieved from http://www.zeit.de/gesellschaft/zeitgeschehen/2016-04/de-maizi-re-weniger-fluechtlinge-mehr-asylantraege

ENVIRONMENTAL PLANNING PROCESS RESEARCH

Session T5.7 | June 3 | 9:00 – 10:30

G. William Page
Department of Urban and Regional Planning
University a Buffalo, The State University of New York
114 Diefendorf Hall, Buffalo, NY 14214-8032, USA
gpage@buffalo.edu

ABSTRACT: Using a detailed case studies research method, this paper reports research that focuses on the process of solving diverse environmental problems. My research identifies deviations from the generic land use planning process that are adapted to resolve environmental problems or to take advantage of opportunities to enhance and preserve environmental amenities. I investigate whether deviations in the type of environmental problem, the scale of the problem, or the level of government in the decision making role produce differences in the process of planning and implementing a solution to the problem.

Planning problems at all scales fit the definition of "wicked problems" as defined by Rittel and Webber, because of the complexity, ambiguity, open-endedness, and their potential for producing conflict (Rittel and Webber 1973). Environmental problems are often especially complex, and creating a plan to solve some environmental problems, such as climate change, have been described as "super wicked problems."

This is research is important, because while there has been considerable study of the generalized planning process, there is less research on the short-term use of the planning process to solve environmental problems. The collaborative process to develop and implement long term master plans has been well studied. These plans are usually 20 to 30 year plans to guide the future of communities; however, creating plans to solve environmental problems differs from the process to create community land use plans in several significant ways. Some of the most striking differences are in problem identification, the technical complexity of the problems, the greater diversity and range of stakeholders and experts involved in the planning process, and in the scale of external funding needed for developing solution options and plan implementation. In addition, proposal writing for pilot projects is often needed to fund research to understand the problem, explore potential solution methods, and to contribute to strong funding proposals to obtain sufficient funds to implement the preferred solution. In this paper, I examine these issues.

There has been research on the collaborative process of solving environmental problems (Margerum and Whitall 2004; Margerum 2008; Margerum 2011). Research by Prokopy et al. (2014) presents a generalized typology that describes the catalytic events that can identify an environmental problem and initiate a planning process to solve some types of environmental problems. There is research that identifies the social criteria that are important in predicting which environmental problems will successfully initiate a planning process to solve the problem (Babin et al. 2015).

In my research, I utilize a case studies method to examine the special planning process issues arising when attempting to solve environmental problems. The case studies of environmental problems studied were diverse:

- Federal Superfund (CERCLA) cleanup of industrial site contamination
- Green infrastructure and environmental services for storm water runoff
- Habitat restoration
- Invasive species control
- Land management for biodiversity
- Landscape management for specific species protection
- Recycling and solid waste management
- Remediating and putting into productive use abandoned industrial properties
- Riparian zone restoration
- Stream and river restoration
- Turning derelict urban land into community gardens
- Wetlands restoration

Each case study documents the identification of the problem, research to understand the problem, plan making, and implementation of efforts to solve diverse environmental problems. Each case documents, over a period of years, the process for planning and implementing solutions to specific environmental problems.

Each case study includes photos over time of the on-the-ground conditions. For some case studies there are photos prior to plan implementation, implementation of solutions in-progress, and outcome changes. The case studies include projects that were successful, partially successful, long-term on-going projects, and failures.

The scale of problems examined by the case studies vary widely, from national or regional problems, for example federal superfund sites and Great Lakes toxic hot spots, to local environmental problems like stream restoration. This is important, because the scale of an environmental problem influences the process of creating and implementing plans to solve the problem. The effort to solve environmental problems becomes more difficult when the scale of the problem is larger and the greater the number of governmental decision-making stakeholders in the process.

This research also investigated the role of professional urban/spatial planners in solving environmental problems. In the case studies investigated, the range of involvement of professional planners ranged from minor to significant. The research documents the roles of planners in the collaborative efforts that produced and implemented plans to solve the specific environmental problems and suggests how academic planning curricula can be modified to enhance the skills professional planners need to play significant roles in the collaborative efforts needed to solve environmental problems and take advantage of opportunities to enhance and preserve environmental amenities.

KEYWORDS: enviramental problems; planning processes; role of urban / spatial planners.

INTRODUCTION

In this paper I report research that focuses on the process of solving diverse environmental problems, which includes identifying and understanding the problem, deciding on a plan of action, and implementing that plan, and the role of professional planners in that process. The paper reviews published research on these processes. It then presents the results of detailed longitudinal case studies which examine different methods used to solve diverse environmental problems. The paper identifies the differences and similarities of the normal environmental problem solving process compared to the generic land use/spatial planning process. This paper concludes with recommendations about the potential roles of professional planners in the process of solving environmental problems and the skills that graduate level professional planning courses can teach to enhance the capability of planners interested in environmental issues to enable them to constructively contribute to collaborative efforts to solve environmental problems.

SOLVING ENVIRONMENTAL PROBLEMS

This research addresses “environmental problems” from a broad perspective. The environmental problem can be any condition of the natural environment that requires human interaction to conserve, protect, remediate, or restore habitat. Efforts to solve environmental problems may range widely, from straightforward conservation efforts and watershed management, to complex environmental cleanup of extensive industrial contamination, and ecosystem restoration.

There has been considerable research on efforts to solve environmental problems. The issues that contribute to success are complicated. Qualitative evaluation of watershed management initiatives found success “appears to correlate with a number of social factors. These factors include the extent of stakeholder involvement, the availability of social capital in the watershed, and the presence of a real or perceived water resource concern or problem” (Mullen and Allison 1999). Research by Prokopy et al. (2014) presents a generalized typology that describes the catalytic events that can identify an environmental problem and initiate a process to solve some types of environmental problems. There is research that identifies the social criteria that are important in predicting which environmental problems will successfully initiate a planning process to solve the problem (Babin et al. 2015). Stakeholder involvement in collaborative efforts to solve problems is often identified as an important prerequisite, and often the most important factor in successful efforts to solve environmental problems (Wondolleck and Yaffee 2000; Sabatier et al. 2005; Margerum 2011; Druschke et al 2015). Some quantitative research has found a positive correlation between community involvement and ecological success (Kondolf et al. 2007). Other research warns that stakeholder presence alone in natural resource decision making will not guarantee successful outcomes (DeCaro and Stokes 2013). This research adds to these studies by discussing how professional planners participate in collaborative efforts to solve environmental problems, and it suggests how graduate planning courses focused on environmental planning might help prepare professional planners to better participate and contribute to these efforts.

CASE STUDIES OF THE PROCESS OF SOLVING ENVIRONMENTAL PROBLEMS

This research analyzes a total of 25 case studies to examine the planning process used to solve environmental problems. These case studies were developed over a period of twelve years, initially as teaching modules for a graduate seminar titled ‘Environmental Planning Methods.’ The environmental problem topics studied include:

- Federal Superfund (CERCLA) cleanup of industrial site contamination

- Green infrastructure and environmental services for storm water runoff
- Habitat restoration
- Invasive species control
- Landscape management for specific species protection
- Recycling and solid waste management
- Remediating and putting derelict industrial properties back into productive use
- Riparian zone restoration
- Stream and river restoration
- Turning derelict urban land into community gardens
- Using waste products for energy production
- Wetlands restoration

Each case study identifies the efforts to identify and understand the problem, decide on a plan of action, and implement efforts to solve diverse environmental problems. They document the process over a period of years from project initiation to implementation and outcomes assessment. Case studies include photos over time of the on-the-ground conditions. For some, photos start from pre-plan development, include implementation of the solutions in-progress, and show outcome changes over time periods of up to 10 years. The case studies include projects that were successful, partially successful, long-term on-going projects, and failures.

The case studies fall into three categories:

1. 'Remediate and Redevelop'
2. 'Environmental Amenity with an Opportunity'
3. 'Autonomous Actors.'

In the following section, I choose and describe a representative case from each category.

1. 'Remediate and Redevelop Cases'. Ten of the case studies were situations where past industrial activity had caused contamination in the soil or groundwater of a property. The contamination violated federal or state laws and required the remediation of the site. Remediation also triggered efforts to put the land back into productive use.

    a. Table 1 presents the case studies included in the category of 'Remediate and Redevelop' case studies.

	Case Study Name	Brief Description
1.	Battery Manufacture Property	Contaminated property of abandoned plant and landfill
2.	Frontier Chemical Plant	Abandoned chemical plant property
3.	Green Pac Paper Plant	New paper plant built on remediated brownfield property
4.	Hickory Woods Neighborhood	New constructed homes built on contaminated land
5.	Love Canal Neighborhood	Residential development built on contaminated land
6.	National Fuel Gas	Contaminated abandoned coal gas manufacturing plant
7.	Remington Rand	Contaminated abandoned manufacturing plant property
8.	Spaulding Fiber	Contaminated abandoned manufacturing plant property
9.	Steel Winds	Wind energy turbines on remediated steel mill property
10.	Union Ship Canal	Redevelopment of remediated steel industry property

Table I: Case studies included in the category of 'Remediate and Redevelop'

The Union Ship Canal is an example of one of the 'Remediate and Redevelop' case studies. The Ship Canal property of 118 acres (47.8 hectares) was the former site of the Hannah Furnace plant, an iron smelting facility linked with the nearby steel plants of Shenango Steel, Bethlehem Steel and Republic Steel in Buffalo, New York. The ship canal, connecting to Buffalo Harbor and Lake Erie, allowed ships to efficiently deliver iron ore and other supplies to the site.

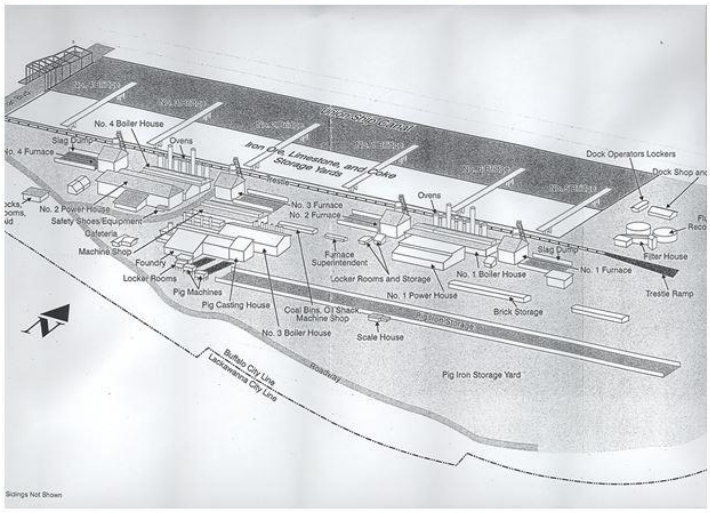
The City of Buffalo took ownership of the derelict property in lieu of taxes in 1997 and, working with the New York State Department of Environmental Conservation (NYS DEC), started environmental remediation of the property in 2003. While there was widespread low level contamination from the furnace operations, the most serious contamination from PCBs and other toxic chemicals resulted from illegal dumping on the derelict property after industrial activity ceased. The cooperative effort had the DEC supervising the remediation work, which included toxic

substances removal and treatment, clean soil spreading, sealing the bottom of the Ship Canal and creating benthic and fish habitat in the canal.

Starting in 2010, the Buffalo Urban Development Corporation, working for the Buffalo Office of Strategic Planning, led the effort to transform the remediated property into the Buffalo Lakeside Commerce Park. The plan for the site has three components: (1) Green space around the Union Ship Canal, (2) small-scale light industrial/office use around the green space, and (3) 'Big Box' industrial use around the outside perimeter of the site. The green space component is a 22 acre (9 hectare) pocket park, the Ship Canal Commons. This park includes the habitat improved canal, a boardwalk and promenade, cobblestone paths, landscaping, and benches around the waterway. It is connected by a bicycle/pedestrian trail to the Lake Erie shoreline trail and downtown Buffalo.

The Union Ship Canal case study is an example of professional planners having the major role in solving the environmental problems on the property. Professional planners at the Buffalo Urban Development Corporation and the City of Buffalo Office of Strategic Planning were in charge of this project. They set the goals of the project. Working with the city's Division of Environment, they worked with NYS DEC technical staff to insure the remediation of contamination on the site was appropriate for the future intended land use of commercial and industrial use.

Figure 1: Diagram of Hannah Furnace and Union Ship Canal 1940s



Source: Buffalo Urban Development Corporation

Figure 1: about here

Figure 2: Union Ship Canal after remediation, before park construction in 2007

Source: G. William Page photograph

Figure 2: about here

Figure 3: Ship Canal Commons Park at Union Ship Canal 2015

Source: Buffalo Urban Development Corporation

Figure 3: about here

2. 'Environmental Amenity with an Opportunity'. Nine of the case studies involve a situation where there was an opportunity to intervene to restore, enhance, preserve or protect an environmental amenity.

   a. Table 2 presents the case studies included in the category of 'Environmental Amenity with an Opportunity' case studies.

	Case Study Name	Brief Description
1	18 Mile Creek	Stream restoration, fishery habitat, and superfund cleanup
2	Brookshire EIS	Suburban proposal involving wetland protection
3	Joseph Davis State Park	Habitat enhancement and invasive species control
4	McKinstry Creek	Stream restoration
5	Pittsford Greenprint Plan	Open space protection plan in suburb
6	Niagara Gorge	Habitat enhancement, invasive species, and landslide danger
7	Seneca Bluffs	Habitat enhancement, invasive species, greenspace park
8	Times Beach	Habitat enhancement, nature preserve, invasive species, former

Table II: Case studies included in the category 'Environmental Amenity with an Opportunity'

   b. Seneca Bluffs is an example of one of the 'Environmental Amenity with an Opportunity' case studies.

Seneca Bluffs is a 15 acre (6 hectare) parcel of land bordering the meandering Buffalo River about 5 miles south of the city center of Buffalo, New York. The property had been used for vegetable farming on deep fertile soil until about 1940 when encroaching urban development left only a narrow, irregularly shaped parcel that remained vacant. The property became the site for deposition of construction and excavation fill material and for illegal dumping.

In the 1990s, the Erie County Department of Environment and Planning, as part of an environmental inventory of the county, placed this parcel of land on a list of properties with special environmental attributes for future consideration. In 2004 the county budget had resources and Seneca Bluffs was selected to be developed as a green space pocket park, one of several such parks along the Buffalo River Greenway intended to link urban and suburban communities by land and water. The Department of Environment and Planning led the effort to engage diverse stakeholders and neighborhoods located near the property to identify goals for the pocket park, then developed and implemented a plan to create the park.

In 2005, implementation of the work plan began with three major stages: (1) removal of large debris, including several abandoned and burned automobiles, (2) removal and control of invasive species, and (3) habitat restoration with a network of foot paths. Stage 2 of this work plan has been the most complicated and is still on-going eleven years after the start of work. The invasive species had developed into dense monocultures in specific locations that were often too dense to pass through. The four most prevalent invasive species on the property are: Japanese knotweed (Polygonum cuspidatum), mugwort (Artemisia vulgaris), common reed (Phragmites australis), and purple loosestrife (Lythrum salicaria).

The project team selected invasive species control strategy of habitat modification, especially on the upper terrace portion of the property. Deep tilling to bring root material to the surface for removal was used to kill the invasive species. This was followed by introducing a selection of native deciduous trees that, when mature, should shade the ground sufficiently to prevent the growth of the shade intolerant invasive species now dominating the Seneca Bluffs property. To control the invasive species until the tree plantings grow tall enough to provide the needed shade, native grasses and other ground cover were planted. Chemical spot treatments and cutting have been used where needed to control new growth of invasive plants.

This invasive species control strategy is a long term strategy because deciduous trees are slow growing. The trees planted in 2005 are healthy and growing well. Additional trees are planted every few years. Despite this progress, the Japanese knotweed and other invasive species annually reinvade the groundcover, and the cutting or chemical spot treatment is expensive. There is no ongoing source of funding. Use of volunteer or other untrained groups to cut unwanted invasive plants has often caused significant loss of planted native groundcover plants (see figure 6).

Erie County and City of Buffalo planners were in charge of the Seneca Bluffs case study project. Staff from the two government offices cooperated. Staff from Erie County Department of Environment and Planning set the goals for the project, obtained funding for the work, involved the neighborhood and community in the park planning, and hired an environmental consulting company who provided technical staff to determine work needed and supervised the work.

Figure 5: Seneca Bluffs fall 2009, after fourth growing season with impressive groundcover and growing trees

Source: G. William Page photograph

Figure 4: about here

Figure 4: Seneca Bluffs fall 2005, one growing season after planting trees and grasses and groundcover plants

Source: G. William Page photograph

Figure 5: about here

Figure 6: Seneca Bluffs 2013 with good tree growth, but unintended groundcover damage from invasive species control

Source: G. William Page photograph

Figure 6: about here

3. ‘Autonomous Actors’ case studies. Six of the case studies involved a single organization that was sufficiently autonomous to initiate, plan, finance, and implement a project to solve a specific instance of an environmental problem with a relatively minimal collaborative effort. Four of these six case studies involved privately owned companies working to create a profitable business that would contribute to

solving the problems caused by waste products, e.g. municipal solid waste, plastic waste, sewage sludge and food waste. One case study was of a municipal sewerage authority implementing green infrastructure pilot projects. The last of these 'Autonomous Actors'cases is a local nonprofit organization created to convert derelict vacant lots in a city to community gardens.

a. Table 3 presents the case studies included in the category of 'Autonomous Actors' case studies.

1.	Case Study Name	Brief Description
2.	Caesella Recycling	Innovative single bin municipal solid waste recycling facility
3.	Grass Roots Gardens	Converting derelict lots to community gardens
4.	Green Infrastructure	Pilot project to study storm water management alternatives
5.	Modern Landfill	Landfill with energy recovery and greenhouse tomato production
6.	Plastic to Oil	Approach to convert plastic waste into transportation fuel
7.	Quasar	Convert sewage sludge into energy, fuel, and soil amendment

Table III: Case studies included in the category 'Autonomous Actors'

b. The Green Infrastructure Pilot Project is an example of one of the 'Autonomous Actors' case studies.

Buffalo, like many older cities, has a combined sewer system, which is a system of sewers that carry both raw sewage and storm water runoff. Because heavy precipitation flowing into storm sewers creates volumes beyond sewage treatment plant capacity, during heavy precipitation events many of these sewers discharge the combined raw sewage and storm water runoff into streams, rivers and lakes. The United States Environmental Protection Agency now requires all cities to stop these discharges of untreated sewage into the environment. The most common infrastructure remediation options are extremely expensive and the construction is disruptive. Buffalo and some other cities are using green infrastructure pilot projects to evaluate their potential as an alternative approach to address this problem.

The carefully planned and monitored pilot project in Buffalo is testing three techniques to control storm water and avoid flooding while keeping the run-off out of the sewer system. The three techniques are: (1) disconnecting downspouts that take water from building roofs directly into the sewer system and then storing it in run-off barrels from which it can be used for lawn and garden watering or other uses; (2) that replacing normal street pavement with porous pavement that allows precipitation to flow through the pavement into a specially constructed road bed under the top pavement in order to percolate into the soil; and (3) creating rain gardens that are special bio retention structures. The rain gardens are constructed to allow storm water running down a street to be diverted through an opening in the road curb leading into the rain garden located in the public road right-of-way where the water can then percolate into the soil. This project monitors five residential streets and one commercial street, as well as adjacent streets without the green infrastructure which are controls for the pilot project. Each of these street segments measures precipitation and storm water that reaches the down slope end of the storm sewers of the pilot projects and controls.

Professional planners had little involvement in the Green Infrastructure case study project. The Buffalo Niagara Riverkeeper, a private non-profit corporation, and the Buffalo Sewer Authority cooperated in setting the goals and directing this project. The Sewer Authority was primarily responsible for the technical work, infrastructure construction, data collection, and analysis of the monitoring data to determine the success of the pilot project. Riverkeeper was primarily responsible for community cooperation and the raingarden plantings. If this pilot project warrants wide implementation, professional planners will become heavily involved in the process.

Figure 8: Green Infrastructure rain garden on a commercial street

Source: G. William Page photograph

Figure 7: about here

Figure 7: Green Infrastructure rain garden on a residential street

Source: G. William Page photograph

Figure 8: about here

ANALYSIS OF CASE STUDY DIFFERENCES AND SIMILARITIES

The environmental problems examined by the case studies vary widely in scale from international to local environmental issues. This is important, because the scale of an environmental problem influences the process of creating and implementing plans to solve that problem. As the scale of the problem increases, so too does the number of governmental decision makers and stakeholders in the process. Planning problems at all scales fit the definition of 'wicked problems' (Rittel and Webber 1973). Environmental problems are often especially complex, and creating a plan to solve some environmental problems have been described as 'super wicked problems' (Levin 2007).

While there has been considerable study of the generalized planning process, there is less research on role of professional planners and the planning process to solve short-term environmental problems. The collaborative process to develop and implement long term plans has been well studied. Master plans and land use plans/spatial plans are often 20 to 30 year plans to guide the future of communities.

Generalizations about the process of solving environmental problems, especially the role of planners and the planning process in these efforts, remain valid over the long term. Individuals with technical expertise largely have the responsibility to make sure the environmental problem is solved. The person responsible for this process often works for the public sector such as the New York State Department of Environmental Protection, a private sector actor (a corporation), or sometimes for a private sector consulting firm hired to direct the necessary work. This is largely a top down structure where there is a single person in charge of determining and supervising the environmental action to solve the problem. Over the past few decades there has been increasing recognition of the importance of collaboration in diverse efforts to solve environmental problems; however, the collaboration occurs within the

primarily top down structure. Professional planners usually have a relatively small role, largely related to land use issues, in these collaborative efforts.

The attempts to solve environmental problems often differ from the process to create community land use plans in several significant ways. Some of the most striking differences between the two are in problem identification, the technical complexity of the problems, the greater diversity and range of stakeholders and experts involved in the problem solving process, and in the scale of external funding needed for developing solution options and plan implementation. In addition, proposal writing for pilot projects is often needed to fund research to understand the problem, explore potential solution methods, and to contribute to strong funding proposals to obtain sufficient funds to implement the preferred solution.

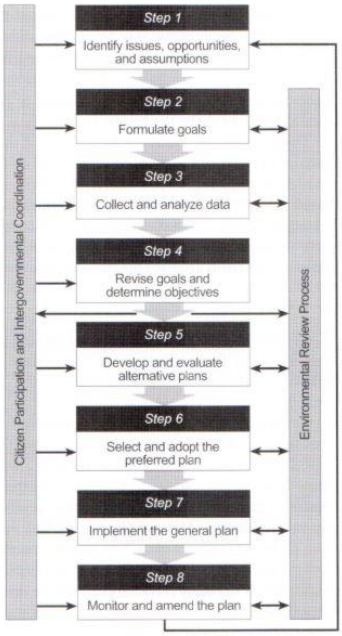
The process to solve environmental problem is presented in Table IV.

1. Identify a specific environmental problem and understand why it is a problem.
2. Identify others who think this issue is a problem that requires attention.
3. Meet with individuals/groups from #2:
    a. Collect information on their concerns and ideas about resolving the problem.
    b. Collect an expanded list of those who are concerned about this problem.
    c. Collect information on those likely to be opposed to resolving the problem."

Table IV: Generalized Process to Solve an Environmental Problem
Source: (Hopkins, 2012).

The generalized process to prepare community master plans or land use plans differs in significant ways from the process of solving environmental problems. A diagram of the process of land use planning is presented in Figure 9.

Figure 9: Local Planning Process in California, USA



Source: Governor's Office of Planning and Research, Sacramento, California

Figure 9: about here

The 'Remediate and Redevelop' cases analyzed in this research are greatly influenced by the economic and policy environment in upstate New York, which can be considered a rustbelt region. Contaminated old industrial properties are plentiful and economic market incentives are largely insufficient to induce the private sector to undertake expensive environmental cleanup in order to redevelop property. The basic policy approach of 'the polluter pays' to remediate the pollution does not work well when many of the properties are 'orphan sites' with no identifiable owner with sufficient assets to pay for environmental cleanup or when there is little demand for new development.

Over several decades, public sector policies have been implemented and evolved to help solve brownfield problems. The technical knowledge to remediate the contamination existed, but policy was needed to produce action. Policy approaches in New York State and other regions of the USA were developed to provide incentives to solve the environmental problems like those in the 'Remediate and Redevelop' case studies. These policy approaches include Voluntary Cleanup approach policies and Brownfield Opportunity Area policies. A major part of these policy approaches is to have the intended future land use of the property be a major determinant of how much remediation of the contamination is necessary to insure that the future use of the property will not cause an unacceptable human health risk. These policy approaches require property with future residential land use to achieve a much higher standard of remediation and a resulting lower human health risk than property with a future industrial land use of warehousing.

The 'Remediate and Redevelop' cases studied in this research all had technical experts, usually working for the NYS DEC, in charge of insuring that the contamination was remediated to levels pre-determined by the DEC and agreed to by the property owner. The requirement to calibrate the remediation to the intended future land use of the property causes professional planners to be integral participants in solving the environmental problem from the beginning of the process, restricting future uses of the land parcels to land uses considered safe for the levels of residual contamination, and sometimes taking on a leadership role in the process of putting the property back into productive use. In some cases, the planners play a large role in involving stakeholders, interested parties, and the public in the collaborative effort to solve the environmental problem.

The eight 'Environmental Amenity with an Opportunity' case studies analyzed in this research involve greater diversity than the 'Remediate and Redevelop' case studies. The two stream restoration cases follow the top down structure: a single person with technical expertise is in charge of determining and supervising the environmental action to resolve the problem. Engineering approaches were used to modify the stream channels to improve water flow under low flow conditions, to protect stream banks from erosion in high flow conditions, and to create improved habitat and cover protection for fish and other aquatic organisms in both of these case studies.

The Eighteen Mile Creek case study was much more complex because of a federal Superfund site at the stream headwaters, contaminated sediment in the stream bed upstream from a dam that is above the stream restoration project site, and the listing of this creek as one of the 43 Areas of Concern by the International Joint Commission for the Great Lakes, established by Canada and the USA. An additional complication is that this stream, which flows into Lake Ontario, is one of the most popular fishing locations in the eastern USA for salmon, steelhead, and lake-run trout. This case study documented extensive and ongoing collaboration: at the international, federal, state, and local government levels; with landowners, fishing organizations, other stakeholders; and with the public. The stream restoration work at McKinstry Creek was a much less complicated. It primarily involved negotiation between the NYS DEC with only two private land owners, one on each side of the project work site along the creek.

The four habitat restoration case studies are of one municipal park, one municipal nature preserve, and two state parks. The lead role of local government bodies in these four case studies resulted in a less top down project structure with public officials rather than technical experts directing the projects. In these cases, consultants provided the technical expertise and on-site supervision of the restoration work. With governmental bodies leading these projects, there was greater public engagement than the other cases studied in this category.

The last two case studies in this category involved municipal land use/spatial planning projects. In both of these case studies, the land use/spatial planning process was used to prevent the environmental problem of development destroying unique and highly valued ecological sites in the suburban communities. The Pittsford case study is of a project that purchased development rights to protect from development 2400 acres (971 hectares) of the highest rated agricultural land, ecological value land, and open space in a rapidly developing suburb of Rochester, New York. The land protected from future development represented 67 percent of the remaining undeveloped land in the community. The purchase of development rights allowed the residents of the community to insure the town would retain indefinitely the most valued environmental features in the community. The case study of Brookshire, New York, a suburb of Buffalo, involves the process of protecting ecologically valuable wetlands from development proposals to convert the property into suburban style housing.

The last category of case studies are the six 'Autonomous Actors' cases. All of these cases differ from the cases in the other two categories of case studies because the organization leading the process has much greater latitude to accomplish their goals without extensive collaboration. The organization leading the process in four of the six case studies is a private corporation undertaking a profit maximizing opportunity. In addition to profits, the private sector activity in these cases has the additional benefit of helping solve a public environmental problem in the field of solid waste management. In each case the corporation had to comply with laws and regulations and obtain necessary permits; however, the extent of public interaction and collaboration in these four cases is considerably more limited than in the cases in the other two categories of case studies. The Caesella case study focuses on the use of a single

bin recycling model that allows homeowners to put all recyclable materials into a single container that Caesella runs through a highly mechanized facility to sort the recyclables for resale and disposal. The Modern Landfill case involves natural gas recovery from the landfill used to produce electricity. The heat produced during electricity generation is then used to heat extensive greenhouses for a commercial hydroponic tomato farming operation. The Plastic2Oil case involves a private startup firm that breaks waste plastic into its chemical constituents and then recombines them to produce low-sulfur diesel fuel. The Quasar case studies a private startup firm that uses proprietary anaerobic co-digestion technology to convert sewage sludge and food waste into energy, fuel, and a soil amendment for agricultural application.

The last two case studies in this 'Autonomous Actors' category of cases also have considerable autonomy in how they go about solving the environmental problem addressed, but they are not private sector corporations. Grass Roots Gardens is a community group organized as a 'non-profit organization' that helps convert abandoned lots in Buffalo, NY into community gardens. Grass Roots Gardens identifies vacant lots and neighbors interested in working on a community garden. It then provides liability insurance and negotiates with the city, which owns the lots. It also provides advice and materials to assist the conversion to a garden. The Green Infrastructure case study is a cooperative effort by Buffalo Niagara Riverkeeper, a private non-profit corporation, and the Buffalo Sewer Authority to conduct a pilot study of using several types of green infrastructure to help solve combined sewer overflow problems in Buffalo. Green infrastructure features were installed on six streets in the city and carefully monitored over several years to collect the data needed for a detailed benefit cost analysis of this approach. The green infrastructure techniques being tested include porous pavement and rain gardens (bio retention planters) on five residential streets and one commercial street. This case study is a pilot project to test the effectiveness of this approach before making a decision about replicating the green infrastructure on a larger scale in the city.

ROLES FOR PLANNERS IN THE PROCESS OF SOLVING ENVIRONMENTAL PROBLEMS

Environmental problems and the action taken to resolve the problems always take place on a specific parcel or parcels of land. Professional planners responsible for land use issues are often involved in the process to solve the environmental problem because of land use impacts. In the case studies investigated, the range of involvement of professional planners ranged from none to significant. The four solid waste management case studies in the category 'Autonomous Actors' involved professional planners to insure any changes to the operation intended to improve profit maximization fit the land use zoning for the property and to obtain any permits needed, but this level of interaction is minimal in terms of collaboration. In the two case studies of Brookshire and Pittsford in the 'Environmental Amenity with an Opportunity' category of case studies, professional planners were the most involved in collaboration because the land use/spatial planning process was used to resolve the environmental problem of protecting endangered environmental sources. All ten cases in the 'Remediate and Redevelop' category of case studies had considerable involvement by professional planners because the government policy requires that 'intended future land use' of the case study properties be a critical factor in determining remediation approaches to insure the residual contamination that can remain on the property after completion of remediation be protective of human health.

In all 25 of the case studies in this research, professional planners were involved in the collaborative effort to solve an environmental problem. The extent of their involvement ranged from limited to extensive. All professional planners bring some useful skills to the process of solving environmental problems. All planners are knowledgeable about the process of plan making. They are knowledgeable about effectively communicating with diverse public officials, stakeholders, and the public. They are knowledgeable about methods to balance the short-term interests of some collaborative participants with those with long-term goals, and helping participants with divergent positions reach an agreement about the problem, the goals of the project, the preferred approach to solve the problem, and on a specific plan of action. They are knowledgeable about approaches to regulate the present and future uses of land to protect endangered ecosystems and to protect human populations from health risks that some parcels of land may retain after remediation is completed. Professional planners in New York are experienced performing environmental impact assessments that are routinely completed by municipal planning departments. The State Environmental Quality Review Act requires all state and local governments to balance the environmental impacts with social and economic factors when deciding to approve actions such as approving new construction or changes to zoning.

SKILLS TO ENHANCE THE ENVIRONMENTAL CAPABILITY OF PLANNERS

Using case studies to examine the roles of planners in the collaborative efforts that produced and implemented plans to solve the specific environmental problems, this research identifies suggestions about how academic planning courses can be modified to include content to enhance the skills professional planners need in order to play significant roles in solving environmental problems. No individual, or individual area of expertise by itself, solves an environmental problem. All environmental problems are solved by teams of people working collaboratively. Effective teams include a variety of disciplinary experts, public officials, stakeholders, and interested citizens. This research suggests educational content that might be introduced or emphasized in graduate planning education to help

students become professional planners with skill sets that allow them to more effectively contribute their professional planning expertise to collaborative efforts to solve environmental problems.

If professional planners aspire to have a larger role and more effectively participate in efforts to solve environmental problems, they will need to acquire some specialized knowledge and skills that most professional planners do not have. Planners must have knowledge of the specific environmental problem, or have sufficient interest to gain a broad-brushed understanding of the environmental issue. They also need to have a basic understanding of different methods of solving the environmental problem; however, they need not attain extensive technical knowledge. Many graduate planning students lack confidence in their ability to master technical scientific or engineering methods. Course work that includes required readings that force students to read selected technical materials, discuss the technical issues in class or on field trips, and write about them as part of assigned papers on environmental planning topics can be important. These activities can convince planning students that they can teach themselves a broad-brush understanding of technical environmental issues. Professional planners must master the basic jargon used by experts in discussing a specific environmental problem so they can understand and participate in collaborative environmental problem solving efforts. The planners need to be able to understand the issues discussed. They also need to be recognized as participants in the collaborative process to enable them to contribute their knowledge, experience, and skills to making the process successful. Graduate courses on environmental planning can expose students to jargon, especially through in class discussions. Course assignments can require students to use important jargon related to the assignment to help students gain confidence that they can quickly learn terms used by different experts participating in a collaborative process to solve an environmental problem.

Investigation of the case studies in this research suggests that those professional planners who completed courses that exposed them to examples of processes attempting to solve environmental problems, and taught them they can master broad-brush technical information and jargon can be well prepared to actively collaborate on solving environmental problems. Professional planners who have some exposure to course study of solving environmental problems and some experience, can quickly become recognized as valuable participants of collaborative efforts. These professional planners are sought out to join projects to solve environmental problems.

REFERENCES

Babin, N., Mullendore, N., and Prokopy, L., (2015). Using social criteria to select watersheds for non-point source agricultural pollution abatement projects. Land Use Policy, http://dx.doi.org/10.1016/j.landusepol.2015.06.021

DeCaro, D. A. and Stokes, M. K. (2013). Public participation and institutional fit: A social–psychological perspective. Ecology and Society 18(4): 40. http://dx.doi.org/10.5751/ES-05837-180440

Druschke, C. G., and Hychka, K. C. (2015). Manager perspectives on communication and public engagement in ecological restoration project success. Ecology and Society 20(1): 58. http://dx.doi.org/10.5751/ES-07451-200158

Floress, K., Mangun, J., Davenport, M., and Williard, K. (2009). Constraints to watershed planning: Group structure and process, Journal of the American Water Resources Association, 45, # 6, Dec.

Hopkins, L. (2012). Urban Development: The Logic of Making Plans, Island Press.

KONDOLF, G. M., ANDERSON, S., LAVE, R., PAGANO, L., MERENLENDER, A., AND BERNHARDT, E. S. (2007). TWO DECADES OF RIVER RESTORATION IN CALIFORNIA: WHAT CAN WE LEARN? RESTORATION ECOLOGY, VOLUME 15, ISSUE 3, PAGES 516–523, SEPTEMBER.

Levin K. et al. (2012). Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change, Policy Sci 45:123–152.

Margerum R. (2011). Beyond Consensus: Improving Collaborative Planning and Management, MIT Press.

Mullen M. and Allison, B. (1999). Stakeholder involvement and social capital: Keys to watershed management success in Alabama, Journal of the American Water Resources Association, vol. 35 (no.3), June.

Palmer, M., Bernhardt, E. S., Allan, J. D., Lake, P. S., Alexander, G., Brooks, S., Carr, J., Clayton, S., Dahm, C. N., Follstad, J., Shah, D. L., Galat, S. G., Loss, P., Goodwin, P., Hart, D. D., Hassett, B., Jenkinson, R., Kondolf, G. M., Lave, R., Meyer, J. L., O'Donnell, T. K., Pagano, L., and Sudduth E. (2005). Standards for ecologically successful river restoration, Journal of Applied Ecology 42: 208-217.

Prokopy, L., Mullendore, N., Brasier, K., and Flores, K. (2014). A Typology of Catalyst Events for Collaborative Watershed Management in the United States, Society & Natural Resources, 27 (11), 1177-1191.

Rittel, H. W. J. and Webber, M. M. (1973). Dilemmas in a general theory of planning. Policy Sciences, 4(2), 155–169.

Sabatier, P., Focht, W. Lubell, M., Trachtenberg, Z., Vedlitz, A. and Matlock, M (2005). Swimming upstream: Collaborative approaches to watershed management. Cambridge, MA: MIT press.

Wondolleck, J. M. and Yaffee, S. L. (2000). Making collaboration work: Lessons from innovation in natural resource management. Washington, DC: Island Press.

TRACK 06

ECONOMY AND JOBS: towards learning cities

Chair: José Antunes Ferreira, Universidade de Lisboa, Portugal

Scientific Committee: Daniel Rauhut, Norwegian Institute for Urban and Regional Research, Norway
Jorge J. Karol, University of La Plata, Argentina
José Reis, Universidade de Coimbra, Portugal
Peter Phibbs, University of Western Sydney, Australia

In the last decades, large changes in the world economic order have occurred. The crises affected product growth, and induced a decline in production of some sectors and a consequent increase of unemployment in North America and Europe, while BRIC`s and other emerging industrial and trade economies are of growing importance in the world arena.

These changes have a large and expressive relevance in cities and metropolis, where capital, innovation and qualified human resources are concentrated unleashing labor market segmentation and structural unemployment, contributing to increase inequalities.

Employment solutions, not only to improve competitiveness, but also to promote equity and social inclusion have been leading policy goals addressing territorial and social cohesion, namely in EU countries.

This track accommodates papers that will discuss these aspects.

HOUSEHOLDS INCOME VULNERABILITY DURING THE 2008 CRISIS IN 4 PORTUGUESE CITIES

Session T6.1 | June 2 | 9:00 – 10:30

Carlos Gonçalves
Instituto de Geografia e Ordenamento do Território, Centro de Estudos Geográficos, Universidade de Lisboa, Edifício IGOT - Rua Branca Edmée Marques, 1600-276 Lisboa, PORTUGAL
c.goncalves@campus.ul.pt

ABSTRACT: In urban systems context, resilience can assume different profiles: (i) to consider rhythms of change in different urban system structures, in such a way to activate absorption capacities or reactive answers; (ii) to consider flexibility factors which confer adaptive capacity, matching persistence with incremental adaptations introduction. Strong contractions in employment accessibility and degradation of income sources shows the lack of socio-economic resilience capacity in the 4 cities analyzed. However, the variations detected between them, allow us to identify factors that strengthen and others that weaken, these communities.

KEYWORDS: resilience; vulnerability; employment accessibility; crisis.

INTRODUTION

Seen in urban systems context, resilience can assume different profiles: (i) to consider rhythms of change in different urban system structures, in such a way to activate absorption capacities or reactive answers; (ii) to consider flexibility factors which confer adaptive capacity, matching persistence with incremental adaptations introduction. Communities are more resilient as more robust are their skills: (i) to adjust to the unexpected, developing planning structures that are able to host unforeseen events; (ii) to absorb the "new" (new populations, new ideas, new productive structures, new values, etc.); and (iii) to change, facilitating institutional transformations when they are desirable. A community with high resilience, anticipates or manages to mitigate threats and develops a future vision that places the resilience as a priority, creating a planning structure that permit to open ways of recovery allowing, in a very short period of time, to recover the main functions and trigger "new normality patterns".

To discuss resilience in communities' scale implies that we integrate, three segments: (i) the starting point, this means that *status quo* is analyzed in what concerns the presented results within a given time (can be before a particular crisis episode); ii) the post-crisis framework, which includes consequences and challenges that adversity presents to the community; (iii) results and actions sense carried out post-crisis.

Regional resilience can be assessed by the ability to create employment, to increase family's income or to reduce social iniquities (observed, for example, in middle class expansion or contraction). This means: positive outputs on access to income and social cohesion are associated to regional development consolidation, transposing to different measures of success by reference to types of challenge, towards the region is placed (Chapple and Lesterb, 2010). Thereby, the regional resilience is reproduced in "outputs transformation competences that a region presents towards a given challenge" (Karen Chapple & Lesterb, 2010, p. 86).

The question that we propose to answer is: given the crisis framework (between 2008 and 2014) and its effects on the income accessibility, the cities of Portuguese "NUT III Oeste", manifested resilient or vulnerable? To perform that, we present indicators that locate the starting point and others that evaluate transformations performed in that first phase (6 years) of crisis. The crisis impact assessment (started in 2008) on income access, by families in Alcobaça, Caldas da Rainha, Peniche and Torres Vedras cities, results of a field work exercise (performed between the 4th of April and the 6th of May 2014), through which 387 questionnaires were applied. From these interviews came out information about 1028 individuals (enlarged sample), corresponding to the totality of people included in 387 households (restricted sample). In this way, it was possible to evaluate different types of crisis impacts. In this work we pointed to changes in income accessibility by families.

We will begin with the clarification of resilience and vulnerability concepts and also the importance of the access to employment in the regional resilience evaluations. Then, we present the country framework situation in the 6 initial years of the crisis and, after describing the starting point, are presented conclusions about the changes in access to income sources in the 4 cities. Finally, are shown the main conclusions and also how the initial vulnerabilities have been deepened, forfeiting the resilience of these cities.

RESILIENCE VERSUS VULNERABILITY

The urban systems resilience replicates changes that foster stability, together with improved reactions of development models to potentiate transitions to new development arrangements. In the best case scenario, great levels of stability and change are combined. Resilient communities organize itself to generate and sustain continued

progress, creating simultaneously, powers to recover the socio-economic vitality when its progress trajectory is faced with disruptions, shocks or crises. In other words, retrieves and/or sustains good results over time (notwithstanding the crisis episodes) ensuring, in a continuous way, improvements in people's life. Thus, it is stressed the contradiction between resilience and vulnerability. When, in a system, is witnessed the resilience contraction, this one becomes more vulnerable and vice-versa (Béné, Wood, Newsham, & Davies, 2012). Vulnerability is the resilience opposite, but is also a component of it.

These two concepts have different origins and meanings. Resilience typifies the systems' answer abilities, considering elasticity (that allows to recover towards a crisis), flexibility (the permanence of key functions in the urban system in crisis contexts) and transformation (the replacement of the development model when necessary). Vulnerability characterizes the system state and implies its susceptibility to harmful external pressures (Seeliger & Turok, 2013) enabling different types of evaluations (in ecosystems, in communities, in policies), where is included the risks analysis arising from exposure to extreme phenomena. Considering a specific time interval, examines, in which way the interactions between the shared values in the communities and the governance conditions, restrict socio-economic progress. From that interaction, comes out the utility of the support mechanisms to marginalized territories (Seeliger & Turok, 2013).

Systems´ dynamics, complexity, panarchy, working thresholds and "feedback" effects are concepts congregated in the resilience theorization. In the systems that are more humanized, the rational is placed on the resources and services management that the ecosystems provide to the communities. Thus, in social sciences, the resilience (as antechamber to investigate processes, triggering reflections and discussions), appears associated to the questions: "resilience of what? and; "resilience to whom?" (Seeliger & Turok, 2013, p. 2119). From these questions are identified the functions or the systems' parts that should be more resilient, who wins/loses with strengthening/reduction of these attributes. Whit this questions authors intent to reduce the criticisms made to the more traditional strand of urban systems resilience application. The permanence of socio-economic systems in situations that deepen iniquities inter and intra communities (Seeliger & Turok, 2013), capturing them in (or by pushing them to), stadiums of increasing vulnerability, do not constitute urban or regional resilience frameworks. To resist, increasing vulnerabilities and decrease the dynamics that foster progress, is a sign of resilience loss.

The vulnerability concept is often used in biophysical risks evaluation, considering the exposure magnitude and the sensitivity, from which comes out the potential impacts extent. Balancing the adaptive capacity and the potential impacts, vulnerability is determined. That adaptive capacity is created by individuals, by communities, by the governance, economic, environmental, social, structures etc. In contrast to resilience, vulnerability translates an undesirable condition. Reflects how a system manifesting itself incapable of absorbing disasters, pressures or crises, produced by climate changes, or economic, social or politic instabilities (Lankao & Tribbia, 2009).

Economic vulnerability is defined by the exposure that such a particular territory presents towards exogenous shocks, evidencing negative ways of openness to the outside (Briguglio, Cordina, Farrugia, & Vella, 2008). Naudé, Mcgillivray, & Rossouw, (2009) consider that the local vulnerability (summarized in *Local Vulnerability Index*), can be expressed in environmental, demographic, economic, governance fields or in health determiners. To contrast the assessment of negative aspects, these authors present the ability of local reaction (*Vulnerability Intervention Index*) measured by *per capita* income. In the cases where this indicator presents positive variations, is assumed that there is resilience gains (Naudé et al., 2009). In other words, resilience and vulnerability are seen as two types of answers, distinct but interdependent, presented by local actors when faced towards the needs of sudden changes (shocks) or gradual progression (Miller et al., 2010). Good governance and good planning reduce vulnerability (Lewis & Mioch, 2005).

In the studies devoted to vulnerabilities assessment, the resilience (seen in the reactive sense) typifies different ways of adaptability (more structural, or more reactive and punctual). In evolutionary resilience (seen in the prospective sense), the attention is not confined to the answer ability to some negative contingency, is quite the opposite, it captures the factors that allow to accommodate new features and promote changes (Mehmood, 2015).

(UN)EMPLOYMENT, REGIONAL RESILIENCE AND VULNERABILITY

Chapple & Lester (2010), evaluate USA regions resilience, through labour market dynamics. They identify the regional abilities to return, maintain or repositioning families income levels, recording effects in middle class representativeness. Using qualitative analyzes, authors relativize-importance given to registered unemployment.

These studies indicate and explain regional performances above average. It explained the fact that, faced with the same type of disorder, shock or crisis, some regions redirect their trajectory and develop, while others, languish. This approach takes regional resilience as competence to increment results (with this we should understand: families income and dimension of middle class), also in adverse contexts (Chapple & Lester, 2010, p. 86). Under evaluation

are also, for example, the strategies to create family incomes in proceedings course of deindustrialization and reconfigurations of productive structures in local, metropolitan and regional systems.

According to Cowie & Heathcott (2003), post-industrial realities show weaknesses not always visible in destruction of the jobs creation, but always traceable in quality degradation of actual employment and in families income that are involved in the process. Also in employment reconfigurations of secondary to tertiary sector, it is necessary to consider quality (income created) and equity (distribution) associated with it. In the USA between 1979 and 2000 the wage level ranged between contraction and stagnation despite being created, every year, many new jobs (Mishel, Bernstein, & Allegretto, 2005). We must distinguish regions that conciliated economic growth with raising families' income average. This means that in a pressure scenario directed to models of "low wages", which were the territories that were carried from balances based on income degradation to other supported in its strengthening.

Unbalanced growth patterns, arising from changes in production structures, benefit some places, while others become more vulnerable to crises. Some are reinforced with new clusters structuring and others are punished, by suppressing them socio-spatial complexity. For example, specialized services companies' concentration ~~of~~, follows (anticipates or affects) "creative" class residence options. They set on regions, cities or places, which give them the ability to recruit qualified hand work, creating in these, higher incomes, suppressing them to all the others. Chapple & Lester (2010, p. 89) use discriminative analysis to identify regional transformative ability. Through economic performance indicators and others able to quantify demography changes different metropolitan areas with more than 200 000 residents were typified. They evaluate the ability to increase income per worker and to maintain those who earn medium average income ("middle-income group").

In evolutionary economic geography, is joined to crises a training component that affects regional development. However, it is noteworthy the advancements incipiency due to difficulties to achieve transversal concepts, persisting ambiguities and areas of shadow in which it is difficult to understand if resilience is a positive or negative attribute and how to evaluate its presence (or absence) in regions, urban systems and cities (Boschma & Martin, 2007, Boschma & Martin, 2010, Simmie & Martin, 2010). Definitions change depending evaluation type, nature of the evaluated entity and depending on the knowledge area that informs exercise authors. It is true that an ecosystem is different from the economy of some region. This observation comes to question many of metaphorical approximations and so many ontological constructions (Martin, 2012). The author refers the fact that resilience paradigm (transformed into "resilience talk", Martin, 2012, p. 2), can easily be orchestrated by apologists of neo-liberal politics, arguing in favour of flexibility,self-organization and liberating austerity of resources for_competitiveness. These aspects reinforce scepticism of authors as Hassink, (2010), Hudson, (2009), Pike et al., (2010) about the adoption of this perspective in economic geography.

Martin (2012) proposes the concept of *"histeresis*" to focus attention on how regions react to crises. To evaluate regional economic cycles ("recession geography"), has never been so important. Besides, we must build opportunities to analyze the behaviour of long-term growth strategies, identifying factors that enable the existence, the persistence and the evolution of economic disparities in specific spaces. Thereby, it is relocated the idea followed in the last 25 years, that targeted the studies to the convergence/divergence, agglomeration economies, the clusters identification, regional innovation systems and to the global distribution networks. These approaches disregarded the crises episodes that occurred in the last three decades (at the beginning of the 80s, early 90s and more recently, between 2008 and 2010).

Contrasting this situation, Martin (2012) directs his work to two issues: (i) in what extent the regions differ in the way their economies recover and redirect its progression, when faced with severe crises? (ii) the regions that are most exposed to this type of event, have, or not, bigger development difficulties? To answer these questions, are adopted three resilience definitions. One that privileges the resistance property. Another centred in the distance of "balanced environments". And a third, directed to the adaptability and transformation identification factors. Once again, the starting point is convergent: it is important to understand how an economic structure fits over time and why some regions have more success than others. According to different definitions, the study evaluates how the (NUTS (I) United Kingdom regions answer to three periods of crisis (1979-1982, 1990-1992 and 2008-2010) bearing in mind the 4 dimensions shown on the diagram (Figure 1).

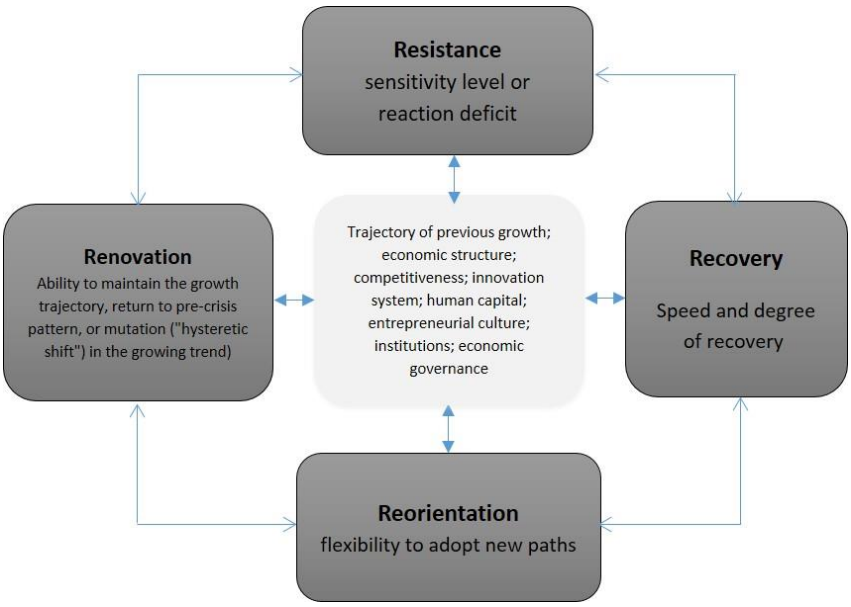


Figure 1 – 4 resilience dimensions in regional economies
Font: based in Martin (2012)

It is necessary to understand where is intended to induce resilience. A strategy that sponsor ways to allow local businessmen to reformulate accessibility conditions to handwork, reducing costs, and in this way increase productivity, benefits the companies but penalizes the families.

The option for employment, in detriment of for example of the GDP, is sustained by the fact that the first, presents longer recovery times. Significant drops in a region employment transfer huge consequences to the regional or local labour markets. On the other hand, it is defended the idea that it is possible that a productivity growth can happen after a contraction, without this being converted in the repositioning of employment, which, once more, transfers the impacts to the workers and to their families. Considering these reasons, is evaluated the regional labour markets robustness, assessing their behaviour after the crisis.

In the European Union context, the effects of the policies (dominant in recent decades), concerning the increasing abandonment of social justice and territorial cohesion as priority goals, are questioned. The effects of those options in the in unemployment increase (especially of women, young people and in the people in more advanced stages of active life), are worrying (Wolleb & Daraio, 2009). Combining the social risks with the changes in the composition of families, the changes introduced in the labour market and the effort levels that are subjected the social support systems, the causes for regional disparities are searched.

The study "URBACT cities facing the crisis: impact and response, (European Union - European Regional Development Fund, 2010) structures a first assessment of the impacts that the crisis of 2008 transfers to the cities. The investigation results directed to all the cities URBACT at the end of 2009 (to which replied 131) and the characterization of a set of study cases, are two relevant exercises for the understanding that the cities are placed in "front line" when we equate the real impact of the crisis in people, in economic activities and we search to determine the places of greatest vulnerability. Unemployment and the social problems are two areas where it is expressed. Reacting to the crisis, the different government spheres started the implementation of austerity programs, shaking their socio-economic structures. This study, besides adding elements in the assessment of the crisis effects, shows factors that allowed that a few cities answered in a better way than other.

In February 2012, the European Spatial Planning Observatory Network (ESPON) has launched a research program "RCTS2 - Economic Crisis: Resilience of Regions". The regional resilience is the theme, and in that context it is supposed that it is characterized the impacts' asymmetrical pattern that the crisis produced in the European regions. There is a search for the reasons to explain the fact that in some it has not produced any type of effects, while in others, the recovery process was relatively quick. Yet, in others, the retract process is far from being restricted, and also consistent recovery processes are not observed. The success of those regions that present almost no effects of the crisis provides an opportunity to investigate the factors that are behind that resilience ability. The economic crisis, and recovery processes are at the centre of the development guideline policies and territorial cohesion (ESPON, 2012).

Although being very present in the public space, the crisis territorial impact assessment that started also in Portugal in 2008, has not, yet, many empirical results. An exception to this observation is provided by João Ferrão, which submitted a study ("exploratory", so he classified it) where he tested a “crisis geography". The analysis model is structured on 11 indicators devoted to measure the crisis effects in families and 5 more that capture the fact in companies. In the case of the impacts in families, there is a combination of the changes in the demographic dynamics, with those recorded in consumption, in employment and in the income.

2008 CRISIS IN PORTUGAL

In the following sections, are shown the results about the crisis impact on the income of the families resident in the four studied cities. To frame the crisis dimension in the period in which we performed the field work (2008-2014), we used the 4 indicators represented in figures 2 and 3.

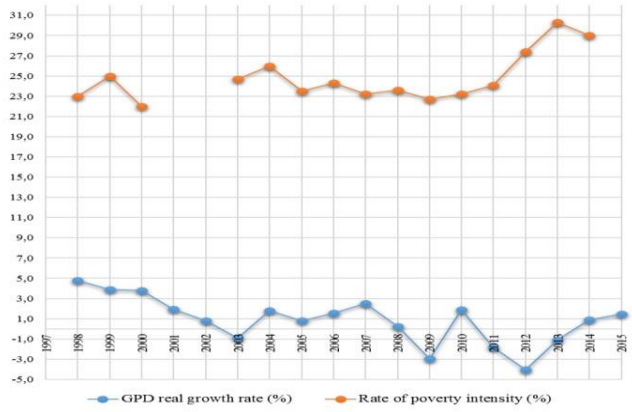


Figura 2 – GPD real growth and poverty intensity
Font: PORDATA

In the 6 years that were studied (2008/2014) the real rate growth of the GDP rose from 2.29% in 2007 to -2,98 % in 2009. The stimulus measures due to the public expense, mobilised by the State under the guidelines of the European Commission, allowed a recovery between 2009 and 2010 being registered in this year a growth of 1.9%. Between 2010 and 2012, the growth rate has fallen to -4,03. If we consider the number of records between 1961 and 2015, there was only a more negative value in the year of 1975 (-5.1%). In the same period the intensity rate of poverty, grew from 22.7% in 2009 to 30.3% in 2014.

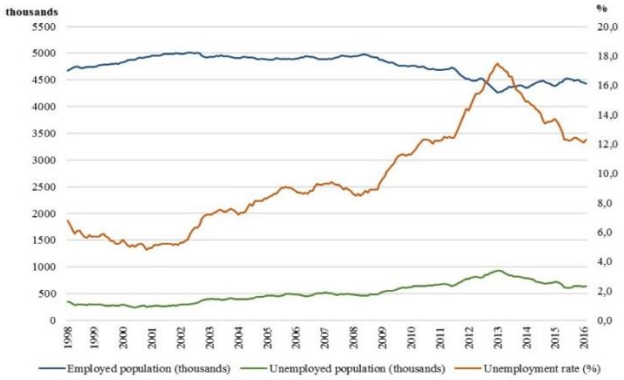


Figura 3 – Employed and Unemployd population and unemployment rate
Font: INE

The unemployment rate rose from 8.6% in January 2008 to 14.9% in January 2014. The number of registered unemployment rose from 478.000 in January 2008 to 785.200 in 2014 (over 306.400). In those 6 years were lost approximately 594.000 jobs. Bearing in mind the behaviour of the 4 indicators selected, it is possible to check that between 2013 and 2014, occurred the most critical crisis point, which confirms the validity of the obtained results to characterize the stage of greatest impact in the contraction of access to income by families. In the following paragraphs are presented some results from the information collected in the field work.

THE URBAN SYSTEM FRAMEWORK

Charactherized by a demographic growth in the scale of 14%, if we have in consideration the time interval, 1991/2011 the West urban system slowed its demographic expansion pace which, between 1991 and 2001, was 8.7% to fall into the 5% between 2001 and 2011. In the set of the 4 cities lived, according to the last census registration, 66.776 residents. This population was divided by the four urban centres as follows: 41% in the city of Caldas da Rainha, 26.5% in Torres Vedras, 22.1% in Peniche and 10.5% in Alcobaça. Consecutively, each one has its own population dynamics. Leaving aside for now, the city of Peniche, the remaining, earn population by reference to that was presented in 2001. However, if you extend the analysis interval until the values of the year of 1991, the city of Alcobaça also denotes a demographic loss (in the order of 455 residents).

In short, this set of urban centres won 3,172 new residents between 2001 and 2011 (5%), of which approximately 1,200 (7,3%) expanded the population of the city of Torres Vedras, 2,062 (8.1%) the one of Caldas da Rainha and 750 (12%) the one of Alcobaça. The population contraction stablished in 846 (-5.4%) and happened in Peniche.

Making the combination in the same matrix, the situation towards the income sources with the educational levels, we achieved some analysis elements that are worth our attention. From the 760 individuals who (are not under 6 years old and are not students), in their life journey have, or have already had a job, we verify that, at the moment of the interviews, the more common situation towards jobs is "employee" (79% of cases). It is clear, that those who work on self-employment correspond to the remaining 21% of individuals eligible for this counting.

Thus, the income sources, are distributed by 14% coming from self-employment, 52% from employees, 24.6% obtains pension income or pensions and 6.7% depends on unemployment allowances (note that around 70% of registered unemployed do not receive unemployment allowance), and 2.8% earns income from other sources (paid internships, subsidised training courses). It deserves highlighting the facts of, on one hand, the employed labour constitute a income source for (only) approximately half of the families and, on the other hand, for each 3 that are or have been active, there is 1 that, or gets his incomes from reforms/pensions, or from unemployment allowance.

In the distribution through the urban centers, and starting from the enlarged sample of active and inactive, we can note that for each active worker are 1.2 inactive in Alcobaça and Peniche, 1,3 in Torres Vedras and 1.5 in Caldas da Rainha. It emerges from this fact a source that weakens these communities, demonstrating the vulnerability of their economic bases and mortgaging their resilience ability. In fact, with such disparity between active and inactive, grows the difficulties to sustain, or (and even more) to redirect these economic structures.

FIELD WORK METHODOLOGY

Constituted by 387 validated interviews, the sample is distributed as follows by the 4 cities: 10.6% performed in Alcobaça, 40.8% in Caldas da Rainha, 21.7% in Peniche and 26.9% in Torres Vedras. The consistency between this representation and the demographic weight of each one of the urban centres was well respected in so far as the quantitative of the interviews applied in each urban centre is very close to its population representation. These interviews, as already said, were organized and implemented, in order to collect information on the total of individuals belonging to households. In this way, the analysis will take two faces: one about what we call the restricted sample (387 families) and another on the enlarged sample (1028 people to which we collected information).

Following this exercise, we perform the distribution of this quantitative in proportional relation of the families resident number in each of the cities (figure 4). Based on these points, 104 investigations were carried out in the city of Torres Vedras, 84 in Peniche, 158 in Caldas da Rainha and 41 in Alcobaça. The field work was performed between 4 of April and 6 of May. The investigation has been tested so that its implementation could be uniform, combining a close sequence of the interview scrip, with the need to perform a systematic registration of the answers.

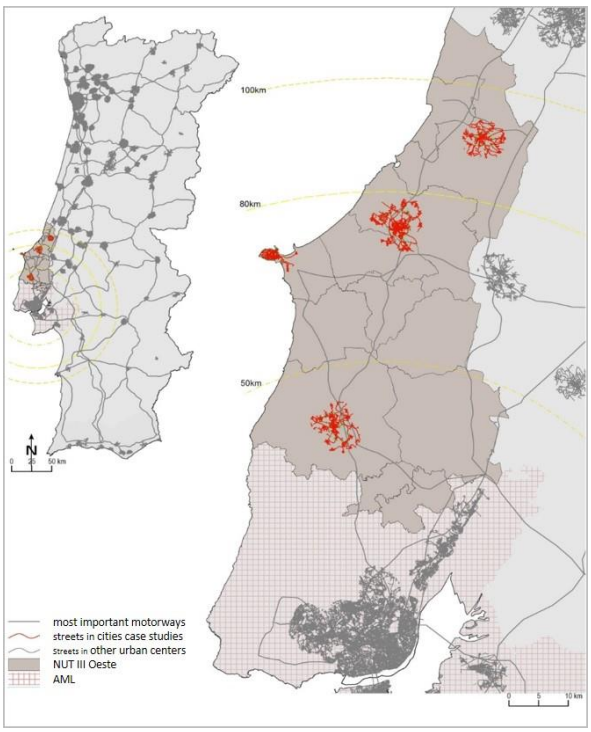


Figure 4 - Cities case studies localization
Font: author

Having in consideration the dimension of households, it was determined that 14.2% are constituted by only 1 element, 35.4% has 2 elements, 27.4% has 3 elements and only 22.9% of families has over 4 or more elements. Bearing in mind the values regarding the urban system (4 cities together), the average size of families is 2.6 people/family, matching the country value registered in 2011. Disaggregating the database, allowing us to identify 26 different types of family units. We register about 3% of households without ascendants, or even without relationship between their elements, 14% of single member units, 15% single parents, 23% that are constituted by couples without children and 44.7% by couples with children. Within this distribution, we note that 55% of the couples with children have only 1, and that if we add the ones that have another element in the family or the grandparents with 1 grandson, we realize that this representation rises to almost 56%. Still within the group of couples with children, the ones that have two represent 32.4%, going down to the percentage value for 7.5 if it is pointing to the existence of 3 children. Couples with 4 children occur in only 1.7% of the cases. In single parent families, the great majority (64.4%) consist of mother/father and 1 child. This typology reaches the representation of 73% when it includes therein 1 of the parents. We also register single-parent households with 2 and 3 children (representing around 5% each).

CHANGES IN 4 PORTUGUESE CITIES IN THE FIRST 6 YEARS OF CRISES

I) INCOME HOUSEHOLDS BY TYPOLOGIES

Gathering the families by income levels, the situation of the urban system plays a distribution within the following order of magnitude: 17.3% of families living on less than EUR 500 per month, 37.2% merges to the level of EUR 500 to 1000 per month, 32.8% earns income between 1000 and 2500 and EUR 11,4% enjoys monthly income higher than EUR 2500. Putting together the three lower classes, on one hand, and the three higher, on the other hand, we get a first layer of analysis that distinguish, more easily, the 4 cities in study. In the whole of the urban system, per each family whose income is higher than EUR 1000, there are 1.4 whose income is positioned below this threshold. In the different cities this relationship assumes the values of 2.1 in Peniche, 1.5 in Caldas da Rainha, 1,1 in Alcobaça and 1 in Torres Vedras. This indicator provides a boundary through which are separated in a more evident way the urban centers of Peniche (with greater disparity) and Torres Vedras where both levels overlap.

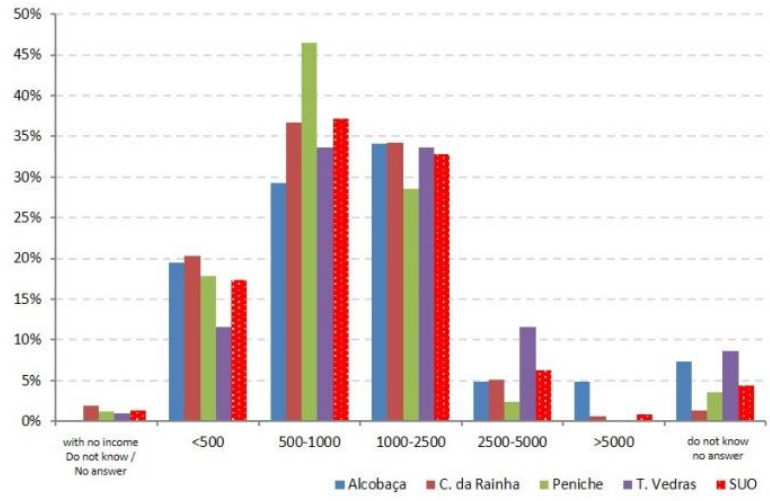


Figure 5 - Disaggregation of households (SUO and urban centers) according to monthly income levels
Font: Survey (April / May 2014

This analysis does not reproduce the weighting of these incomes by the individuals that integrate the families, which weakens their adhesion to the reality that each one faces. To tackle this shortcomings, we determined the central point of the income class that interviewers showed us and we distributed that value by the number of individuals that constitute the household. In this way it was obtained a measure that approaches what we could call monthly per capita family income.

Dividing the resulting values in 3 "slices", at the first we put the families whose monthly income distributed by the respective elements is until the EUR 437,5/month, in the second, the families that when dividing the monthly income by its elements, distribute between EUR 499 and EUR 750 to each one. In the third instalment of partial total, are the families that can assign over EUR 875 per month for each of the individuals. With this matrix to use as yardstick, we note that the West urban system, 54.3% of the families cannot assign, per month, over EUR 438 to each of one its members (31% of households obtain income that do not offer more than the EUR 250/month/person). We may say that the population at risk of poverty defined to the year 2012, was in the order of 18.7% (European Network of Anti-Poverty, 2014).

Once again, the situation repeats with the city of Peniche that occupies the more fragile situation since that almost 68% of the families are placed on the first level (less than EUR437,5 monthly/member) and 37% does not reach the threshold of EUR 250 monthly/member). It follows Caldas da Rainha where 56.3% of the families do not reach the levels which we are now contemplating (33.5% does not reach the threshold of EUR 250 monthly/member). Alcobaça and Torres Vedras, none the less occupy positions less unfavorable, 51.2% and 42.3% respectively (27 and 22% if considered as limit EUR 250 monthly/member). In short, in the majority of cases (data relating to the first level), the elements that integrate the family units of these cities live with about EUR 8/day (14.59 regarding the standard of EUR 437,5 monthly/member). Note that this is from this income that we take the parcels corresponding to all the cost items that support families. Contrasting to the number of families that have less than EUR 437,5 monthly by each individual by the ones that can distribute more than 499 EUR monthly, it comes out the following distribution: 1,2 in Alcobaça, 1,4 in Caldas da Rainha, 2,3 in Peniche and 0.9 in Torres Vedras.

We should note that the families typologies who live this situation of greater vulnerability are couples without children (24%), couples with 1 child (24%), single parents with 1 child (18%) and couples with 2 children (10.5%). This is, a big part of the families who find themselves in these situations of great vulnerability have dependent children.

With the two following different analysis we want to ascertain the crisis impact on the families income and their perception regarding the stability of those incomes. To perform that, it was asked whether, in the 6 years analyzed, if the family incomes remained the same, increased or decreased. When the answers pointed to the last two hypotheses, was asked to indicate whether increased/decreased until 1/4, between 1/4 and half, or more/less than half.

Although in a smaller number, it was possible to identify families that have increased their income during the period of crisis (8% of the cases), within this situation the most common is that the order of magnitude of that increase is 1/4. It is noticed that a little more of one family in each 4 refers that the amount of their income didn´t suffer oscillations. Considering the slice of remaining cases, we get to the conclusion that most of the times, the families experienced

reductions in income in the last 6 years (65.4%). That reduction corresponds mainly to approximately 1/4 of what they possessed at the beginning of crisis period (38.5% of the cases). However, it is significant that nearly 1 in 5 families have reported reductions in their income between 1/4 and half of what they possessed and almost 9% experience cuts of over half the monthly budget (Figure 6). In this situation are families of civil servants, but also of traders, bank clerks and shop assistants.

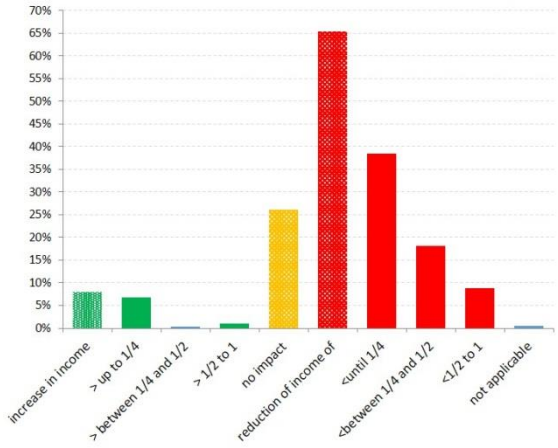


Figure 6 - The crisis impact on family income
Font: Survey (April / May 2014

We also stress the fact that 61% of retired people and pensioners have declared that they have seen their income decrease in the last 6 years. If to these ones, we join those who maintained the income, the percentage value rises to 97. Is the same as saying that only 3% of families have increased income in the last 6 years.

For each family that has kept its income or increased it, there are almost two who have seen their income sources "lose weight" in a very significant way. Running the exercise of division of the number of families that have reduced their income by which that have increased it, we get these results: 14 families in regression for each one in expansion in Alcobaça, 5,6 in Caldas da Rainha, 14 in Peniche and 9.9 in Torres Vedras. In this indicator is reflected the impact that the crisis caused in families that live in these the urban centers. This situation arises, from changes (of various kinds), introduced in the labour market.

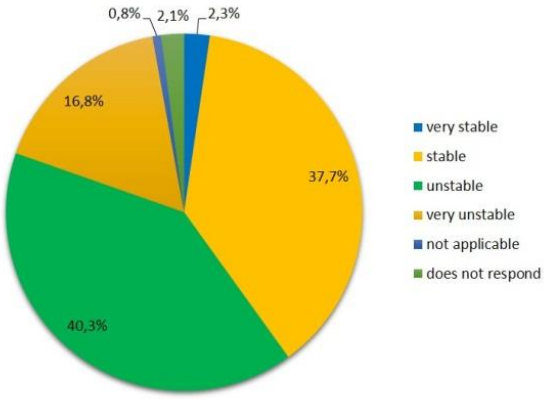


Figure 7 - Perceiving on the income stability/instability
Font: Survey (April / May 2014

More than half of the responding, consider that the family income is unstable (57.1%), against 37.7% who perceives stability on income of his family. In Peniche by each family who foresees stability in income there are 1.7 that envisions instability, the corresponding value is, in Torres Vedras 1.5 and in Alcobaça and Caldas da Rainha 1.3. This instability is associated to the political indefinition that gives consistency to the possibility that they may lose income, or because of the situations of unemployment, that are not put aside from the possibilities that families may find in a near future. Let us see then the expression that these situations make in the set of households for which we obtained information.

II) LOCKS IN INCOME SOURCES ACCESS (UNEMPLOYMENT)

To establish the basis of weighting the unemployment situations, we must consider the result of the subtraction to the active (employed and unemployed), the parcels corresponding to retired people and pensioners. From this, it results an unemployment rate of over 23%, in the calculation of the West urban system. The same is saying that, for each 4 active, almost 1 is in unemployment situation.

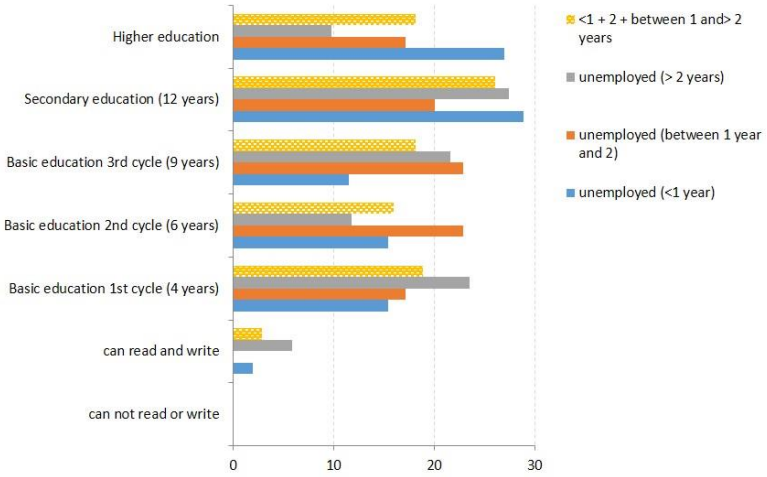


Figure 8 - Weighting (%) of the unemployed by level of education and the permanence time
Font: Survey (April / May 2014

Within the group of those who are unemployed, 37.7% is in this situation for less than 1 year, 25.4% between 1 year and 2. Most noteworthly is the fact that 37% of the cases corresponded to unemployment situations whose duration exceeds 2 years. From those who are unemployed for at least 1 year, 44.2%, in their educational course, didn´t go further then 9th grade, 55.8% completed secondary education or higher education. In the group of unemployed between 1 and 2 years, the situation reverts itself in the proportion of 63% to 37%, maintaining the partition used previously. In what concerns the unemployed for more than 2 years, the situation is similar.

It comes out the conclusion that in the urban system studied, the unemployment situations with less duration are more usual, when people have more training, reversing itself, when we take into consideration the situations where, permanence time, in an unemployment situation, is greater. The same is saying that the economic structure absorbs in a better way the actives less prepared, although the fact, in particular, the graduated with more than 2 years of unemployment assume smaller representativeness, may indicate greater rotation between the situations of activity/inactivity, or greater propensity for emigration (this last point will be appreciated hereinafter, confirming, then, this indication).

This weakness is even more significant if we bear in mind that the greater part of the situations of unemployment pointed out (71%) do not receive unemployment allowance. Even taking into account the fact that in some of these cases, this absence of salary to the end of the month, is compensated by Social Integration Income, the weight of which do not access to any type of gain, due to the inability to access to employment, even falling to 67%, maintains a clear preponderance.

	Gets unemployment allowance?				
	Yes		No		Minimum Integration Income
Age groups	*fi*	*fr*	*fi*	*fr*	*fr*
15 -19	1	2,6	5	5,4	
20-24	2	5,3	10	10,8	1
25-29	1	2,6	19	20,4	
30-34	6	15,8	7	7,5	1
35-39	5	13,2	8	8,6	1
40-44	2	5,3	4	4,3	2
45-49	9	23,7	8	8,6	
50-54	5	13,2	11	11,8	
55-59	6	15,8	11	11,8	
60-64	1	2,6	6	6,5	
65-69		0,0	3	3,2	
70-74		0,0	1	1,1	
Total	**38**	**100,0**	**93**	**100,0**	**5**

Table I - Unemployed with and without unemployment allowance
Font: Survey (April / May 2014

When asked about the chances that they have to be able to get a new job, keeping the income which they had previously, the interviewees show themselves very skeptical because, in general, the answer shows that both the possibility of access to a new employment while maintaining the previous income, or getting a new job in the city of residence, are very low (53 and 58% respectively).

To inventory the experiences of unemployment situations after 2008, we asked if, in this period, someone from the family went through these situations. It was found that such event rang the bell of some (or various) elements in 36% of the families. In the calculation of the enlarged sample, taking into consideration the sum of individuals in active age, it is perceived that the quantitative unemployed found in the moment of the interview, adds the fact that approximately 19% of the actives had experienced unemployment situations in the last 6 years.

The situation of vulnerability arising from changes in the income source, is materialized in the observation that only in 15% of cases, when these elements of the household returned to the labour market, the wage increased. On the other side of this situation, in 32% of times, the wage decreased and in 16% of the situations the people concerned, didn´t return to the labour market (some, have waited a few years and retired and others have given up trying to find a job in the country and emigrated).

CONCLUSIONS

The crisis impacts are based on a vulnerable structure, marked by very low levels of income (46% of households do not have more than 437€ *per capita* monthly). This aspect determines the life quality and drags the families to vulnerability conditions that make it impossible to contribute to the community progress. Many families, because of the reduction that they have suffered in monthly income (65% has lost at least 1/4 of its monthly gain), have joined this category in the 6 years studied. In addition, to the preceding point, the fact that more than half of the families envisage degradation possibilities in their income sources framework (57% considers their family incomes unstable

or very unstable). Thus, the conditions to qualify the family life and the social context (in its multiple dimensions) are degraded.

The fact that, for every 100 inactive there are only 75 actives is a severe bottleneck to the ability to mobilize the development effort. It comes up in a double constraint: on one hand, this increases the part of the effort of the actives, that are a minority; on the other hand (if we take into account that the inactive are mainly unemployed (31%) and retired or pensioners (corresponding to 37.4% of active employees), the fragility of the slice that can support or introduce changes in the economic structure, is high. Here's a strict knot around the development potential;

The proportion of unemployed swept aside from any income source (41%, not receiving unemployment benefit) erodes a significant part of the active population, placing it in contexts of great marginality, that gradually tear them apart from society, exempting, in this way, their potential. In the most benevolent scenario, on term, resources are wasted/ undertaken. Joined together with the previous aspects, amplifying them, is the fact that a good part of the unemployed (45%) have more than 45 years, exposing them to greatest weaknesses towards a social protection framework and a labor market which excludes them.

The strong contraction in employment accessibility and the different degradation forms of income sources access shows the lack of the resilience capacity of socio-economic structures of these cities. However, the variations indicated between the 4 cities, do matter to identify factors that strengthen and others that weaken these communities.

REFERENCES

Béné, C., Wood, R. G., Newsham, A., & Davies, M. (2012). Resilience : New Utopia or New Tyranny ? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes (No. 405) (Vol. 2012). London.

Boschma, R., & Martin, R. (2007). Constructing an evolutionary economic geography. Journal of Economic Geography, 7(5), 537–548. http://doi.org/10.1093/jeg/lbm021

Boschma, R., & Martin, R. (Eds.). (2010). The Handbook of Evolutionary Economic Geography. Cheltenham, Northampton: Edward Elgar Publishing Limited; Edward Elgar Publishing. http://doi.org/10.1111/j.1468-2257.2011.00560.x

Briguglio, L., Cordina, G., Farrugia, N., & Vella, S. (2008). Economic Vulnerability and Resilience Concepts and Measurements (ISBN 978-92-9230-103-3 No. 2008/55). Helsinki.

Chapple, K., & Lester, T. W. (2010). The resilient regional labour market? The US case. Cambridge Journal of Regions, Economy and Society, 3(1), 85–104. http://doi.org/10.1093/cjres/rsp031

Chapple, K., & Lesterb, T. W. (2010). The resilient regional labour market ? The US case. Cambridge Journal of Regions, Economy and Society, 3(January), 85–104. http://doi.org/10.1093/cjres/rsp031

Cowie, J., & Heathcott, J. (2003). The Meanings of Deindustrialization. In J. Cowie & J. Heathcott (Eds.), Beyond the Ruins: The Meanings of Deindustrialization. (pp. 1–15). Ithaca, NY: Cornell University Press. Retrieved from http://digitalcommons.ilr.cornell.edu/cb/33/

ESPON. (2012). Economic Crisis: Resilience of Regions, Inception Report. Luxembourg.

European Union - European Regional Development Fund. (2010). URBACT cities facing the crisis – impact and responses.

Hassink, R. (2010). Regional resilience: a promising concept to explain differences in regional economic adaptability? Cambridge Journal of Regions, Economy and Society, 3(1), 45–58. http://doi.org/10.1093/cjres/rsp033

Hudson, R. (2009). Resilient regions in an uncertain world: wishful thinking or a practical reality? Cambridge Journal of Regions, Economy and Society, 3(1), 11–25. http://doi.org/10.1093/cjres/rsp026

Lankao, P. R., & Tribbia, J. L. (2009). Assessing patterns of vulnerability, adaptive capacity and resilience across urban centers. In Fifth Urban Research Symposium (pp. 1–23).

Lewis, D., & Mioch, J. (2005). Urban vulnerability and good governance. Journal of Contingencies and Crisis Management, 13(2), 50–53. http://doi.org/10.1111/j.1468-5973.2005.00456.x

Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. Journal of Economic Geography, 12(1), 1–32. http://doi.org/10.1093/jeg/lbr019

Mehmood, A. (2015). Of resilient places: planning for urban resilience. European Planning Studies, 4313(January), 1–13. http://doi.org/10.1080/09654313.2015.1082980

Miller, F., Osbahr, H., Boyd, E., Thomalla, F., Bharwani, S., Ziervogel, G., … Nelson, D. (2010). Resilience and Vulnerability : Complementary or Conflicting Concepts ? Ecology and Society, 15(3).

Mishel, L., Bernstein, J., & Allegretto, S. (2005). The State of Working America 2004/2005. In Economic Policy Institute (Ed.), The State of Working America 2004/2005 (pp. 1–18). Ithaca, NY: Cornell University Press. http://doi.org/10.1093/sysbio/sys110

Naudé, W., Mcgillivray, M., & Rossouw, S. (2009). Measuring the Vulnerability of Subnational Regions. Oxford Development Studies, 37(3), 249–276.

Rede Europeia Anti-pobreza. (2014). Indicadores sobre a pobreza Dados Europeus e Nacionais - Atualização março 2014. Porto.

Seeliger, L., & Turok, I. (2013). Towards Sustainable Cities: Extending Resilience with Insights from Vulnerability and Transition Theory. Sustainability, 5(5), 2108–2128. http://doi.org/10.3390/su5052108

Simmie, J., & Martin, R. (2010). The economic resilience of regions: towards an evolutionary approach. Cambridge Journal of Regions, Economy and Society, 3(1), 27–43. http://doi.org/10.1093/cjres/rsp029

Wolleb, G., & Daraio, A. (2009). Regional Challenges in the Perspective of 2020 - regional disparities and future challenges.

ECONOMIC DYNAMICS AND COMPETITIVENESS IN THE CITY CENTRE OF OPORTO (PORTUGAL)

Session T6.1 | June 2 | 9:00 – 10:30

Célia Marisa Fonseca Ferreira (1); Teresa Sá Marques (2); Paula Guerra (3)
(1) CEGOT / Faculdade de Letras da Universidade do Porto, PORTUGAL celiamarisaferreira@gmail.com
(2) CEGOT / Faculdade de Letras da Universidade do Porto, PORTUGAL teresasamarques@gmail.com
(3) CEGOT / Faculdade de Letras da Universidade do Porto, PORTUGAL; IS –UP / Instituto de Sociologia / Universidade do Porto; Griffith Centre for Cultural Research / Griffith University / Australia, mariadeguerra@gmail.com

ABSTRACT: Globalization has changed the structure and nature of economic activities. Urban development promoted by entrepreneurship marks the present political agenda worldwide, aiming to promote a vibrant economy where new businesses open and existing businesses easily expand. The economic dynamics are conditioned by the type and characteristics of economic agents and the way how they act and interact. Economic action is based upon social relations, structures and processes of communication and adjustments between companies, suppliers, customers and different organizations. In the present work, economic activity in the city centre of Oporto, in Portugal, is analyzed. The paper seeks and discusses answers to the following questions. What is the city centre of Oporto today? Is it dominated by traditional economic activities, have it a strong component of innovation or is it a place with great diversification of supply that meets the expectations of different population groups and different urban experiences? This analysis is done from entrepreneurs' point of view.

KEYWORDS: city centre of Oporto; economic dynamics; entrepreneurship; economic activities; competitiveness.

INTRODUCTION

Globalization processes has changed the structure and nature of economic activities. Those processes continue to expand leading to many new threats but also opportunities for cities, destabilizing the boundaries of the national economy as a framework for economic organization and policy design (Scott, 2008). Nowadays is marked by global dynamics and at same time a great diversity at local level. Cities are magnets of socio-economic and technological development. Knowledge flows and information and communication technologies become increasingly essential to the functioning and prosperity of economic activities. The social capital, in the form of networks, and the human

capital, in the form of creative entrepreneurship, are essential to smart and strong urban economies (Nijkamp & Kourtit, 2013).

From the 80s of the twentieth century, cities become of particular importance as strategic economic areas. Since then, there is a partial reconstruction of cities as platforms for rapid and expanding range of globalized activities and flows (Sassen, 2011). Cities are great places for creativity, innovation and spatial competitiveness. They are characterized by heterogeneity and diversity. The density of organizations, companies and people are the key elements of modern cities. They accommodate a growing proportion of socio-economic activities of nations as a result of proximity and density externalities. The concentration of economic activities and population in turn attracts new economic activities necessary to serve this concentration of people and businesses (Nijkamp & Kourtit, 2013).

Economic processes occur in time and space (Bathelt & Glückler, 2003; Boschma & Martin, 2010). The urban economic activity must be understood both within the context of economic processes occurring at different scales of analysis and within the institutional context (regulatory and normative, but also cultural and cognitive) that characterizes different territories (Boschma & Martin, 2010). Economic and social phenomena are deeply related and should be analysed as complementary (Bathelt & Glückler, 2003). Strong local economies are foundations to strong communities, capable to face the pressures of a globalized and urbanized world (Nijkamp & Kourtit, 2013). Economic dynamics are conditioned by the type and characteristics of economic agents and the way they act and interact (Bathelt & Glückler, 2003). In modern societies and economies of knowledge, cities and businesses are challenged to have strategies and creative forms of governance and management in order to become really competitive in a globalized world. Entrepreneurship is considered a key driver of economic development. The scientific literature has explained entrepreneurship as the product of the environment and the attributes of individuals. It is consensual that cities provide a favourable environment to entrepreneurship (Boschma & Martin, 2010).

In the present work, the economic processes in the city centre of Oporto (in Portugal) are analysed from the entrepreneur's point of view. We discuss answers to the following questions. What is the city centre of Oporto today? Is it dominated by traditional economic activities, have it a strong component of innovation in terms of facilities, products and services or is it a place where the user can find both traditional and innovative establishments, products and services, with great diversification of supply that meets the expectations of different population groups and different urban experiences? In order to answer these questions, the paper analyses the economic activity of the city centre of Oporto in terms of business characterization, of identification of motivations to initiate and keep businesses and principal difficulties found to assembly and maintain businesses. For it, it was made interviews to owners, managers or workers of economic establishments in late 2013 and early 2015.

In terms of structure, this document starts with a theoretical approach about the importance of economic dynamics and processes in cities and major challenges faced today. The following is the presentation and discussion of results of our case study. Finally, we identify the main conclusions of this work.

CITIES AND ECONOMIC ACTIVITY AND DYNAMICS: THEORETICAL APPROACH

The economic development of recent centuries strongly reflects the growing rhythm of change in technological and economic foundations of society (Boschma & Martin, 2010). Globalization processes has changed the structure and nature of economic activities. Those processes continue to expand leading to many new threats but also opportunities for cities, destabilizing the boundaries of the national economy as a framework for economic organization and policy design (Scott, 2008).

The present moment is marked by global dynamics and simultaneously a great diversity at local level. Cities are magnets of socio-economic and technological development. Knowledge flows and information and communication technologies become increasingly essential to the functioning and prosperity of economic activities. The social capital, in the form of networks, and the human capital, in the form of creative entrepreneurship, are essential to smart and strong urban economies (Nijkamp & Kourtit, 2013).

From the 80s of the twentieth century, cities become of particular importance as strategic economic areas. Since then, there is a partial reconstruction of cities as platforms for rapid and expanding range of globalized activities and flows, from cultural to economic and political aspects. This also explains why urban design and urban planning have become more visible and important in the last two decades. This reconstruction has generated, on the other hand, different urban topographies that reflect the coexistence in the city of multiple local joints between most advanced economies and poorer economies – what Sassen termed "glamour zones" and "poverty zones" (Sassen, 2011). In the modern societies and economies of knowledge, cities and businesses are challenged to have strategies and creative forms of governance and management in order to become really competitive in a globalized world. The cities are great places for creativity, innovation and spatial competitiveness. They are characterized by heterogeneity and diversity. The density of organizations, companies and people are the key elements of modern cities. They

accommodate a growing proportion of socio-economic activities of nations as a result of proximity and density externalities. The concentration of economic activities and population in turn attracts new economic activities necessary to serve this concentration of people and businesses (Nijkamp & Kourtit, 2013).

Global phenomena, such as the consequences of the financial crisis for consumer purchasing power, the rising prices of basic goods, the demographic trends (notably the ageing) and the effort towards sustainability, pose challenges to the current business models and processes namely in the retail sector, that is prevalent in urban contexts (CE, 31/01/2013). The relationship between urban spaces, retail activities, planning structures and actions and governance are different from country to country and even at the local level. On the same street where the same policies and the same cultural contexts are applied, we can find different answers from entrepreneurs and different reactions / actions by consumers (Fernandes & Chamusca, 2014). It is the creative capacity of actors and creative functions of markets that lead to evolution and economic adjustment (Boschma & Martin, 2010).

Cities are conditioned by government policies and national regulations but each city has a unique history, political and institutional context, cultural legacy (Hollands, 2008) and specific characteristics in terms of technological development. Also, has a unique way to deal with economic, social and environmental challenges (Nijkamp & Kourtit, 2013). Economic processes occur in time and space (Bathelt & Glückler, 2003; Boschma & Martin, 2010). The urban economic activity must be understood both within the context of economic processes occurring at different scales of analysis and within the institutional context (regulatory and normative, but also cultural and cognitive) that characterizes different territories (Boschma & Martin, 2010).

Economic and social phenomena are deeply related and should be analysed as complementary aspects (Bathelt & Glückler, 2003). Strong local economies are foundations to strong communities, capable to face the pressures of a globalized and urbanized world (Nijkamp & Kourtit, 2013). Urban dynamics are not only an expression of the economy; they also contribute to the trajectory of economic, social and technological development through the occurrence of interaction, innovation, segregation, mixing and other complex socio-economic processes (Storper, van Marrewijk, & van Oort, 2012).

Economic dynamics are conditioned by the type and characteristics of economic agents (individuals, families, businesses, government and public institutions and civil society) and the way they act and interact. Economic action is based upon social relations, structures and processes of communication and adjustment between firms, suppliers, customers and other agents (Bathelt & Glückler, 2003). Networks reflect the underlying complexity of economic development, representing the countless flows and connections and warning of the unplanned results of individual behaviour and mutual adjustment actions between agents (individuals, families, companies, diversified institutions) (Boschma & Martin, 2010).

Entrepreneurship has been of particular attention to researchers and policy makers because of the recognition that it is essential for the development and economic growth, job creation and innovation (Simón-Moya, Revuelto-Taboada, & Guerrero, 2014). Over the past two decades there has been a strengthening of entrepreneurship research, with particular attention to the spatial dimension of entrepreneurial activities and its causes and effects (Bosma & Sternberg, 2014). The scientific literature has explained entrepreneurship as the product of environment and of individuals' attributes. A given location has certain characteristics like the level of knowledge, the institutions and resources. Individuals are endowed with different knowledge, skills, attitudes and motivations that drive their behaviour. In other words, for people with the same individual characteristics territorial context can make a difference: it can be favourable to an entrepreneurial attitude or inhibit it (Boschma & Martin, 2010; Bosma & Sternberg, 2014). To that extent, the entrepreneurial process depends on the entrepreneurial opportunities of local and on individual's capacity to identify and their will to exploit these opportunities. Entrepreneurs often reproduce the structural conditions of the territories, and also contribute to transforming these structures (Boschma & Martin, 2010). In scientific literature are identified two fundamental types of entrepreneurship according to motivation - entrepreneurship by opportunity and entrepreneurship by necessity (Bosma & Sternberg, 2014). Entrepreneurs by necessity can be defined as people compelled to start a business because of lack of job opportunities and because they need a source of income. This is the case of people who fear losing their jobs or who are unemployed. Urban areas with high unemployment rates may have higher occurrences of entrepreneurship by necessity (Bosma & Sternberg, 2014). Castaño, Méndez, and Galindo (2015) argued about the importance of cultural factors and economic performance of territories, to the extent that this performance being positive generates positive economic expectations and improves the perception of opportunities, that constitutes a motivation to engage in entrepreneurial activities. It is considered that urban areas have favourable conditions for entrepreneurship. They have high population density and a great flow of people which facilitates the increase and diversification of demand. They facilitate access to resources for the production of goods or the provision of services. Cities provide contexts that facilitate the identification and access to business opportunities and profitable collaborations by the contact with people with skills, information, knowledge and business experience. Also, the high concentration of universities and research institutions that produce new scientific and technological knowledge is recognized as a major source of

entrepreneurial opportunities. Urbanization positively affects the diversification of demand and the consequent emergence of a variety of small niche of markets that could be exploited for new or small businesses (Boschma & Martin, 2010).

BUSINESS DYNAMICS IN CITY CENTRE OF OPORTO: RESULTS AND DISCUSSION

We begin this part of the document with a brief presentation of Oporto and its city centre. Then we will present and discuss the results of our research, based fundamentally on 147 semi-structured interviews made in early 2014 and in late 2015 to economic activity establishments located in the city centre of Oporto. Conducting interviews in two periods has strengthened the sample at the same time that validated the dynamics that occurred in the meantime, namely by checking establishments closed and inquire establishments that opened in the interval. A full analysis of the results does not call into question the reliability of conclusions drawn in terms of respondents perception, in that, as respondents refer, significant changes in city centre of Oporto gave up for about 5 or 6 years ago.

THE CITY CENTRE OF OPORTO NOWADAYS

Oporto is a city in northern Portugal that have nowadays an increased visibility at national and international level (Figure 1). This is due to its landscape, its architectural and cultural heritage, the international projection of emblematic equipments (such as the House of Music or the Serralves Foundation), the cultural and leisure events and the evening entertainment (the Movida), in addition to the large number of individuals who live, work or visit (consumers) Oporto and, in particular, its city centre, contributing to the increased flow of people and the consequent notorious living of the central space. The growing international reputation of the city is also due largely to the increase in tourism related activities. The proximity of Francisco Sá Carneiro Airport and the largest number of low-cost flights in recent years have generated a greater influx of foreign tourists to the city and especially to the city centre.

The centre of Oporto is an emblematic area for its role in the history of the city. There is no defined and agreed limit of city centre. In Figure 2, we can see the limit of Historic Centre of Oporto (UNESCO World Heritage) and the limit of Urban Rehabilitation Areas defined by the municipality. City centre is considered broader than the Historic Centre but not as extensive as the limit of Urban Rehabilitation Areas. In this work we consider the broader limit, because consideration of other limit would lead to erroneous and misleading results.

Traditionally an important economic hub, currently the center of political and institutional decision of the city, the centre is well known for its architectural heritage (Quaternaire, 2000). In the early twenty-first century, the economy of the city centre was heavily focused on trade, coexisting different formats: the traditional commercial formats like the street shops or the markets (Mercado do Bolhão, for example); less structured formats like peddling; and newer formats such as shopping centers and galleries. Recent years are marked by the development of new economic dynamics like the strengthening and enhancement of the coffee shops and restaurants; the commercial qualification and diversification; the promotion of urban markets and handicraft fairs and the proliferation and diversification of the hotel establishments (that hostels are the best example). City centre has a greater use, marked by the intensification of tourists and visitors and by a stronger utilization by different social groups of Oporto and the nearby (such as students or workers) at different times of the day.

RESULTS AND DISCUSSION

What is city centre of Oporto today? Is it dominated by traditional economic activities or have it a strong component of innovation in terms of facilities, products and services?

In order to answer these and other related questions, we analyze here the economic activity of the city centre in terms of business characterization, identification of motivations to initiate and keep business and principal difficulties found to assembly and maintain business.

Table I shows the proportion of establishments inquired by type of activity.

Type of establishment	%
Accommodation and Tourism	21.8
Traditional commercial activities	28.6
Restaurants and establishments of fun	19.0
Commerce with an innovative character	20.4
Cultural and creative activities	10.2

Proportion of interviews by type of establishment
Source: Authors.

Respondents are owners, managers or workers of economic activities. The ages range from 21 to 89 years. Younger respondents, in their 20s and 30s, are mainly managers or employees of economic establishments with an innovative character and establishments of accommodation and tourism. Respondents of traditional economic activities are generally older, being significant the number of respondents in their 60s, 70s and 80s, and with lower levels of qualifications. The more educated (superior level) work mostly in hotel and tourism activities, restaurants and fun establishments and commerce with an innovative character. With respect to opening date of inquired businesses, 25.2% of establishments opened before 1980, 13.3% opened between 1980 and 1999, 18.9% opened between 2000 and 2009, and 42.7% opened in 2010 or after.

The location in the city centre brings benefits of centrality of the area, particularly in terms of the high concentration of shops and services and, to that extent, a large supply area is more prone to increased demand. The flow of people is greater and the number of potential customers is naturally higher.

Regarding the functional variability of city centre, there are several situations. There are very ancient establishments that opened decades and decades ago, other establishments in buildings that have met several completely different businesses, and also buildings which ran several businesses of the same type over time.

In older businesses (establishments opened before 2000) there is a family heirloom, in which management passes from parents to children who want to continue a profitable business. In the case of the most recent establishments, respondents reported that the opening of the business was due, in some cases, to situations of unemployment or precarious employment and in other cases, because they work or were somehow connected to the type of economic activity concerned, aspiring to have their own business where they could apply their ideas.

Recently have emerged in city centre establishments with differentiated products or more innovative concepts: in the first case, we highlight the culinary expertise, the sale of natural and biological products, art or jewelry pieces with signature, vinyl records or cartoon; in the second case, we could mentioned, for example, the bookstore-coffee shop, bike-coffee shop or, much more widespread, the hostel. Either the innovative products or concept of establishments in the case of commercial activities with an innovative character and either the business tradition, both in terms of the space itself and in terms of products (traditional products of Portuguese cuisine, handicraft), in the case of traditional establishments are considered resistance factors of businesses. Traditional establishments have usually a longtime customer, who identifies himself with the establishment.

In terms of difficulties for business creation, respondents particularly stress the lack of investment capacity and access to funding, the excessive bureaucracy in licensing (in the case of establishments opened before the legislation that facilitated the creation of business) and the high tax burden.

For respondents of oldest business, expectations are focus on to succeed, create jobs, become increasingly known by public and keep up to date in what relates to new demands of consumers in order to increase or at least maintain the clientele. The more recent business have the same expectations, however, in the particular case of those opened after 2010, they are still in process of affirmation and recognition of the business. Respondents refer that there are opened many stores in recent years, which, on one side, is positive in that it is symptomatic of positive economic dynamics in city centre, but, on the other hand, it generates more uncertainty because it means, in many cases, competition. Respondents argue that the opening of large shopping centers is a breaking milestone in business success, especially in those that are more traditional such as grocery stores, tobacco shops or bookstores. In the past the opening of large supermarkets and shopping centers, especially in the periphery of the city took consumers

of city centre and, with it, part of its function of "shopping center". Nowadays, crisis is a milestone with negative impacts on business, minimized by the growing importance of tourism in the city and especially in its central area and the resulting increase in potential consumers by this way. The high rents that are practiced in city centre are considered a difficulty, especially by the most recent establishments.

When asked what distinguishes their business, respondents mainly emphasize the quality of their products or services, sometimes combined with the customization of the article or service and with the specificity and originality of the products sold and/or services provided, and the ambience of establishment. The more recent establishments have a great concern in creating a comfortable space and a pleasant atmosphere. It is also evident the strong tradition of some establishments in city centre, emblematic for its antiquity and/or their traditional products (we speak, for example, the Café Majestic, The Pearl of the Bolhão, the Chinese House, Lello Bookstore, among others). Innovation, selectivity or exclusivity and at the same time tradition of products and services are distinguishing factors.

The quality of treatment is another factor identified as important for business survival: there is the awareness that if the customer feel good on the establishment, if properly attended to, then there is the strong possibility that client return again and become habitual.

Respondents consider very significant the largest movement of people that exists in Oporto, either at night or during the day, which shows that the city is more attractive. They consider that this is due to the growing vitality of tourism and to the increasing promotion of cultural activities. They state that coffee shops and restaurants and the hotel establishments are the most profitable businesses at the time. They also consider that the bars and the other nightlife-related businesses have enough strength at city centre and that the prosperity of these businesses is largely due to very positive tourist dynamics. They therefore consider that any activity related to this sector is likely to be successful today, even despite the economic difficulties due to the crisis. Today, Oporto city centre is clearly marked by tourism dynamics. Oporto is a fashion tourist destination. Tourists generate a greater flow of persons and strengthen the economic activity of city centre. The traditional commercial establishments (such as pharmacies, bookstores and jewelers) do not consider having additional benefits of these positive dynamics, with the exception of the flagship stores (such as Lello bookshop, for example) that are themselves tourist attractions. Recent hotel establishments (and particularly the hostels) opened because of the opportunities created by the increasing tourist attractiveness of the centre in recent years and currently benefit from this same attractiveness.

The majority of respondents believe that positive changes occurred in the centre of Oporto in the last 5 years. They stand out, above all, as we refer above, the remarkable dynamism of evening entertainment reflected in the emergence of new establishments such as bars or nightclubs and greater influx of people at night in the centre. However, this dynamic has a downside, marked by excessive noise and dirt in streets, aspects mentioned even by those who consider that the Movida is positive for the dynamics of the centre and of the city in general. These are challenges to public decision to combine different uses and experiences, to combine the interests of those who live here with the interests of those who want to have fun. According to respondents, about 5 years ago the centre of Oporto was more desert and doomed to abandonment. The residents were moving to the periphery, reducing the movement in the city. The damage to buildings was too visible. People felt unsafe after establishments closing. The closure of establishments was notorious. And it is still noticeable inhabitants' loss. But since then, there has been a positive development in the centre.

Most respondents have a positive perspective of the centre of Oporto today. They consider this area dynamic and even cosmopolitan, marked by greater movement of people in the streets and large number of tourists that make the city centre a multicultural place. There are new experiences of the centre generated by people of different ages and diversified interests. At the same time, there are more culture and leisure activities that animate the centre and there is more animation and movement at night. They refer the urban renewal of the centre, and in particular the Historic Centre, as responsible for the new projected image of the area. The opening of new establishments, more modern and with new concepts, revitalize the centre and make it more attractive. The largest and diversified offer of places and events of cultural and playful nature in general, and, in particular, the promotion of street entertainment, are also referred to as a way to boost the centre.

Respondents consider that there is still much to do in terms of rehabilitation of the buildings and public space, especially in areas that are still forgotten, with many buildings derelict or in severe degradation conditions. Focus on those areas is considered important to give a more positive image of city centre and to make the city centre more attractive to people (residents, workers, students, visitors or tourists). Another aspect often mentioned as a problem relates to the parking supply in the centre, which is not enough and is paid. More parking and free parking would facilitate, in the opinion of respondents, the influx of consumers to economic establishments in the area. They also suggest the creation of more pedestrian areas, which considered more prone to movement of a greater flow of people and to encourage consumption. Respondents would also like there was less bureaucracy in business licensing and more institutional support for their business, particularly by the local government. Finally, insecurity

worries entrepreneurs. For them, strengthen the policing should be a short-term reality. They consider that the economic crisis, felt since 2008, has made the Oporto, in general, and its centre, in particular, poorer. The price of housing in the centre is not attractive to new residents, more younger, and so those who live there are mostly elderly people. The decrease of people purchasing power restrained consumption. They see closure of a great number of economic establishments, many who already had a few years of existence, and many others that it is newer businesses that aren´t capable to survive due to the current economic situation. On the other hand, there is a greater visibility of social problems such as begging and homelessness.

Nevertheless, there is consensus that the centre of Oporto is today a more modern, cosmopolitan and with innovative features area.

CONCLUSIONS

From the 80s of the twentieth century, cities become of particular importance as strategic economic areas. The networks, the human capital, the creative entrepreneurship are considered essential to smart and strong urban economies.

Each city has a unique historical, political and institutional context, cultural legacy and has also a unique way to deal with economic challenges. Economic processes occur in time and space. In that sense, the urban economic activity must be understood both within the context of economic processes occurring at different scales of analysis and within the institutional context that characterizes different territories. Economic dynamics are conditioned by the type and characteristics of economic agents (individuals, families, businesses, public institutions and other organizations) and the way they act and interact.

In the modern societies and economies of knowledge, cities and businesses are challenged to have strategies and creative forms of governance and management in order to become really competitive in a globalized world. The cities are great places for creativity, innovation and spatial competitiveness. Entrepreneurship is considered a key driver of economic development. The scientific literature has explained entrepreneurship as the product of the environment and the attributes of individuals. Cities are considered favorable places to entrepreneurship.

This paper discusses the economic dynamics in the city centre of Oporto (Portugal) from the entrepreneurs point of view. We conclude that the recent years are marked by tourism dynamics and the promotion of cultural events. City centre has a greater use, marked by the intensification of tourists and visitors and for a stronger utilization by different social groups of Oporto and the nearby (residents, students or workers) at different times of the day. Recent economic dynamics are characterized mainly by the strengthening and enhancement of the coffee shops and restaurants; proliferation and diversification of the hotel establishments and nightlife-related businesses and by qualification and diversification of trade. There are the coexistence of very ancient establishments that open decades and decades ago with other establishments, with modern characteristics. We should note the strong tradition of some establishments in city centre, emblematic for its antiquity and/or their traditional products.

In the opinion of respondents, coffee shops and restaurants and the hotel establishments are the most profitable businesses at the moment. They also consider that the bars and the other nightlife-related businesses have enough strength at city centre and that the prosperity of these businesses is largely due to the positive dynamics of tourism. They consider very significant the largest movement of people that exists in Oporto, either at night or during the day, which shows that the city is more attractive. This is clearly due to the increasing promotion of cultural activity and mainly to the increased flow of tourists that visit the city centre.

Respondents consider that there is still much to do in terms of rehabilitation of the buildings and that the economic crisis has made the Oporto, in general, and its centre, in particular, poorer. There is also a greater visibility of social problems such as begging and homelessness in some streets. All these are challenges to public policies. However, the respondents think that the dynamics of economic activity are in general positive and marked, in the last 5 years, by a slowly but continuous economic and social revitalization of the city centre of Oporto.

In summary, in the opinion of respondents, the centre of Oporto is a place of contrasts. On the one hand, there are new dynamics of revitalization of economic activity, as result to a large extent of investment in promoting the city and of the growth of tourism. On the other hand, there are still many problems to be solved: the degradation of many buildings in the centre, visible social problems and the lack of local government support felt by the entrepreneurs. Nevertheless, there is consensus that the centre of Oporto is today more modern and cosmopolitan and an area with innovative features.

REFERENCES

Bathelt, Harald, & Glückler, J. (2003). Toward a relational economic geography. *Journal of Economic Geography, 3*(2), 117-144.

Boschma, Ron, & Martin, Ron. (2010). *The Handbook of Evolutionary Economic Geography*: Edward Elgar.

Bosma, Niels, & Sternberg, R. (2014). Entrepreneurship as an urban event? Empirical evidence from European cities. *Regional Studies, 48*(6), 1016-1033. doi: 10.1080/00343404.2014.904041

Castaño, María-Soledad, Méndez, María-Teresa, & Galindo, Miguel-Ángel. (2015). The effect of social, cultural, and economic factors on entrepreneurship. *Journal of Business Research, 68*(7), 1496-1500. doi: http://dx.doi.org/10.1016/j.jbusres.2015.01.040

CE. (31/01/2013). *Comunicação da Comissão ao Parlamento Europeu, ao Conselho, ao Comité Económico e Social e ao Comité das Regiões: Criação de um Plano de Ação Europeu para o Setor Retalhista*. Bruxelas: Comissão Europeia.

Fernandes, José Rio, & Chamusca, Pedro. (2014). Urban policies, planning and retail resilience. *Cities, 36*, 170-177. doi: http://dx.doi.org/10.1016/j.cities.2012.11.006

Hollands, Roberts G. (2008). Will the real smart city please stand up? Intelligent, progressive or entrepreneurial? *City, 12*(3), 303-320. doi: 10.1080/13604810802479126

Nijkamp, Peter, & Kourtit, Karima. (2013). The "New Urban Europe": Global Challenges and Local Responses in the Urban Century. *European Planning Studies, 21*(3), 291-315. doi: 10.1080/09654313.2012.716243

Quaternaire. (2000). Programa de Revitalização do Comércio e Serviços na Baixa Portuense: Estudo Global (Quaternaire Portugal ed., Vol. Volume 1: Enquadramento geral - Componente comercial e de serviços, pp. 240). Porto: Quaternaire Portugal.

Sassen, Saskia. (2011). When cities become strategic. *Architectural Design, 81*(3), 124-127. doi: 10.1002/ad.1250

Scott, Allen J. (2008). Inside the city: On urbanisation, public policy and planning. *Urban Studies, 45*(4), 755-772. doi: 10.1177/0042098007088466

Simón-Moya, Virginia, Revuelto-Taboada, Lorenzo, & Guerrero, Rafael Fernández. (2014). Institutional and economic drivers of entrepreneurship: An international perspective. *Journal of Business Research, 67*(5), 715-721. doi: http://dx.doi.org/10.1016/j.jbusres.2013.11.033

Storper, Michael, van Marrewijk, Charles, & van Oort, Frank G. (2012). Introduction: Processes of Change in Urban Systems. *Journal of Regional Science, 52*(1), 1-9. doi: DOI: 10.1111/j.1467-9787.2011.00750.x

TECHNOLOGICAL PARK OF MATO GROSSO – CHALLENGES AND OPPORTUNITIES FOR REGIONAL – GLOBAL COMPETITIVENESS

Session T6.1 | June 2 | 9:00 – 10:30

Rosinaldo Barbosa da Silva (1); Nelba Azevedo Penna (2)
(1) Scholarship by the Foundation for the State of Mato Grosso Research - FAPEMAT. PhD in Geography at the Graduate Geography Program (POS-GEA), -ICC Science Center Institute - University of Brasilia - search Line of Urban Space Production, Rural and Regional. Area of concentration: "Environmental and Land Management", BRASIL rosinaldovirtual@yahoo.com.br.
(2) Profª. Dra. Department of Geography Associate. - Graduate Program in Geography at the University of Brasilia – UNB, BRASIL

ABSTRACT: This article focuses on the theoretical concepts and practices of contemporary world trends regarding the development of competitive and productive cities, which has expanded by means of the realization of metropolitan economic strategies aimed at inter-regional, national and global integration, with increasing use science and technology. The challenges to achieving permeate the overcoming of socio-spatial disparities within metropolitan areas especially in "developing countries", such as Brazil, which has a democratic system not widely consolidated. Where the rights of property not yet assured to all citizens, being as barriers to investment and economic development to large and small producers. The pursuit of competitiveness and increased production needs involvement of various sectors of society: private sector, public sector and civil society. Highlighting the need to promote "governance" of the metropolitan regions encompassing corporate interests, often conflicting. Furthermore,

locational incentives mechanisms for the installation of industrial, business and trade center development and services has proven effective in attractiveness of economic enterprises intensifying inter-regional competitiveness, provided by public-private partnerships in the invested infrastructure, enabling mobility the capital-goods-consumption and labor.In this sense, we will explain on metropolitan transformations in regional production from the installation of the Technological Park of the State of Mato Grosso, in the city of Várzea Grande - investigating major urban changes resulting from the transformation of the city in a scientific and technological center, in order to increase productivity and regional economic competitiveness. We reflect on the main challenges and possibilities of inter-regional and global integration that tends to consolidate with the innovative development of science and technology to strengthen the "local productive culture." Restructuring this way, the agricultural production relations by the global agribusiness, means that the state of Mato Grosso has emerged as one of the largest producers in Brazil. The intent of this article is therefore to understand in the light of the geographical theory the production of competitive and more productive cities in the context of the metropolitan area in order to contribute to the understanding and practical construction of the regional organization in the economic, social and spatial aspect, the order to reduce the socio-spatial inequalities and promoting more competitive cities, economically developed and socially just. The methodology used to develop this paper is based on review of literature and documents analysis, such as the plan "Mato Development Plan Grosso - MT + 20" and "Plan of urban expansion" held by the company Prisma Engineering Architecture and Sanitation LTD in 2013. These subsidized as the main sources of information and data on the Mato Grosso State Government's strategy to promote competitiveness and productivity of the metropolitan area. We also use the cartographic techniques in the preparation of maps, through the program "ArcGIS", for representation of the major changes in the urban space, resulting from the implementation of the Technological Park of Mato Grosso. Preliminary results are expanding the city limits, changes in zoning, expansion of investments in fixed capital (urban infrastructure), creating locational incentives laws, public-private partnership laws, as well as creating a new urban dynamic with attraction new investors in real estate and finally the identification of the formation of a new urban center, with a tendency to hand expertise of skilled workforce, and strengthening supply urban goods and services, showing the process of formation of a more competitive and productive city the regional economic context.

KEYWORDS: innovation; planning; regional development.

STRATEGIC ECONOMIC METROPOLITAN - CITIES DEVELOPMENT OF COMPETITIVE AND PRODUCTIVE

The metropolitan economic strategy aimed at the production of competitive and more productive cities. This implies that the expansion of jobs, business opportunities, income, quality of life of families, infrastructure, science / technology and metropolitan governance. All these factors are in line with joint efforts for regional development (WEISS, 2000). The development of metropolitan economic strategy in the global context revolves around three aspects, as Weiss (2000):

The first aspect seeks to strengthen the metropolitan governance, political engagement of the public, private sector and civil society around the everyday life in metropolitan areas, in social, economic and political aspects, aimed at making collective decisions.

The second aspect intends to reduce poverty through development of public policies and private initiatives in professional training of low-income people. Involving their own workforces to change their conditions of life and the living environment, contributing directly to the local, regional, national and global productivity. The safety and security of private property, especially of private ownership of land, is the core on this issue, given the possibilities of "security" of financial investment, especially micro-enterprises.

The third objective aspects of scientific and technological development through the production of knowledge and information, based on technology and communication driven by global command, facing the specialization of the productive sectors and labor specialization.

The metropolitan economic strategy to be effectively requires investment in two key elements, according to Weiss (2000), (2001). The first key element is to invest assets and basic activities, which enable productivity and innovation, such as physical infrastructure (guide the mobility of capital, labor and goods); the development of education and workforce; the expansion of science and technology (production of knowledge, innovation and skilled labor); business financing, industrial and venture capital; strengthening the service sector and the commercial sector, attraction and retention of business and labor, expansion of corporate culture institutions; regional coordination and metropolitan governance; fiscal and environmental policies, expanding the quality of life.

The second key element of metropolitan economic strategy is to promote regional integration through modern and dynamic industrial network, accelerating the pace of innovation and economic growth. In other words, development and integration of industrial clusters and / or entrepreneurial expertise of regional diversity, promotion of innovation,

technology, business and the production of goods and services. With the regional productive integration, there is a tendency to improve the regional-global competitiveness.

The general idea of regional economic strategy is that urban areas are the main productivity centers and contribute significantly to competitiveness and national economy through the activities contained flows, goods and inter-regional services, where investment opportunities for development economic are more favorable:

> *Urban areas represent the most important sources of prosperity for all nations. Promote productivity and innovation is key to competitive success in the global economy, and in urban areas have become the main generators of technological and organizational advances in the production and distribution of goods and services to the global market. (WEISS, 2000, p.02).*

Proponents of metropolitan economic strategy that claim to be the best way for the city to prosper in the global market through inter-regional complementarities. And, according to Weiss (2001), contemporary cities operate in seven different ways that enable generate regional and national prosperity: 1) Innovation centers and services, including advanced and highly specialized services; 2) culture centers, sports, entertainment, convention and tourism; 3) educational centers, research and health care; 4) transport and trade centers; 5) Machining centers and technology development; 6) market centers; and 7) workforce centers.

There is also a "consensus" that the economic strategy to be adopted should be based on "local productive culture"[1], that is, according to the "regional particularities", based on which develop innovation and economic prosperity. As Weiss (2001), highlights three sets of key policies for the economic development of the metropolitan area:

1st key policy: redevelopment of neighborhoods - improvements to intercity infrastructure (road, health, leisure, transportation, among others), accessibility to the central location by creating special zones[2];

2st key policy: investments in urban centers and neighborhoods of cities - based on the strengthening of the commercial sector, business and services, with public-private investment oriented in order to promote the installation of shops, services, housing, security and living conditions. Investments in urban centers must ensure the attraction of companies, corporations and skilled labor (critical mass of mixed income, as defined by the author) that will set the competitive city;

3 st key policy: mobility of residents to regional jobs - it is the elimination of all barriers to the good functioning of the labor market. This implies improving the daily practices of individuals, such as improving transport for mobility of workers, child care, professional training, infrastructure, human services and the use of the capital of social and community organizations. Included in this policy the establishment of secure tenure[3] (property rights) of home (including through financing), and the promotion of full citizenship for all citizens, as well as investment in education, incentives for entrepreneurial business, microfinance and micro enterprises by offering credit, coupled with technical assistance, including for small business owners.

PRODUCTIVE RESTRUCTURING - PRODUCTIVITY, SCIENCE AND TECHNOLOGY

The restructuring process can be understood as a process within the capital of the movement that reveals, in certain measures, the limits for maintenance and reproduction of the production cycle and reproduction of capital. To keep the capital reproduction cycle, capitalists seek to maintain the perpetual movement between Merchandise-Money-Merchandise - MDM[4], referring to the changed values of use and circulation of Money- Merchandise -Money - DMD[5], where prevails the quantitative relationship, exchange value in the production of income, capital, as explained Harvey (2013).

Because it is a process, the restructuring process involves the spheres of production, labor relations and social and spatial organization. Is at the base of Marxist thought the idea that the course of historical development and social capital, permeated by the employment relationship, are created new productive forces, which result in the production of new social relations.

[1] Weiss (2001), uses the English term "home-grown" - what we call the "local productive culture".
[2] Such as Special Zones created by the Clinton administration in the United States by the "HOPE VI", producing "own homes" for mixed income families integrated to low-income families in the same neighborhood, offering economic opportunities and employment. Another example is the "Sustainability and Innovation Zone" designed in Porto Alegre, Brazil - offering quality urban living and sustainable development in areas of technological development and innovation.
[3] Such as advocates the global campaign of the United Nations Habitat Agenda, ensuring stability and human rights, combat the threat of expulsion / expropriation.
[4] In Portuguese: Mercadoria-Dinheiro-Mercadoria – M-D-M
[5] In Portuguese: Dinheiro-Mercadoria-Dinheiro - D-M-D

Productivity second Harvey (2013) depends on six factors: 1) ability of workers; 2) degree of development of science; 3) applicability of the technology; 4) social organization of the production process; 5) the volume and effectiveness of the means of production; and 6) natural conditions. All these factors create use value for others and only materialize through the exchange and consumption.

The crisis is always the starting point of a major new investment (Marx, Book II, p. 186) apud (HARVEY, 2013, p. 302, 303). Moments of crisis are appointed by Harvey (2013) as the starting point for the promotion of productive restructuring in changes in labor relations and the adoption of new technologies developed in science. Technology reveals the active attitude of man towards nature in the reproduction process of human life and its social conditions. The technology relates to the concrete form of the work process in a given historical and social context, which can be described according to the tools, techniques, methods and equipment used in the production process, according to Harvey (2013, p. 157-161). In this design, the technology involves labor relations in the transformation of nature through rationality and human intentionality that objectifies space:

> *Technological change can become "fetish" as a "thing in itself" as an exogenous driving force in the history of capitalism. The presumption of necessity and inevitability of technological change becomes so strong that the struggle for it - incorporated into a prevailing ideology of technological progress - becomes an end in itself (HARVEY, 2013, p. 186).*

The problem of this process is the transformation and development of technique and technology in social and territorial organization of work. Thus enabling the employee's adaptability to each new technology produced, leading to flow of workers from one production line to another, through technical training and skills development. However, resulting in the precariousness of work and the worker's life, decreasing the creative capacity of the human being, reducing him, therefore the alienated labor.

Changes in scientific management (Taylorism) and the scientific-technical revolution widened the separation between rational and manual labor, fragmenting and simplifying the manual work for repeating and routing, facilitating the mobility of workers within the sectors of industrial production.

Harvey (2013, p. 183-190), the adoption of new technology and new forms of work organization comes as a result of competition and constant quest for increased profit. By making use of new technologies will change the work process, increasing the pace of production, given the agility and practicality of the adopted technologies and the training and worker skills development in dealing with new technical equipment. Consequently, capitalists produce profound changes in the productive forces and social relations triggered by the work process, to restructure the production of goods. The adoption of new technologies concerns the insertion of new machines, which tends to increase the pace of production in a given time, reducing the use of labor:

> *Marx specifies the exact mechanisms that allow an increasing rate of exploitation to be achieved, no matter what the speed of accumulation. Technological and organizational changes reduce the demand for labor relative to the available supply, which is produced by a "surplus population relative" or an "industrial reserve army". In short, a part of the workforce is exempted from work and replaced by machines. (HARVEY, 2013, p. 229).*

The unfolding of this process means the worker unrest in the development of productive activities, the constant threat of unemployment, in addition to increasing division of labor and the mechanical repetition of the body in productive activities, dictated by the machine rate.

Technological change requires fixed capital formation, investment and creation of infrastructure that will enable greater flexibility in the capital production-circulation-consumption cycle. And the formation of fixed capital, as Harvey (2013), requires the use of labor force offered by the hand of "idle" work, the "industrial reserve army".

In this context, it tends to increase social and territorial division of labor and diversification of productive activities, enabling the formation of spatial concentration and centralization of capital:

> *The technological and organizational change - cooperation, detailed division of labor and the use of machines - tends to promote increased spatial concentration of production activities. Economies of scale reinforce a trend that can also be promoted by increased centralization of capital. (HARVEY, 2013, p. 500).*

The production technology and innovation can be performed in Mato Grosso for the installation and operation of the first Technology Park in the state. Tending thus increasing social and territorial division of labor, the spatial concentration of the means of production and centralization of capital, creating a new economic and social dynamism.

TECHNOLOGICAL PARK MATO GROSSO - STRATEGIC DEVELOPMENT OF ECONOMIC METROPOLITAN

In Brazil, the prevailing disgovernance of the metropolitan areas, characterized by institutional fragmentation that generates disinterest in governance of metropolitan areas. In this group, the non-existence of planning structures and permanent funding mechanism complicate the management of these areas, as many metropolitan areas remain restricted to the legislative framework, lacking implementation necessary for the exercise of the management structure (AZEVEDO, GUIDE, 2007 p. 264).

The process of administrative decentralization led to the transfer of power to create new metropolitan areas and urban centers to the federal states, it disconnects the possibility of a national urban policy (ANDRADE, CLEMENTINO, 2007 p. 245). In this respect, there is difficulty in making collective decisions and shared among the municipalities in the metropolitan region, posing as something to be overcome. However, the creation of the Ministry of Cities in 2013 positively influenced the structuring of the metropolitan areas, especially with regard to the development of master plans of development regional and metropolitan management with participatory (Maricato, JUNIOR, 2007, p. 173, 174).

From this national context it was created Particleboard Cuiabá City and Várzea Grande (AGLURB), through Complementary Law No. 83 of May 2001, the Federal State. This, according to the Federal Constitution of 1988 (Art. 25 paragraph 3), has the power to establish clusters and metropolitan areas. The AGLURB was structured formed by a Governing Council, an Executive Secretariat and Sectoral Chambers, in order to promote the integrated development of the two cities, however, the actions planned not been affected:

> *The Chipboard Urban was an instance which provided dialogue proved to be suitable for the establishment of policies and development plans and projects, but proved to be fragile instance for the execution of actions due to lack of own resources and the lack of power to intervene physically in the municipalities (GARCIA, 2010, p. 248).*

The rigor with the law was maintained in the preparation of Municipal Master Plans Participative (PDMP), however, in Várzea Grande no realization of established goals (filed plan, 1990 and 2005 plan, little considered). However, in Cuiabá, there were some actions, showing further development of urban policies. But with respect to the development and integrated urban management, there was no practical effectiveness, concrete.

With the establishment of the institutional AGLURB, through laws and technical structure of the Deliberative Board, the actions for the integrated development not been affected, although there was an increase of institutionalized social participation, that is, within these new spaces for urban management.

The agglomerate Cuiabá Várzea Grande City and led to a new institutional structure, with the creation of the Metropolitan Area Vale do Rio Cuiabá, RMVRC[1] (Figure No. 01), by Complementary Law No. 359, 2009. Having thus beginning the process of political, technical and administrative, made possible by Complementary Law No. 499 of 2013, which established the Metropolitan Region of the management structure of the Cuiabá River Valley. From there, were created "the Deliberative Council (CODEM) the Metropolitan Region of Vale do Rio Cuiabá, the Metropolitan Development Agency (AGEM) and the Metropolitan Development Fund" (CHILLETO, 2015, p. 24). The goal of AGEM is to integrate, organize, plan and execute public functions of common interest aimed at the development of the metropolitan region of Cuiabá River Valley.

Is in process of preparing the Director Integrated Participatory Plan (IPDP), therefore, there is still no legal instrument setting out the priorities and strategies within the metropolitan area of Cuiabá River Valley. Thus, is it impossible to meet the demands of the metropolitan region. The expectation we have is that, with the approval of PDPI, the "Development Agency and the Executive Board of RMVRC can organize intermunicipal proposals, expected activities and resources for investments" (CHILLETO, 2015, p. 27).

[1] The metropolitan area of Cuiabá River Valley - RMVRC, regional organization unit of the State of Mato Grosso consists of the following municipalities: Cuiabá, Várzea Grande, Nossa Senhora do Livramento e Santo Antônio de Leverger. The Environs Metropolitan of RMVRC is formed by the municipalities of: Acorizal, Barão do Melgaço, Chapada dos Guimarães, Jangada, Nobres, Nova Brasilândia, Planalto da Serra, Poconé e Rosário Oeste, as Complementary Law N° 359, From 27 May 2009. Available in: http://app1.sefaz.mt.gov.br/sistema/legislacao/LeiComplEstadual.nsf/9733a1d3f5bb1ab384256710004d4754/9fcbd862aa45ffa8042575c40046cb9d?OpenDocument. Access, November 2015.

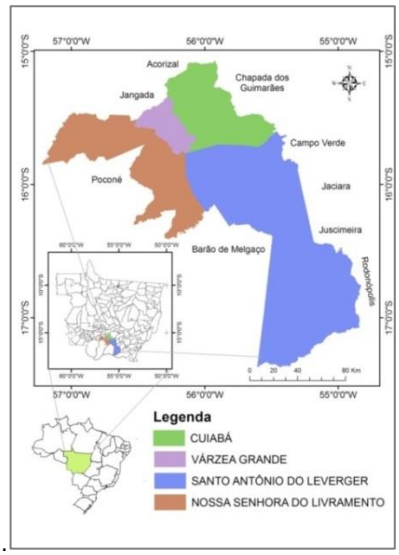


Figure 01: Location map of cities: Cuiabá / Várzea Grande / MT in RMVRC
Base: Brazilian Institute of Geography and Statistics - IBGE, 2010. Elaboration: SILVA, R.B, 2016.

We realize, once again, the trust and the expectation of an administrative structure for effective actions aimed at the integrated development of the metropolitan region of Cuiabá River Valley. Of course that advances in institutional framework are essential for the regulation of metropolitan governance, but the difficulty has been to unite the interests of municipal managers and communities involved in the construction of metropolitan governance in order to ensure the development of economic and social strategies for region.

Metropolitan governance can be a tool to support social and economic development of cities. The project Technological Park installation of Mato Grosso can speed up the process of developing the Directive Plan Integrated Participatory, enabling collective action and social development and integrated economic, because, according to the literature, Cuiabá and Várzea Grande occupy significant urban features to economic development of the State of Mato Grosso.

In addition to the metropolitan governance, so that the scientific and technological economic development happen with greater mobility is essential to a certain place offers basic conditions for the development of productive activities, which are based on infrastructure, institutions, labor and economic attractiveness through tax breaks. In this respect, Cuiabá and Várzea Grande arise as concentrated space infrastructure, information and essential services for the maintenance and expansion of agribusiness.

Cuiabá and Várzea Grande play agroindustrial functions, concentrating important portions of the storage capacity and processing, urban support these cities extends to all state urban network, "whose hierarchical features correspond to level 1, expressing high diversification and specialization of functions urban associated with high densities of equipment and facilities "(RIVERA, 2009, p. 25).

Thus, the conurbation Cuiabá and Várzea Grande, with a population over 800,000 inhabitants became "center of specialized services, financial and industrial" (Romancini, 2009, p. 54), incorporating new geographic objects of goods and services based agribusiness giving dynamism to urban centers and redefining the spatial arrangements, as stated (Arruda, 2007).

Installation of the Technology Park in Mato Grosso, in the city of Várzea Grande, demonstrates the "force of attraction" economic performed by Cuiabá and Várzea Grande, competitiveness and development of science and technology for regional-global productive strengthening because, beyond Várzea Grande, there were disputes between five municipalities for the installation of the project: Alta Floresta, Rondonópolis, Sorriso, Chapada dos Guimarães and Cuiabá to note that, among them, producing agribusiness cities like Rondonopolis and Alta Floresta, they lost the dispute, given the attractiveness exercised by the city of Várzea Grande, which, in addition to the infrastructure conurbation cities, offered locational land and incentives for the installation of the Technological Park.

As a guideline to economic strategic planning at the state level, was drawn up in 2005, the Plan of Long Term Mato Grosso (PLP / MT) through a review and redesign in 2011, being published in 2012. Known as "MT + 20", the plan outlines strategies for social and economic development of Mato Grosso to be developed in twenty years (2006-2026). We will highlight this research, specifically, the intentions of the State Government with respect to economic

development (Axis 2:05), seeking the correlation between this process and the issue of economic development of the metropolitan region, led by conurbation Cuiabá / Várzea Grande.

Installation of the Technology Park is part of the state government planning. Its location is close to the future campus of Federal University of Mato Grosso (UFMT) and Instituto Federal de Mato Grosso (IFMT) where work technical and engineering courses, as provided for "Mato Grosso Development Plan - MT + 20" in order to facilitate the exchange of Education, Research and Market . The UFMT the IFMT and Technology Park worked in an integrated manner in order to meet the "demand" mainly manpower specialty of productive sectors, in particular Agribusiness. The installation of these three projects had the "donation" of land by Merging Company Ductievicz.

The question of the productive structure of the State of Mato Grosso and the quest for competitiveness on the world stage brings to the center of the debate the economic empowerment linked to scientific development, hand specialization of work and infrastructure.

The State Competitiveness Index (ECI Factors) shows an unfavorable situation of Mato Grosso, compared to other states in the Midwest, according to the Competitive Brazil Movement - MBC, 2006. Conform the MBC, the Federal District has the best competitiveness index of Midwest, ranking 3rd place, and stand out in the qualification of the workforce, keeping the 1st place, already with regard to knowledge and innovation, occupies 7th place and on the infrastructure, ensures 3 place. In Mato Grosso do Sul, we have the following data: competitiveness index 8th place, workforce qualification 7th, knowledge and innovation 16, Infrastructure 9. Goias: competitiveness index 13ºlugar, workforce Qualification 15th, knowledge and innovation 17th, Infrastructure 10. And lastly, we have Mato Grosso - competitiveness index 17, labor force Qualification 14th, knowledge and innovation 19, Infrastructure 19 (Mato Grosso, 2012b, p. 25).

The search for scientific development arises, then, as a key to increased productivity and competitiveness. This question is posed in the Plan MT + 20, on Axis 2 - "education, knowledge and innovation" - and in section 5 - "Expansion and consolidation of research, development and diffusion of technologies." We emphasize it the following items:

> *5.1. Expand the management capacity of the science system, Technology and Innovation (ST & I); 5.2. Establish an investment policy in S, T & I seek to develop regional capabilities; 5.4. Encourage scientific and technological exchanges between the members of the S, T & I State with C institutions, national and international T & I; 5.7. Promote exchanges and partnerships between research institutions and Mato Grosso companies; 5.8. Encourage registration of patents and technology transfer; 5.9. Implement tax incentives policies (Prodecit). (Mato Grosso, 2012a, macro-objectives, p. 62, 63).*

There is a consensus in the strategic plan of the Mato Grosso economy has demonstrated high competitiveness in the agribusiness sector, especially the agricultural and livestock sectors, however, the axis 5 "economic competitiveness and productive diversification" are marked two main limitations of competitiveness. The first concerns the difficulties in movement of production to the consumer market (logistics), the second concerns the economy is overly focused on the production of primary goods with low added value, intended for export. In this bias, the economic issue is the core of MT + 20 plan, from which you want to reconfigure the relations of production and space:

> *The development of the state through the increased competitiveness, with emphasis on improving infrastructure, productive diversification and consolidation of productive chains in the state. Therefore, the strategic axis "economic competitiveness and productive diversification" is an important part of the general strategy set out in this plan (SEPLAN, 2012a, Macro Goals, p. 51).*

The axis 5 "economic competitiveness and productive diversification" was prepared with the following structural lines: 1) the need for expansion and improvement of infrastructure and logistics; 2) need for strengthening family agriculture (diversification of production) against the instability of the state economy to foreign markets (commodities); 3) Search for the diversification of the productive structure of the economy, in this case, there is intended to stimulate the industrialization of vegetable and mineral raw materials and expanding industrial activities in the State; 4) intention to land tenure to facilitate credit for production (Mato Grosso, 2012a, Macro-Goals, p. 79-82). All these goals seek productive and technological development increase for the other sets of economic activities:

> *The Mato Grosso agriculture has a high technological level as a result of years of research of EMBRAPA and innovative of the business stance. The agribusiness of Mato Grosso stands out with high productivity and situates the production of state of the most advanced of tropical agriculture. The technological development of Mato Grosso agriculture, however, not manifested in all the state's economic activities (Mato Grosso, 2012d, p. 86).*

The search for productive restructuring, which includes technology development, produces new spatial relationships, both in the field and in the city. The urban area of Várzea Grande, being conurbado to Cuiaba, stands as a strategic location for educational centers, teaching and research, aimed at the economic development of the State of Mato Grosso. Some actions by the municipal government favored the installation of the Technological Park, such as the creation of locational incentives laws and public-private partnership establishment.

Table 01 shows the main changes that have occurred in Várzea Grande in the regional competitiveness process. These are changes in tax incentive laws, providing exemption from Territorial Property Tax Urban - property tax, the Real Estate Transfer Tax - ITBI, the Tax on Services of any kind - ISSQN also exemption of administrative fees and charges relating the regulation and implementation of projects and exemption Business license. In addition, there is also the granting of loans and financing for public or private projects, especially in the area of Trade, Tourism and Industry.

The establishment of public-private partnerships may favor the construction of fixed capital infrastructure, which will enable the increase of knowledge flows, technology, goods and people between the producing areas of agribusiness. In the public-private relationship (Law 4,101 / 2015), is described in the regulations for the implementation of basic infrastructure in order to address the first installation step of the Administrative Complex and Incubator Technology Park in Mato Grosso, such as drainage, earthworks for paving, paving, water supply and sewage. Identified, to date, this public-private relationship is not actually the establishment of Public-Private Partnership (PPP), under the Federal Law of Public-Private Partnership No. 11,079 / 2004[1] and the Municipal Law No. 4,069 / 2015[2].

Nº Of Law	Description	Deadlines	Exemption From Type / Action
2.824/2005	Tax incentives for economic enterprises.	10 years	ITBI, ISSQN, Exemption from fees and administrative emoluments (regulation and implementation of the project)
2.851/2006	Changes the Law 2.824/2005	10 years	business licenses and emoluments (enterprise deployment)
3.974/2013	It provides for the demarcation of the new Perimeter Urban		Expansion of the urban area "new urban perimeter area"
3.976/2013	Enlarges the road system an integral part of the supplementary law n.º 3.112/2007		of the road system expansion for "new urban perimeter area"
3.979/2013	Changes in Law Nº. 3.727 / 2012 Law of Zoning Use and Land Use Urban		Establishes the Zoning Use and Land Use Urban "new urban perimeter area"
4.042/2014	Defines development policy - Industry, Commerce and Tourism	10 years	Alienation public areas to companies (industrial) inside and outside the industrial perimeter - with definitive deed of grant fee area. Tax incentives, loans and financing to public and private projects in the areas of Industry, Trade and Tourism.
4.069/2015	Establishing the Public-Private Partnership program	5 to 35 years	Provision and operation, construction, expansion, renovation and management of public goods in general use (concession). Credit compensation owed by the private partner. Use of specific funds (Fundo Garantidor PPP)
4.100/2015	It provides for receiving authorization and areas donation intended for Campus UNEMAT	10 to 20 years.	Receiving 80,000 m² “Merging Company Ductievicz Ltda Epp”, for the construction of UNEMAT and SECITEC

[1] Federal Law of Public-Private Partnership No. 11.079 / 2004, available at: <http://www.planalto.gov.br/ccivil_03/_ ato2004-2006/2004/lei/l11079.htm> Access, March 2016.

[2] Municipal Law Public-Private Partnership No. 4,069 / 2015 <http://www.varzeagrande.mt.gov.br/ storage/Arquivos/fe4a6492fa24c8f855fa2308f8b8367a.pdf> Access, March 2016.

	and SECITEC		
4.101/2015	It provides for giving authorization and receiving areas for the installation of the Technological Park of Mato Grosso	10 to 20 years.	Receiving 80,000 m² area, for installation of the Technological Park of Mato Grosso of the “Merging Company Ductievicz Ltda Epp”

Frame 01: Fiscal incentives Laws of and establishment of Public-Private Partnership.
Organization: SILVA, Rosinaldo Barbosa, 2015.

From the start of construction of the Technology Park and the actions of the municipal government, state and federal, new trade enterprises, industry and services tend to settle in the "economic development area" of Várzea Grande. Especially if entrepreneurs obtain locational incentives and acquire land more affordable than in "urbanized areas". In the current context, we have identified the process of real estate valuation, made possible by the installation of projects / urban settlements and the expansion of the urban area, as identified in Figure No. 02.

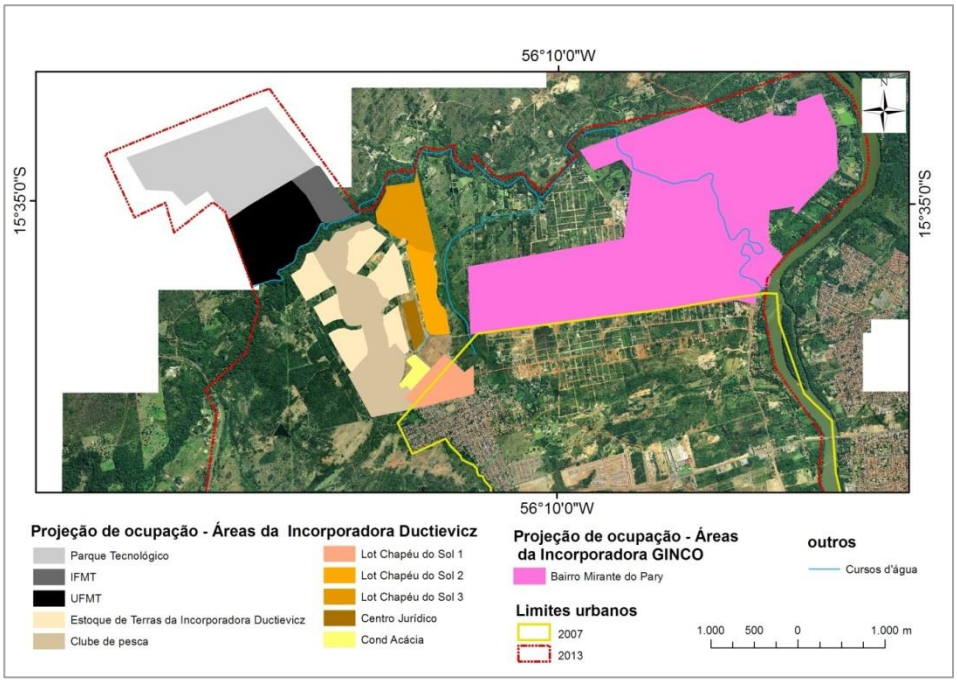


Figure 02: Letter-image installation of scientific and urban enterprise (northern region) in Várzea Grande - MT
Organization: SILVA, R.B, 2016.

For installation of the Technological Park of Mato Grosso and new urban developments it had to turn rural areas into urban, so in 2013, the expansion of the urban area was approved. In addition, it was necessary to conduct a new zoning to determine areas of "special areas" and social infrastructure.

Installation of the Technology Park in Mato Grosso, in the city of Várzea Grande, indicates the regional competitiveness development process, based on the ability to attract performed by the concentration of the means of production (labor, infrastructure, institutions) of the conurbation Cuiabá-Várzea Grande. The transformations in the urban space reveal the capital's force of attraction at the opening of new capital roads, the possibility of labor specialization, promoting the development of science and technology (mainly through engineering courses and transport) to the regional productive strengthening commanded by Agribusiness.

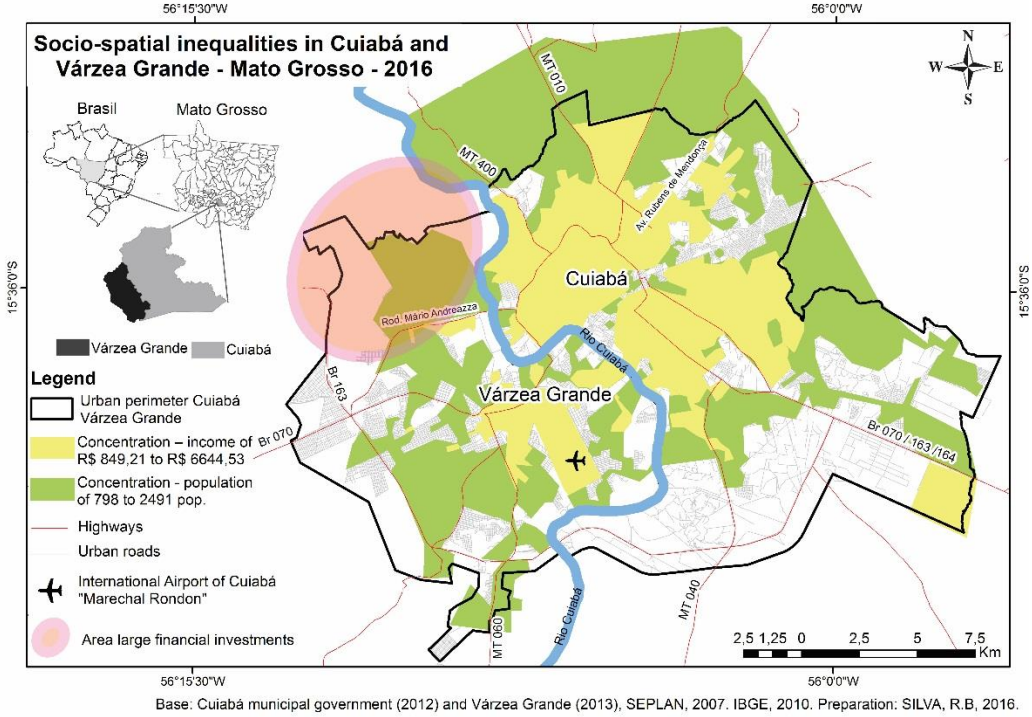
However, for the realization of economic and social development, the government and civil society must work and create means for promoting investment in labor, urban planning and social infrastructure to guide direction to economic development and broad social, reducing socio-spatial inequalities. Since the socio-spatial inequalities in Cuiabá and Várzea Grande are deep and are characterized by the polarity between centralization and dispersion. The centralization and dispersion found in Cuiabá and Várzea Grande not differ from those found by Moura et. al. (2007) on the Brazilian Metropolitan Regions.

The socio-spatial inequalities in Cuiabá and Várzea Grande can be identified by analyzing the concentration of income and population in urban areas (Figure 03). According to data from the census sector of the Brazilian Institute of Geography and Statistics - IBGE, 2010, the concentration of income of R$ 849, 21 to R$ 6,644.53 predominates in

the central area of Cuiaba, in subdivisions and residential near the center of city and near major urban roads, such as the “Historiador Rubens de Mendonça” Avenue, where lies the Political Administrative Center of Cuiabá. Várzea Grande, income concentration is also located in the central area of the city, in some allotments close to the city center and Cuiabá International Airport (located in Várzea Grande). By contrast, in areas distant from the center, is concentrated the largest population index, these locations people have income below R $ 849.21, or less than a minimum wage (R$ 880.00 in the year 2016).

It is precisely in areas far from urban centers of Cuiabá and Várzea Grande lies the majority of the population between 798-2491 inhabitants, according to data from the census sector, IBGE 2010. In these areas, in most cases, lack infrastructure urban, public facilities, highlighting the lack of access to public services and urban rights to most residents. Unlike areas far from urban centers, the central areas have low concentration of population below 798 people, however, are these core areas of Cuiabá and Várzea Grande which focus the higher incomes.

Installation of the Technology Park in the "area of large financial investments" can mean the spatial reconfiguration of socio-spatial inequality in Cuiabá and Várzea Grande, concentrating in this area: capital, infrastructure, labor, institutions, businesses and services.



Base: Cuiabá municipal government (2012) and Várzea Grande (2013), SEPLAN, 2007. IBGE, 2010. Preparation: SILVA, R.B, 2016.

Figure 03: Map of socio-spatial inequalities in Cuiabá and Várzea Grande - Mato Grosso - 2016.
Base: Cuiaba municipal government (2012) and Várzea Grande (2013), SEPLAN, 2007. IBGE, 2010. Preparation: SILVA, R.B, 2016.

To reduce socio-spatial inequalities, Installation Technology Park must be accompanied by metropolitan strategies for social development, supported by public policies that promote the full urbanization of city neighborhoods and create means for worthy reproduction of life of workers. The promotion of metropolitan governance (where none exists in the urban area) can guide the social policies for these purposes.

FINAL CONSIDERATIONS

The installation of the first of Mato Grosso State Technological Park stands as the economic strategy found to promote regional development and metropolitan of the state and producing areas of agribusiness. So there is the realization of technological development, competitiveness and attraction of investments, municipal, state and federal government should join forces with organized civil society and the private sector, especially in reducing barriers to mobility worker. That is, improvement should be made in public transport, the interurban road system, child care through child care, improvement in the health system, culture and leisure offer. These issues are fundamental to improving the quality of life of workers and to attract skilled labor. In addition, urban development strategies should be established, creating basic and social infrastructure, increasing access to public services to citizens, and creating urban mobility infrastructure, facilitating the mobility of capital, labor and goods.

The global trend in the development of "Economic Strategies Metropolitan" is the civil mobilization indication about the economic development, through the "metropolitan governance". But there is a long way to strengthening social participation, as well as the actions of the metropolitan agency for coordination and referral of economic and social demands in the metropolitan area of Cuiabá River Valley.

The completion of economic attractiveness depends on public and economic policies in addition to the establishment of tax incentive laws for industry installation, trade, services and metropolitan governance. This will depend on the development of urban attractiveness and promoting the quality of human life in the city of Várzea Grande, indeed essential for securing skilled labor, which tend to focus on around the activities initiated by the Technological Park. This aspect has proved fundamental in the international context of cities that reinvented to consolidate the economic attractiveness, specialization of production and labor.

The development of science, technology, competitiveness and strengthening the agribusiness sector for the installation of the Technological Park indicates the possibility of regional especially the conurbation Cuiabá - Várzea Grande, intensifying the concentration of political and economic power against other regions of the State Mato Grosso. For this, the government should develop better urban infrastructure to meet the growing regions of agribusiness (information mobility, science, technology, products and people) in order to expand the integration between production regions of Mato Grosso and as the national and international integration.

REFERENCES

Andrade, Ilza Araújo Leão, Clementino, Maria do Livramento. Descentralização e impasses da governança metropolitana. Rio de Janeiro: Revan, Fase, 2007. In: Ribeiro, Luiz Cesar de Queiroz, JUNIOR, Orlando Alves dos Santos/orgs. As metrópoles e a questão social brasileira. Rio de Janeiro: Revan, Fase, 2007.

Azevedo, Sérgio, Guia, Virgínia Rennó dos Mares. Federalismo, atores e arranjos cooperativos nas regiões metropolitanas: possibilidades e limites para a inovação institucional. Rio de Janeiro: Revan, Fase, 2007. In: Ribeiro, Luiz Cesar de Queiroz, Junior, Orlando Alves dos Santos/orgs. As metrópoles e a questão social brasileira. Rio de Janeiro: Revan, Fase, 2007.

Chilleto, Rita de Cássia Oliveira. Região Metropolitana do Vale do Rio Cuiabá. 2015. In: IPEA, Instituto de Pesquisa Econômica Aplicada Governança Metropolitana no Brasil. Relatório de Pesquisa. Caracterização e Quadros de Análise Comparativa da Governança Metropolitana no Brasil: análise comparativa das funções públicas de interesse comum (Componente 2). Região Metropolitana do Vale do Rio Cuiabá. Rio de Janeiro, 2015.

Garcia, Silva Maria Nicoletti Pillon. Os Planos Diretores e o Planejamento Urbano no Aglomerado Cuiabá/Várzea Grande - MT. 2010. 269p. Dissertação Mestrado em arquitetura e Urbanismo. Universidade de São Paulo – USP, 2010.

Harvey, David. Os limites do capital. Tradução de Magda Lopes. [1.ed]. São Paulo: Boitempo, 2013.

Maricato, Ermínia, Junior, Orlando Alves dos Santos. Construindo a Política Urbana: Participação democrática e o Direto à Cidade. Rio de Janeiro: Revan, Fase, 2007. In: Ribeiro, Luiz Cesar de Queiroz, Junior, Orlando Alves dos Santos/orgs. As metrópoles e a questão social brasileira. Rio de Janeiro: Revan, Fase, 2007.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Cenários alternativos de Mato Grosso, 2011 – 2031. Volume III. Cuiabá, MT, 2012 d.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Estudo retrospectivo. Volume I. Cuiabá, MT, 2012 b.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Macro-objetivos, metas globais, eixos estratégicos, estratégias e linhas estruturantes. Cuiabá, MT: Central de Texto, 2012 a.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Relatório da pesquisa qualitativa, Volume II. Cuiabá, MT, 2012 c.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Sistema de Gestão do Plano de Longo Prazo. Volume V. Cuiabá, MT, 2012 e.

Mato Grosso. Plano de Longo Prazo de Mato Grosso: Versão técnica. Cuiabá, MT [SD].

Moura, et. al. O metropolitano no urbano brasileiro: identificação e fronteiras. Rio de Janeiro: Revan, Fase, 2007. In: Ribeiro, Luiz Cesar de Queiroz, Junior, Orlando Alves dos Santos/orgs. As metrópoles e a questão social brasileira. Rio de Janeiro: Revan, Fase, 2007.

Rivera, Márcia Silva. Cuiabá: uma expressão na rede' urbana. Cuiabá - MT, 2009. In: Romancini, Sônia Regina (Org.). Novas territorialidades nas cidades mato-grossenses. Cuiabá – MT EdUFMT, 2009.

Romancini, Sônia Regina. Reestruturação urbana e novos territórios em Cuiabá. In: Romancini, Sônia Regina (Org.). Novas territorialidades nas cidades mato-grossenses. Cuiabá – MT EdUFMT, 2009.

Várzea Grande, 2013. Plano de expansão urbana de Várzea Grande. Várzea Grande, 2013.

Weiss, Marc A. Metropolitan Economic Strategy: How Urban Regions Innovate and Prosper in the Global Marketplace. 2000. Fonte: <http://www.globalurban.org/Wilson_ Center_MES_conference.pdf>Acesso, fevereiro de 2016.

Weiss, Marc A. Productive Cities and Metropolitan Economic Strategy. 2001, Fonte: <http://www.globalurban.org/prod_cities.htm> Acesso, fevereiro de 2016.

THE IMPACT OF FLOODS AND TYPHOONS ON HOUSING WELFARE: CASE STUDY OF THUA THIEN HUE PROVINCE, VIETNAM

Session T6.1 | June 2 | 9:00 – 10:30

Suyeon Lee; Seyeon Lee
University of Wisconsin-Madison, USA; Texas A&M University, USA
sy81sunshine@gmail.com

ABSTRACT: This research investigates and records post flood and typhoon conditions of low income housing in the Thua Thien Hue Province, Vietnam; area prone to extreme flooding in Central Vietnam. The cost of rebuilding houses after flood and typhoon has been always a burden for low income households. These costs often lead to the elimination of essential construction practices for disaster resistance. Despite relief efforts from international non-profit organizations and Vietnam government, the impacts of flood and typhoon damages to residential construction has been reoccurring to the same neighborhood annually. Notwithstanding its importance, this topic has not been systematically investigated. The study is limited to assistance provided to low income households documenting existing conditions of low income homes impacted by post flood and typhoon conditions in the Thua Thien Hue Province. The research identifies leading causes of the building failure from the natural disasters. Relief efforts and progress made since the last typhoon is documented. The quality of construction and repairs are assessed based on Coastal Construction Manual and by Federal Emergency Management Agency. Focus group discussions and individual interviews with local residents from four different communities were conducted to get incites on repair effort by the non-profit organizations and Vietnam government, and their needs post flood and typhoon. The findings from the field study informed that many of the local people are now aware of the importance of improving housing conditions as one of the key coping strategies to withstand flood and typhoon events as it makes housing and community more resilient to future events. While there has been a remarkable improvement of housing and infrastructure with the support from the local government as well as the non-profit organizations, many households in the study areas are found to still live in weak and fragile housing conditions without gaining access to the aid to repair and strengthen the houses. Given that the major immediate recovery action taken by the local people tends to focus on repairing damaged houses, and on this ground, low-income households spend a considerable amount of their income on housing repair, providing proper and applicable construction practices will not only improve the housing condition, but also contribute to reducing poverty in Vietnam.

KEYWORDS: disaster coping mechanism; housing welfare; low-income housing; recovery reduction.

INTRODUCTION

Along with Philippines and Cambodia, Vietnam is one of the most disaster-prone countries in the world. The World Bank [2] has indicated that Vietnam is among the top ten countries that will bear the worst damages brought about by climate change. In 2010, sea levels in Vietnam rose 100cm above normalized 1980-1999 levels, and by 2050, it is expected to rise an additional 28-33cm. With sea levels rising, the flood-prone areas in Vietnam will expand every year. In addition to rising sea levels the Central Committee for Flood and Storm Control in Vietnam [3] reports that there are about twelve tropical cyclones occurring in the South China Sea annually, and six to eight storms and tropical depressions affect the territory of Vietnam.

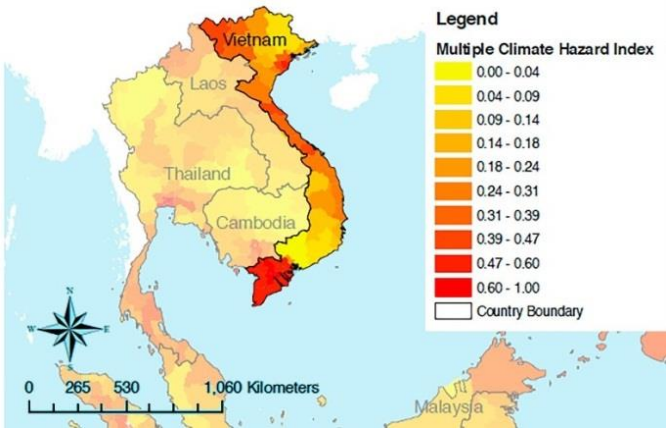


Fig. 1 Vietnam - Climate Hazard Index [4]

As a consequence of climate change, coastal areas of Vietnam are now prone to flooding from monsoon rains and typhoon storms. Inland areas of the country are at high risk of flash flooding. Flooding is becoming an annual event resulting in the loss of lives, the displacement of vulnerable people, the destruction of key infrastructure, property damage, and loss of food stocks and livestock. The repeated and extensive damages are more likely to have a direct impact on the capacity of the family and the community to develop and move beyond poverty.

In light of the frequent floods and resulting damage, development needs, such as the provision of housing, water supplies and the planning of infrastructure, is essential in order to build resilience. The government of Vietnam responds relatively quickly providing immediate disaster relief. However, its reconstruction efforts focus on strengthening large infrastructure, such as highways, dams, and dykes. When the government does offer financial help to affected families, it is rarely enough for them to rebuild their homes [5].

Despite many efforts are being made to rehabilitate and mitigate impacts from these natural disasters, people outside of the affected regions are still not familiar with these efforts nor its nature of almost annually reoccurring damages in Vietnam. After Typhoon Nari and Typhoon Haiyan in 2013, several cities frequently appeared in the news. News reports seldom mentioned Thua Thien Hue Province which has suffered the most from dual impacts of both typhoons. Housing in Thua Thien Hue Province, the most frequently affected and susceptible area in Vietnam, is poorly adapted to intensifying hazards [6].

While the poor are particularly vulnerable, much of the more costly, 'modernized' housing enjoyed by wealthier households are also highly vulnerable to typhoons and floods [6]. In addition, most residential houses in the Central Vietnam have been built without technical guidance or instruction from construction professionals. Many of these structures lack disaster resistance [7]. Studies confirm that 70% of recently built low income housing has weak structures that are prone to damage [8]. When disasters strike, many of the low income households use their own financial resources to build their homes in the same manner as the previous unsafe ones [9]. In fact, their investment will likely be lost again when a major typhoon or flood damages this area. So paradoxically, families have become more vulnerable to these disasters that result in a spiral of declining poverty. The purpose of this study is to record post-flood and typhoon conditions of housing in the Thua Thien Hue Province, and to observe the efforts of organizations providing design and construction assistance to affected families. The study is limited to assistance provided to low income households.

RESEARCH METHOD

A fieldtrip was held throughout Thua Thien Hue province, the North Central Region of Vietnam from August to December, 2015. The main objective of this field trip was to acquire first-hand knowledge on the effects of floods and storms on both households and communities, and photograph existing housing conditions post recent flood events. Thua Thien Hue province is in a coastal area with the largest lagoon system in Southeast Asia which has been affected by natural disasters such as floods, storms and droughts. The study covers 4 communes: Quang Thai, Quang An, Huong Phong, and Huong Giang in Thua Thien Hue province. As a large proportion of people in this province are involved on agricultural production, the land is considered as an important resource for people in this area. The province has over 128 km of coastline that provides a for a seafood industry that produces over 40,000 tonnes/year consisting of over 500 species of fish [10]. The province also accommodates Tam Giang - Cau Hai Lagoon, the largest lagoon in South-East Asia, which has 68 km in length with 22,000ha of water surface. Exotic Fruits such as coconut, rambutan, jackfruit, lychee, star fruit, mangosteen, kumquat, durian, dao, dragon fruit, golden apple are grown in this area due to sufficient amount of rainfall every year [11]. As many people in this area largely

rely on natural resources, it is important to note that these people, in turn, can be more severely affected by floods and typhoons than elsewhere.

The region is characterized by high variation in terms of topography, climate and biodiversity, and thus can be divided into four zones: (i) mountainous area, (ii) hills, (iii) plains and (iv) lagoons separated from the sea by sandbanks [12]. The region has tropical monsoon climate and the seasons are divided into four distinct seasons: fresh spring, very hot summer, mild autumn, and windy and cold winter. The dry season, characterized by hot climate starts from March to August while the rainy season usually starts from September to February. The rainy season is quite cold with average temperature is 19.70C, but sometime down to 8.80C [12]. In this time, it rains a lost, sometime lasts all day - about 70 percent of the precipitation occurring in those months. The annual precipitation in the province is 3200 mm, but depending on the year, the annual average may be 2500 to 3500 mm in the plains and 3000 to 4500 mm in the mountains. The below map show the level of risk by floods and typhoons across the province.

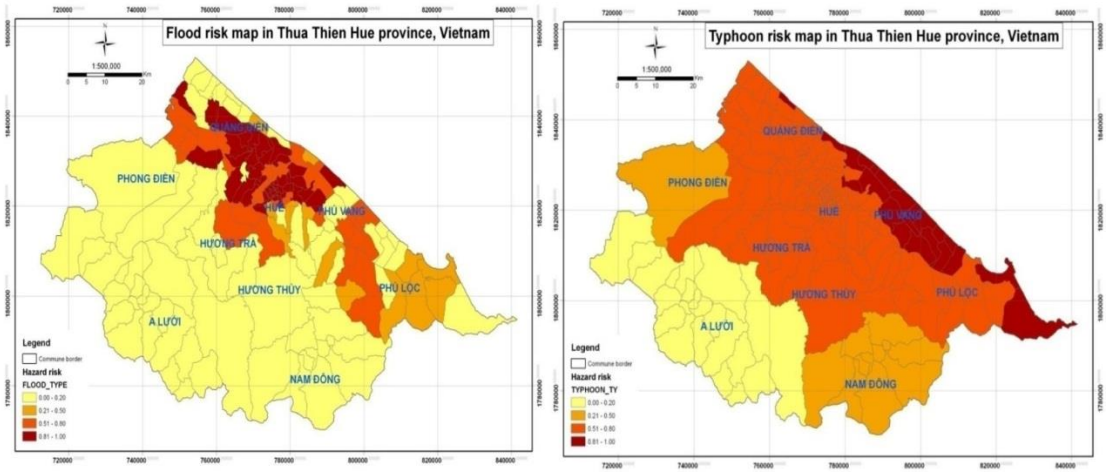


Fig. 2a: Flood Risk (left) and 2b: Typhoon Risk (right) Map of Thua Thien Hue province, Vietnam [13]

Given the province's topography, in order to ensure sampled households are a good representative of the population, in the first stage, selected communes were clustered according to topographical features. In the second stage, from each topographical area, communes that are located close to the commune center and roads are selected in consultation with local government officials. The selected communes are Huong Giang in Nam Dong district (upland), Quang An in Quang Dien district (lowland), Quang Thai in Quang Dien district (lagoon) and Huong Phong in Huong Tra district (coastal). The location of four communes are marked with stars in the below map.

Figure 3: Map of Hue Province by Districts

District	Population	Population Density (person/km^2)	Population per commune
Quang Dien	83,844	514	7622
Huong Tra	112,518	216	7032
Nam Dong	22,538	34	2049

Table 1: Population of Study Sites by district [14]

INTERVIEWS WITH FOUR LOCAL COMMUNES

Discussion and in-depth interviews addressed the natural disaster risks and vulnerability, and availability of management plan and aide for recovery in the Thua Thien Hue Province, Vietnam. In addition, it seeks the kinds of effort local residents make to protect and reinforce homes from flooding and storm damage. Inquiries in respect to local residents' knowledge on common construction materials were also made. Relief efforts and progress made since the last floods and typhoon evaluated based on flood resistant materials, conditions of connections such as hurricane ties and clips were photographed and documented.

ANALYSIS OF HOUSING REPAIRS

The quality of construction and repairs were examined in reference to the Coastal Construction Manual and maintenance inspection checklist [1] by Federal Emergency Management Agency. Although Vietnamese common methods of residential construction, especially in the rural area are differ from how residential construction is typically done in the U.S., the fundamentals of flood and hurricane prevention, and recommended materials were similar.

RESEARCH RESULT

COMMENTS FROM LOCAL RESIDENTS

With support from community officials, about six to eight villagers from poor, non-poor and better-off households participated in the discussion, and members of common interest groups such as Women's Union and Youth Union were also involved in the discussion. These discussions were organized to ensure the active participation of village heads and women in selected communes.

Districts	Communes	No. of participants
Quang Dien	Quang Thai	8
	Quang An	6
Huong Tra	Huong Phong	6
Nam Dong	Huong Giang	7
	TOTAL	27

Table 2: Number of Participants by Districts and Communes

This research discovered that perception towards floods and typhoons varies from person to person depends on where they live. Most participants were almost certain that there will be another flood or typhoon in the future, reflecting the fact there have been floods or typhoons every year. Although they suffer from economic loss, and their lives get harder after each disaster, they continuously live with the risk of being flooded almost every year. Many participants stated that they have learned to accept some degree of the risks through many years of experiences and be rational about future risks. Also, they become smarter and clever about how to survive nature.

There have been no major disasters in Thua Thien Hue as a whole since the catastrophic 1999 flood and the Typhoon Xangsane in 2006. However, this did not mean that natural hazards no longer concern them. All participants

agreed that floods have become very serious in the last decades, and believed that floods would continue to be a serious issue over the coming decades. In other words, everyone is fully aware that floods can affect the area occurring annually and it is unavoidable. They showed concern about the safety and well-being of their family because a disaster can drive people into poverty anytime.

Participants explained that they make additional spending for materials and labor when preparing for and recovering from floods. These costs are consuming a significant portion of household income. When they were asked if they ever had to cut down on expenses for food, health care or children's education due to financial loss caused by floods, many of them said "yes". Fortunately, no one in the study group had an extreme case to drop their children out of school. "My allowance money needs to be reduced, for example, before the disaster I spend 100 thousand VND but after the disasters taking place, I only spend 70 thousand VND, saving 30 thousand VND to prepare for future disasters" (Anonymous, personal communication, October 22, 2015)

In the aftermath of climate disaster, while a large proprtion of houses get collapsed or totally destroyed, the same household tends to lose their homes, assets and livelihoods, increasing their vulnerability to the next disaster event. Indeed, the poor who lack the capacity to prepare and recover from a disaster, increase the risk of disasters.

> *"The poor is more vulnerable to floods because theirs houses are temporary type. They are easily blown away or destroyed. Housese that are not normally damaged as others are strong and stable built with strong matrials. Therefore those who are almost not affected have a stronger house and better economy"* (Anomynous, personal communication, October 22, 2015)

In most disaster-prone country like Vietnam, shelter is considered as the most valuable, but the most vulnerable asset for the local households. Therefore people are aware of the importance of improving housing conditions as one of the key coping strategies that withstand floods and typhoons. It makes housing and communitiy more resilient to future events. Coping strategies including raising the base of their homes, constrocing the roof and walls with sturdy materials such as concrete and bricks, and moving furnitures, foods, and livestock to higher places are embraced for all new constructions.

Social capital is evident in the focus groups, with all participants stating that in their village, everyone knows everyone else and they are willing to help each other in an emergency. The village and commune organizations, such as Youth Union and Women's Union also attempt to mobilize people and organize mutual support such as helping the affected households to repair homes and maintain livelihoods.

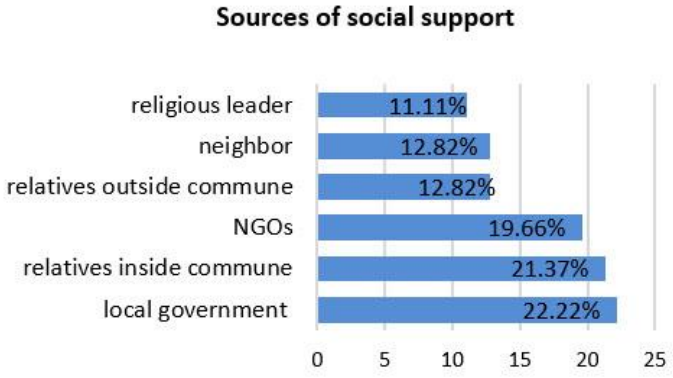


Fig. 4 Sources of Social Supports provided after disasters

Each participant was asked to choose all sources of support they received during the last disaster events. The highest number of participants chose local government (22.22%) and relatives inside the locality (21.37%), followed by NGOs (19.66%), relatives outside the community (12.82%), neighbor (12.82%), and religious leader (11.11%) for their sources of help. While the local government was chosen the most, many participants added that assistance they get from the government, NGOs or anyone else is insignificant. It is indeed such a little help. In most cases, they must get through difficulties on their own. Related to social capital, when the participants were asked what forms of support they received, they said "money" and "foods" most frequently as seen in Fig. 5. Usually, support from the governments and NGO's are provided by a form of money, and mostly it is used to purchase materials to repair their houses, so they can be back to their normal state of lives. But it is their own responsibility as individual or community to repair what has been damaged. Next to tangible support, what the affected households most need is a large force of labor to repair damaged properties. Families and neighbors volunteer their unskilled labor to help reconstruct

homes. As a matter of fact, the social capital, particularly the bond of relatives and neighbors in the locality plays very important role to the affected households especially the poor households to deal with the adverse effects of floods and typhoons.

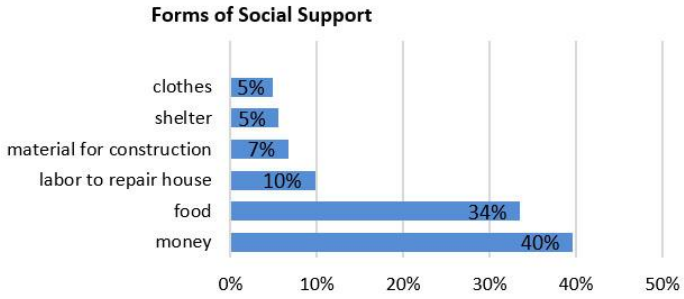


Fig. 5 Forms of social support available in the area

Most of these residents are farmers or fisherman without much knowledge of construction. Technical construction guidance is provided by international non-profit organizations such as Save the Children, Development Work France, and Red Cross, but it is very limited since these organizations cover large areas in the county with limited manpower and resources. And when they do, that is all the professional construction consulting the locals receive to repair their damaged houses.

COMMON RESIDENTIAL CONSTRUCTION MATERIALS

Based on the observations and responses from the local residents, most of the residential buildings in the area are constructed with limited selection of building materials. Slab on Grade is common foundation, and it is simply used as floor (unfinished) or ceramic tiles is laid on top of concrete for ease of care. Some houses appeared to utilize brick as underlayment and pour concrete on top as their floor, which causes floor cracks from ground settlement. Exterior wall is constructed with either cast-in-place concrete or mixture of concrete and hand laid bricks for more recent and new construction, while the older buildings still show wooden columns with wood paneling. Remainder of the structure including roof is framed with wood. The common types of Vietnamese vernacular roofing is using tiles, but corrugated metal roofing and corrugated fiber cement roofing are more common in less affluent neighborhoods.

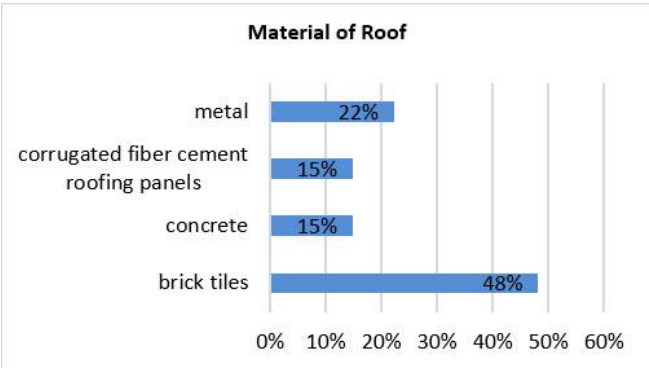


Fig. 6 Local residents' response of types of roofing materials

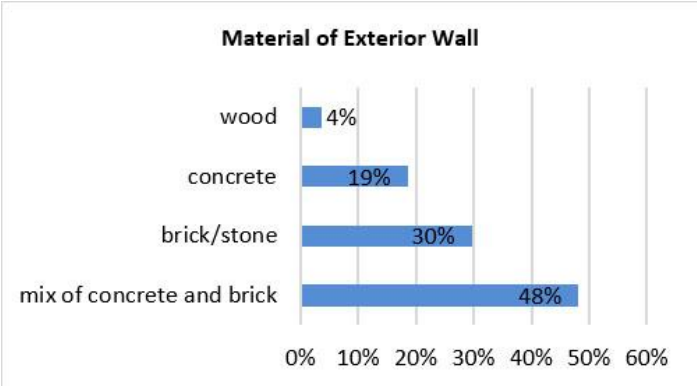


Fig. 7 Local residents' response of typical exterior wall materials

HOUSING REPAIR CONDITION

Despite the increase of frequencies of natural disaster, most people repair damages using the same materials rather than making permanent reinforcement to prevent future risk. As the locals testified, the local people did not fully understand the importance of reinforcing houses until recently. Most housing repairs are done by owners or through community effort with limited construction guidance. If damages were too severe to repair, structures were often abandoned, and the homeowners seek elsewhere for new home with the help of the community.

Most of the foundation or floor slab were not structurally reinforced and observed as in fair condition with less than ¼ inch cracks most due to water damage [1]. However, areas such as porch or entry where it is mostly exposed to weather, slab was in much poor condition left unrepaired.

Fig. 23 Local resident's house with poor concrete slab at entrance

Due to the wet and humid weather, exterior walls and columns were often molded and cracked. While many cracks were patched, it still exposed the trace of repairs. It was very common to recognize previous level of flooding in the neighborhood, because of the trace of the water level was clearly visible on exterior walls and fences of the residences.

Rather than typical glass windows, most houses had shutters which would never be completely enclose the space inside. Many observed glassed windows were broken and cracked, but the residents did not bother too much to repair them. Fortunately, they live in the moderate climate where the temperature does not change much.

Both wooden columns and concrete columns supporting the houses or canopy roofs were often observed to be rotten or molded on the bottom due to high humidity and flood damage. In addition, many of them were leaning from hurricane damage. No hurricane ties, clips, or special connection between horizontal and vertical structural members were found, completely exposing vulnerability of the entire framing of the houses.

Traditional roofing assembly in the area is to leave notches or holes on top of walls to lay wooden roof rafters through. Notches are often much larger to receive rafters and the gap between rafters and the notches are left open without fill or caulking. Wood purlin is nailed to rafters approximately 6" apart, then tiles are hand laid on top. There was no evidence of hurricane ties or clips [1] to enforce the connection between the roof and the concrete or brick wall. For corrugated fiber cement roofing panels and corrugated metal roofing, the panels were either screwed to metal purlins without any hurricane preventing connections or simply laid over wooden rafters or metal channels.

Rather than typical glass windows, most houses had shutters which would never be completely enclose the space inside. Many observed glassed windows were broken and cracked, but the residents did not bother too much to repair them. Fortunately, they live in the moderate climate where the temperature does not change much.

Both wooden columns and concrete columns supporting the houses or canopy roofs were often observed to be rotten or molded on the bottom due to high humidity and flood damage. In addition, many of them were leaning from hurricane damage. No hurricane ties, clips, or special connection between horizontal and vertical structural members were found, completely exposing vulnerability of the entire framing of the houses.

Traditional roofing assembly in the area is to leave notches or holes on top of walls to lay wooden roof rafters through. Notches are often much larger to receive rafters and the gap between rafters and the notches are left open without fill or caulking. Wood purlin is nailed to rafters approximately 6" apart, then tiles are hand laid on top. There was no evidence of hurricane ties or clips [1] to enforce the connection between the roof and the concrete or brick

wall. For corrugated fiber cement roofing panels and corrugated metal roofing, the panels were either screwed to metal purlins without any hurricane preventing connections or simply laid over wooden rafters or metal channels.

Fig. 9 Local residents' home with broken windows and molded concrete wall

Fig. 10 Installation of roofing tile at a new residential construction

CONCLUSION

With attempts by local governments and agencies to repair collapsed houses, there has been a remarkable improvement of the road and houses in the study areas. Many fragile and collapsed houses have been gradually replaced by semi-permanent and permanent houses [15]. However, there are many households still living in weak housing conditions without gaining access to the aid to repair and strengthen the houses. Even for those qualified for the financial aid, the support they get is very small. Therefore despite the large amount of investment in housing, 32% of housing stock is still classified as 'semi-permanent' houses, 19% as weak houses. In rural areas such as large part of Thua Thien Hue province, semi-permanent and permanent housing account for 31.7% and 49% respectively. Temporary and simple houses account for 9.8% and 2.6%. Ironically, accordingly to damage statistics for recent disasters such as typhoon Xangsane in 2006 and Ketsana in 2009, household living in semi-permanent housing have been worst affected with roofs and walls destroyed the most [9].

Vietnamese housing type classifications are:

i. Permanent: includes the villas, multi-story houses, apartments of multi-story buildings, multi-floor buildings assembled from pre-fabricated components, brick- constructed houses with flat concrete roof.
ii. Semi-permanent: includes houses with walls made of brick/wood/wood frame and with roof made of tile/cement-mortar roofing/metal roofing etc. or houses constructed of equivalent materials.
iii. House with durable frame and leaf-roof: houses with frame made from wood (all area of roof id propped up by durable pillars), with roof made of leaf/bamboo/oil-paper and its duration of use is more than 15 years.
iv. Simple: includes all other houses, which do not belong to the above-mentioned types. These houses are with simple composition and primitive materials. Walls are usually made of dirt/leaves/woven sheets (not built of bricks or wooden frame) and roof of bamboo/leaf/oil-paper.

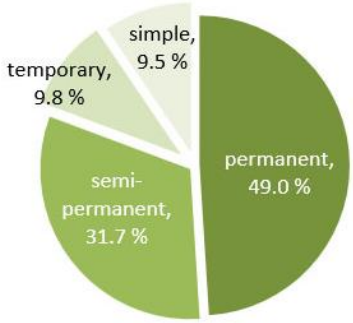


Fig. 11 Percentages of Housing Type in Rural Area of Vietnam [15]

Most of the houses on research sites are categorized as semi-permanent houses, but the columns are normally made of bamboo or timbers which are easily broken by the strong force and flow of floods. Therefore, unless the damaged houses are remodeled to the permanent state, long-term solution to the damage is difficult to implement. People living in such houses do not have enough funding to remodel or reinforce the houses to fully resist next

typhoon or hurricane, rather they stay and live in the fear of next hurricane until it becomes unbearable to stay in the structure. Then, it becomes an opportunity to rebuild and move onto the safer home.

Evidently, what we hear on the news as recovery effort by government and nonprofit organization does not have direct impact on long-term housing repairs from future hurricane or typhoon damages. However, with cultural and social setting of the community rebuilding effort, if more professional construction assist could be provided to educate and support them to repair the houses with permanent solution, the condition after future disaster could be much alleviated.

Despite the increase in the frequency and magnitude of natural disasters in the Thua Thien Hue Province, the response of local authorities to the impacts has been reactive rather than proactive. It is expected that this and future research will compel the government and relevant authorities to better understand the evolution and knowledge built on risk management in Vietnam so they can make better informed decisions that have lasting impacts. These studies must involve the local residents so that they can be fully aware of the potential dangers from natural disasters and work to ensure protection of their property and livelihoods.

It is expected that the study will contribute to a body of knowledge that will be available to the government, development practitioners and stakeholders for other flood/typhoon affected households throughout the country of Vietnam. The design of appropriate measures to manage and mitigate natural disasters requires an understanding of risk management, the exchange of experiences among household, and the development of knowledge and livelihood strategies that are supported by sustainable policy and interventions.

During the study it is also very important that the local people are informed that all people have opportunities to make their voices heard. It is important that they are a part of the process so they can feel that they are a part of the development of their future homes and communities. It is also important to give the people knowledge on new materials and educate them in new kinds of construction so they would understand and know what they can use and do. In addition, increasing awareness and preparedness against natural disaster and recognizing the existing structural failure would help alleviate the future risks as well.

REFERENCES

[1] FEMA (2011). *Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas*, 4th Edition, Chapter 4., vol. 2, pp 14.5-6.

[2] Poor, H. (1985). *An Introduction to Signal Detection and Estimation*. Chapter. 4., New York: Springer-Verlag.

[3] CCFSC (2005). VietNam Disaster Database, Retrieved from http://www.ccfsc.gov.vn/KW6F2B34/Disaster-Database.aspx

[4] Davies, G. I., McIver, L., Kim, Y., Hashizume, M., Iddings, S., & Chan, V. (2014). Water-borne diseases and extreme weather events in Cambodia: Review of impacts and implications of climate change. *International journal of environmental research and public health*, *12*(1), 191-213.

[5] Central Committee for Flood and Storm Control (2007). Community Based Disaster Risk Management. Good Practice Examples in Vietnam.

[6] Nguyen, V.K. (2011). Social Capital, Livelihood Diversification and Household Resilience to Annual Flood Events in the Vietnamese Mekong River Delta.

[7] CECI (2003). Community Adaptation Fund (CAF) Operation Manual. Capacity Building for Adaptation to Climate Change project, Vietnam.

[8] BSHF (2010). Preventing Typhoon Damage to Housing in Vietnam

[9] ADPC (2007). Promoting Safer Housing Construction through CBDRM: Community-designed Safe Housing in Post-Xangsane Da Nang City. Safer Cities 19. Thailand.

[10] Hue Statistics Office (2012). Statistic Yearbook of Thua Thien Hue in 2012.

[11] Thua Thien Hue Explained (2015). Everything.today. Retrieved from http://everything.explained.today

[12] General Statistics Office of Vietnam (2013). Statistical yearbook of Vietnam 2013

[13] The, B.D., and Adhikari, B. (2014). Vulnerability and Adaptation to Climate Change in Thua Thien Hue Province, Vietnam. IDRC. (unpublished).

[14] Thua Thien Hue Statistical Office (2012). Thua Tien Hue statistical yearbook 2012.

[15] GSO (2009). Vietnam Population and Housing Census 2009. Migration and Urbanisation in Vietnam: Conditions, Trends,and Differences. Ministry of Planning and Investment, General Statistics Office, Hanoi.

URBAN SUSTAINABILITY-CONSUMERISM-MEDIA: THE CASE OF GATED COMMUNITIES IN İSTANBUL

Session T6.2 | June 3 | 9:00 – 10:30

Ayşe Akbulut (1); Özlem Özçevik (2)
(1) Res. Assist., Nigde University, Urban and Regional Planning Department, 51240 Nigde, TURKEY, ayseakbulut@nigde.edu.tr
(2) Assoc. Prof. Dr., İstanbul Technical University, Urban and Regional Planning Department, 34367 Istanbul, TURKEY, ozceviko@itu.edu.tr

ABSTRACT: The links between urban planning and sustainability are gaining in significance day by day. The reality of this is evaluated by studying the relationship between sustainability and a consumer society in the context of gated communities' location choice in Istanbul. Using a post-modernist, consumer society framework 1452 completed gated communities and 315 still under construction are assessed. While these communities not only offer good living conditions but also their commercials' on the media emphasize being the other special part of the society by living on natural areas. The results of location choice of them and relations among natural land cover of Istanbul show that the number of them increased 363% in last 15 years for İstanbul and currently %38 of them located on naturally rich areas. Especially there is a gated community construction pressure on the watershed areas (%18 of total natural areas).

KEYWORDS: sustainability; consumerist society; media; gated communities; İstanbul.

INTRODUCTION

Sustainability is in a direct relationship with urban planning. This proceeds from the mission of cities. Because of its population, providing them with residential areas, working areas, labour force conditions etc., increasing their welfare, cities' systems directly connect with environmental and sociological conditions.

Sustainable city term points out doing the most suitable actions (Nijkamp, 1998). The indicators that determine this suitability have been produced since World War II. In the late 1960's by industrialization, air pollution, lack of enough infrastructure, hunger, epidemic and holocaust were started and global environmental decisions started to be significant. Environmental sensibility were getting higher in early 1970's and started to include social and economic decisions together and began to be called as "sustainability" (Douglas, 2012).

Therefore, from 1970's (its growth rate acceleration increased after 1990) to now "sustainability" has been used as the main goal of the planning discipline (Munda, 2006). As it is stated in the "Common Future Report" (UN, 1987), sustainability tries to compromise among economical development, ecological conservation and intergenerational equity. However; when the approaches for components of the sustainability in history are examined, it can be said that there hasn't been a common view, regulation or acceptance about it yet (see Figure1).

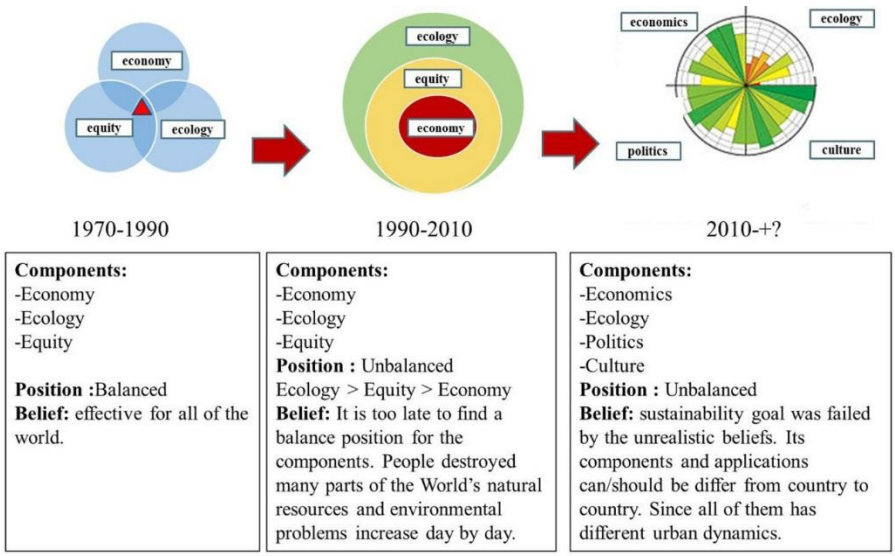


Figure 1. Components of sustainability and their relationship in between each one of them in history, (Adapted from: James 2015); (revised in Akbulut, 2015)

At this point, as an urban planning researcher it is observed that this situation causes another problem for the failure of sustainability: consumption factor. So, "Even if all technological developments and new economic regulations will be provided, can sustainable development be achieved in consumerist society?" is the main question directing this study which aims to examine theoretically the relationship between sustainability and consumer society from the perspective of Baudrillard's system of thought and test it with gated communities case in Istanbul. There is a graphical methodology of this study which is created according to these key words for the aim (see Figure2).

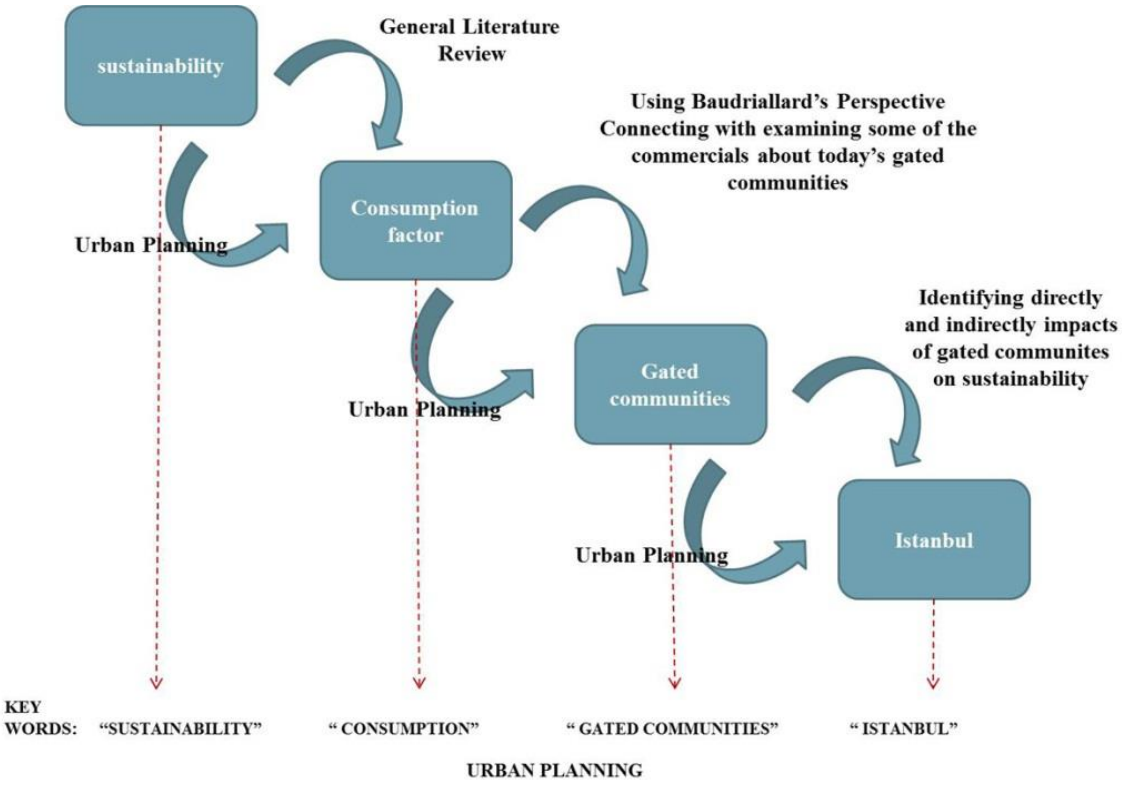


Figure 2. Graphical methodology of the study

The following section reviews the literature on sustainability and its relation to the consumption factor. This section contains not only theoretical knowledge, but also refers to Baudrillard, who was a sociologist, thinker and interested in post-modernism, post-structuralism and today's consumerist society. This is the system of thinking for examining some of the commercials about gated communities in Istanbul. At the third and final section; trends related to gated communities in Istanbul and their location choices are evaluated according to early parts of the study.

CONSUMPTION FACTOR AND THE MEDIA

In this section, consumption factor and its relation between media is tried to be understood from the perspective of Baudrillard. According to Baudrillard (2002) and Dagtas & Dagtas (2009) in the late twentieth century by the effect of changing production and consumption style, life style had also changed from modernist into post modernist. Global economic and political system started to seek new methods to solve the crisis capitalist economic systems. These new styles were found as solutions emphasizing consumption factor by using media effect to the society. At the final step, traditional social structure has negative impacts and is generally using products since lifestyle indicator doesn't make the people happy in the world. Changes of consumption perceptions in different times will be summarized according to the literature by using action and reaction style (see Figure3).

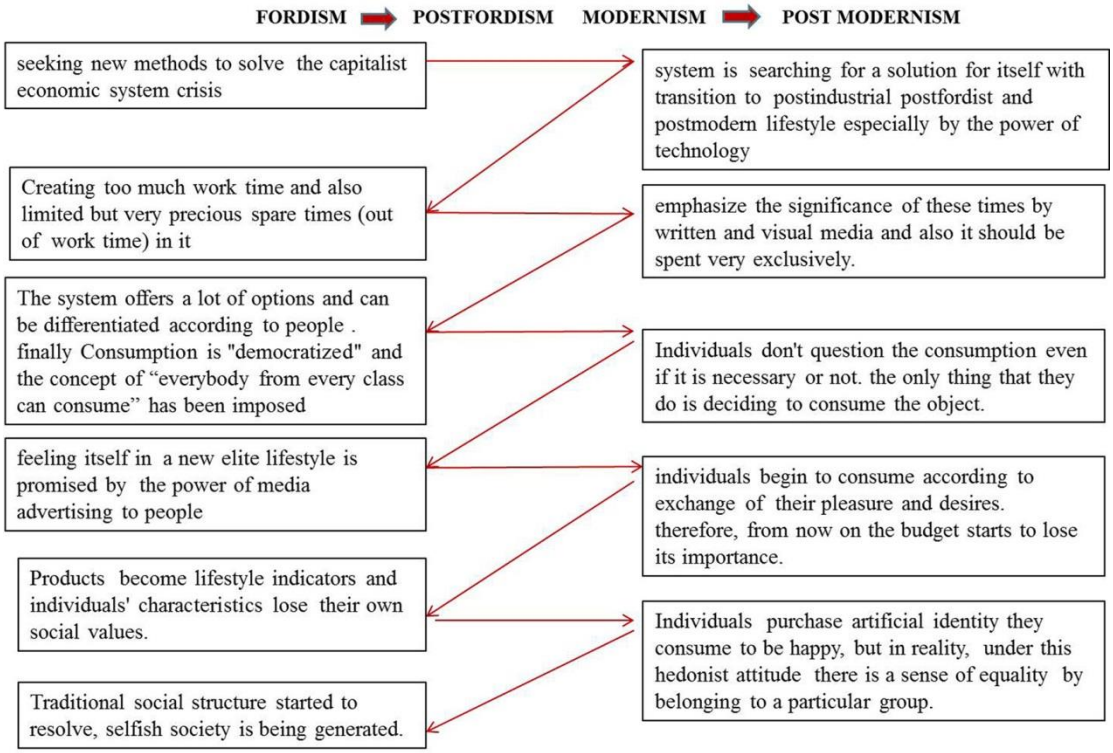


Figure 3. Changes of consumption perceptions in times/summarizing the literature,
Source: Adapted from (Baudrillard 2002); (Dagtas E. and Dagtas B.,2009)

Today by using mass media tools for materials; you can buy clothes without trying them, you can buy perfumes without smelling them, you can buy vegetables and fruits without touching them. In the mean time; for your personal life; you can find a new friend, you can chat with he/she, you can join some events, even you can get married. The most important thing here is that all of these can be done without making an "effort", and can be achieved "easier" and "faster" than traditional ways. To answer the question: "Why do we consume in a non-sustainable way?" question, we need to understand consumer society from "Baudrillard's" perspective. According to him, the post-modernist culture, has transformed daily life into a simulation. Every people has integrated to their virtual avatar and move away from their real identity by virtual reality that was created from the information era. According to Baudrillard, there are four reasons to consume to have an object for the people in the 21st century post-modernist era. The reasons are: functional value (for writing with pen), exchange value (1 pen worths 3 pencils), symbolic value (graduation gift as a souvenir from the family), and sign value (a particular pen may, while having no added functional benefit, signify prestige relative to another pen, and it indicates your class in society). Sign value factor is the most effective way for using media tools. It is thought that sign value is related to happiness. However; there is a lack of it in this approach. Baudrillard states that sign value is related to happiness but indeed equality is related to all of them, and it is the most desirable thing for the society. Media tools always use "happiness" for canalizing the people to consumption. According to Baudrillard; Tocqueville says: "happiness is a welfare that can be measured by objects, indicators and comfort. Inner happiness that is no need to prove is excluded from the consumer society" (Baudrillard, J., 2002). For proving this idea; three examples were chosen from the commercials of gated communities in Istanbul.

1st Example: Dragos Royal Towers, The center of freedom, "everybody wants the most free one, some of them owns it"

Commercial offers to its clients a new life style by using a free salesman at the presentation (see Figure4). However; when the real location of gated community was examined, it was recognized that living at the towers which are far away from the sea, and concrete wall borders are not related to this free salesman. In contrast, it can make people feel isolated and find themselves with their backs against the wall.

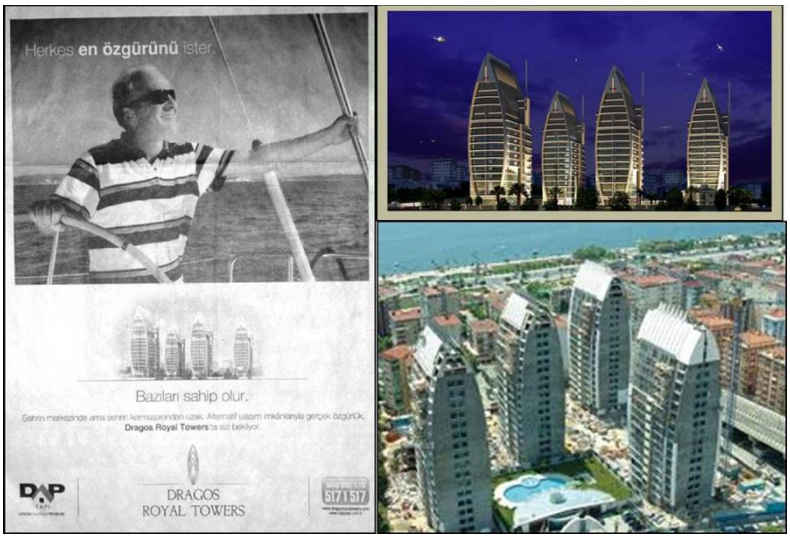


Figure 4. 1st Commercial example for the gated communities in Istanbul
Source: www.dap.yapi.com.tr ,http://usi.web.tr/gorsel/i/dragos-royal/, (accessed 28.04.15)

2nd Example: Dumankaya Ikon Towers ,“Some people want to rise, don’t you want to be the one in the elite class who lives in the first triplet tower of Istanbul ?”

This commercial offers its clients being a special one in the elite class by living in the first triplet tower in Istanbul. For its presentation; it uses a 3D view of the gated community from the architectural project. In contrast; real aerial photo of the tower site has a different and worse impact than the artificial one (see Figure5). First impact of the gated community is its being out of harmony from its surroundings. Finally, it can be said that being different and being unusual terms were confused for this project.

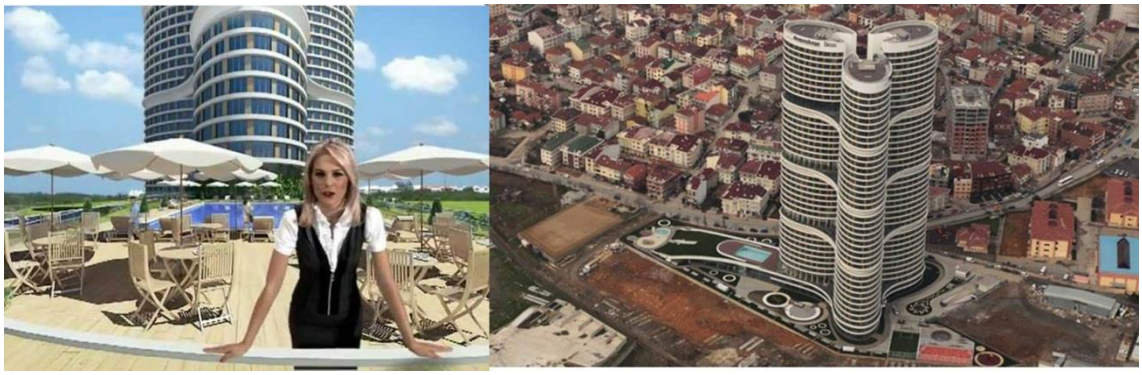


Figure5: 2nd Commercial example for the gated communities in Istanbul
Source: http://www.dumankaya.com/Sayfalar/projeler/yasam-baslayan-projeler/dumankaya-Ikon.aspx , accessed 28.04.15

3rd Example: Toskana Valley Town: “The new life town for someone who wants to cling to life, the address of Mediterranean life style in Istanbul”

This gated community is located on the naturally rich Buyukcekmece watershed area and productive agricultural area which is significantly valuable for Istanbul. Toskana Valley Town offers Mediterranean concept and an Italian life style such as in Toskana valley with olive trees, vineyards and some rustic features (see Figure 6).

Figure 6. 3rd Commercial example for the gated communities in Istanbul
Source: http://www.toskanavadisi.com , (accessed 28.04.15)

The project was copied from the real one from Italy to Istanbul. The houses at the town are the most expensive ones in Istanbul. Officially in April 2015 the houses were sold for prices starting at 625.000$ to 2.650.000$. (http://www.toskanavadisi.com/pages.php?cont=16) . It has to be noted that other gated communities which has lower price per m2 and less opportunities than Toskana Valley were located close to it.

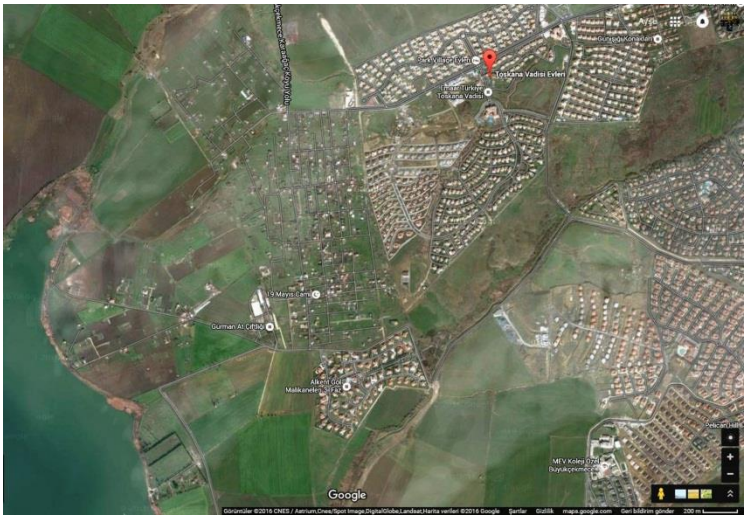


Figure 7. Aerial photo of 3rd commercial
Source: https://www.google.com/maps/place/Emaar+T%C3%BCrkiye+Toskana+Vadisi/ (accessed, 28.04.15)

CASE STUDY: GATED COMMUNITIES IN ISTANBUL

In this section: covering negative effects of consumption on urban sustainability through the gated communities is aimed according to the methodology.

DEFINITIONS OF GATED COMMUNITIES

According to Gulumser and Baycan's study (2011), in the literature, there is no single definition and no common consensus regarding the concept of 'gated communities'.

Numerous terms are used to refer to this phenomenon. The terms used by researchers include: "gated communities" (Low, 2003), "gated enclaves" (Grant, 2003), "enclosed neighborhoods" (Landman, 2000). The definitions and

perceptions regarding what constitutes a gated community vary quite considerably; however, on the basis of the definition in the book “Fortress America: Gated Communities in the United States” (Blakely and Snyder, 1997) which is the first written documentation about gated communities, a general definition can be given as “physical privatized areas with restricted entrance where outsiders and insiders exist”.

For this study “gated community” term is used for its secured, closed site meaning not related to in English “congregation” and in Turkish “cemaat” meanings. According to Berkoz’s study (2009) gated community term can be defined as residential areas for upper-class families who look for security, comfort, a better life quality and social homogeneity and they consist of neighborhoods closed by walls, barriers, fences and gates (Berkoz,2009, Roitman, 2003).

WHY IS IT PREFERRED?

Gated communities; represent the hope of security, appeal to consumers searching for a sense of community and identity, offer an important niche marketing strategy for developers in a competitive environment, keep out the unwelcome, often become associated with attractive amenities, and increase property values (Grant, 2003). On this basis, there are many types of gated communities with differing degrees of amenities, exclusivity and security (Grant, 2003). Researchers have developed their own typologies on the basis of the causes, consequences and significant implications of gated communities including issues like ethnicity, income, travel etc. (Landman, 2000). In the literature, there are four types of gated communities (see Table I).

	UNIT TYPE	**TARGET PROFILE**	**LOCATION**
Gated Towers	Apartments of high-rise building Residence	Urban Elites	CBD
Gated Villa Towns	Single Unit Dwelling	Upper Class Upper Middle Class	Periphery
Gated Apartment Blocks	Flats	Upper Middle Class Middle Class	Inner-Outer City
Gated Towns	Any Type	Mixed Type	Periphery

Table I. Gated community typologies, Source: Gulumser and Baycan, (2011)

CASE STUDY: ISTANBUL

Developers in the housing market are attracted by Istanbul, which has the highest potential for investment. Istanbul is one of the 10 most crowded cities of the world. Istanbul consists of 39 municipalities in 2015 and the city is located on 2 continents, Asia and Europe (see Figure 8). “Turkey met with the phenomenon of gated communities after the 1980’s by the formation of a new mass housing legislation. The first gated communities have emerged in metropolitans and big cities. Today this type of housing has increased its share in the housing market not only in big cities but also in small cities. Particularly, in coastal zones where gated communities offer housing as second or summer housing”. (Baycan and Gulumser, 2004).

“Gated community development in Istanbul started in the 1980’s following economic and political changes. With the appearance of a new social class in this period, gated communities became a marketing angle and another way to target specific submarkets for developers. Therefore, developers of large-scale real estate investments produced their projects by taking this reality, and the needs of this new social class into consideration” (Baycan and Gulumser, 2004, Bali, 2002).

Figure 8. Location and districts of Istanbul

In Istanbul 20% of the total officially planned residential areas are gated communities (Figure9).

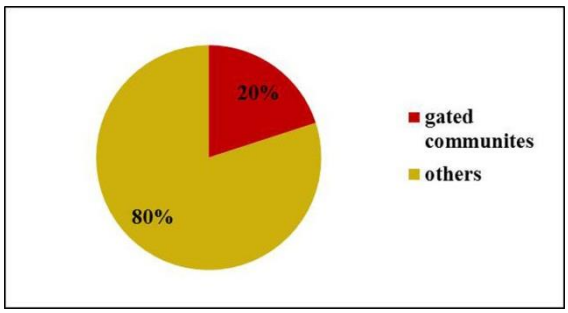


Figure 9. The percentage of gated communities in total residential areas

Of the 1767 gated communities in Istanbul in 2015, and 1452 are completed, while 315 are under construction (Figure10).

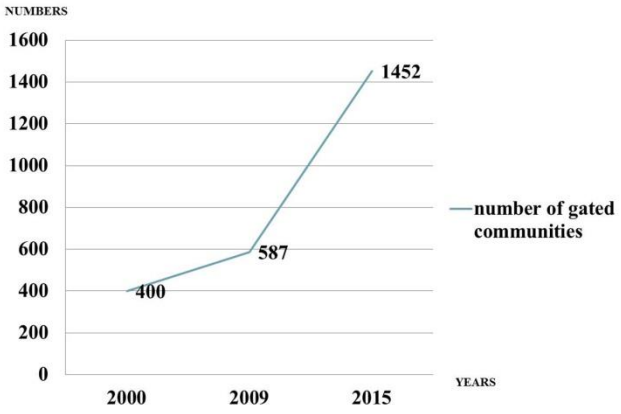


Figure10: Number of gated communities by years in Istanbul
Source: (Firidin- Özgür, 2006); (Baycan &Akgun, 2007); (Maptriks Company, 2015)

The districts are examined according to having maximum and minimum number of completed and still under construction projects (see Figure 11). For maximum ones, Esenyurt and Pendik districts are determined; while for minimum ones there are Adalar, Catalca, Fatih, Gungoren, Sultangazi and Esenler were determined (see Figure 12 and Table II-III).

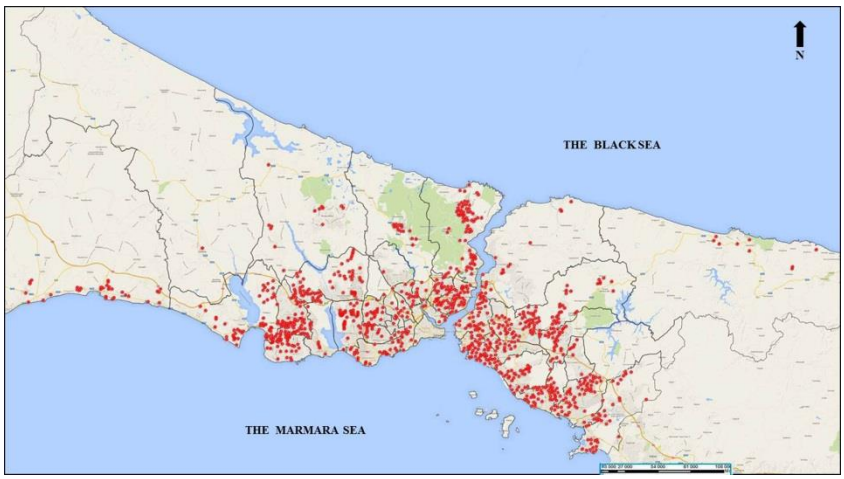


Figure 11. Gated communities locations in Istanbul (2015)

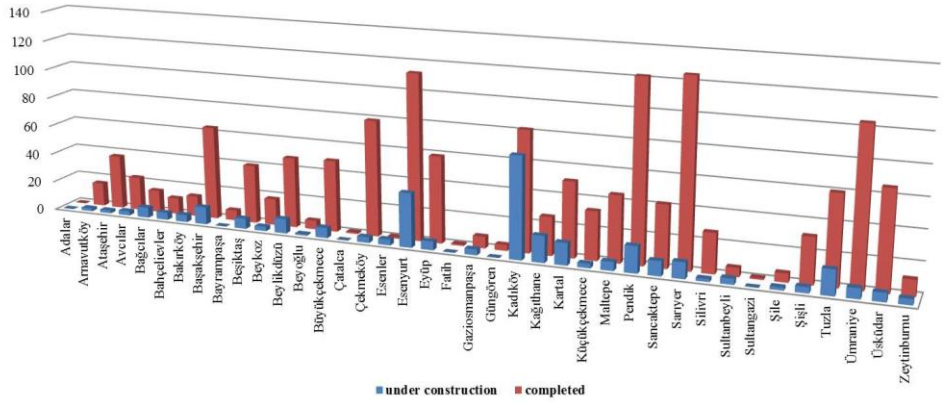


Figure 12. Gated communities numbers in Istanbul by districts (2015)

Max 3 Districts	Under Construction Projects	Completed Projects
1	Kadıköy	Sarıyer
2	Esenyurt	Pendik
3	Kağıthane-Pendik	Esenyurt

Table II. Maximum number of completed and still under construction projects according to districts of Istanbul

Min 3 Districts	Under Construction Projects	Completed Projects
1	Bayrampaşa-Güngören-Çatalca-Fatih-Sultangazi-Adalar	Adalar
2	Beyoğlu	Çatalca-Fatih-Sultangazi-Esenler
3	Ataşehir-Silivri-Arnavutköy-Şile	Güngören

Table IIII. Minimum number of completed and still under construction projects according to districts of Istanbul

COMPARING GATED COMMUNITIES LOCATIONS AND NATURAL AREAS IN ISTANBUL

In this part of the study gated communities locations and natural areas are compared according to starting point which is related to sustainability and consumption view. Because of this; there are three naturally rich areas that are selected: forest areas, watershed areas and agricultural areas of Istanbul.

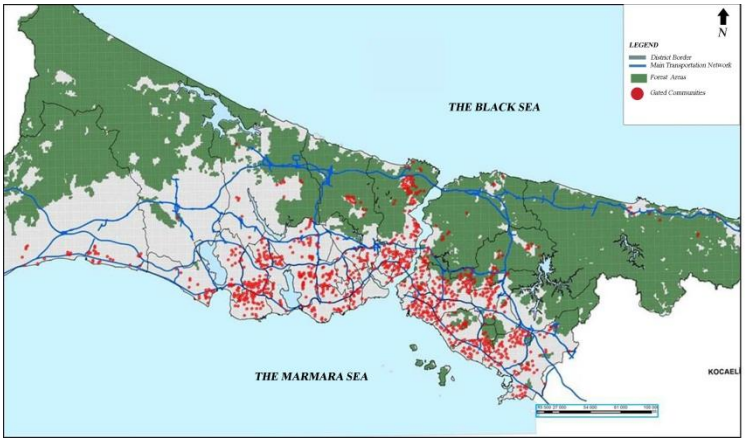


Figure 13. Forest areas and gated communities locations in Istanbul (2015)

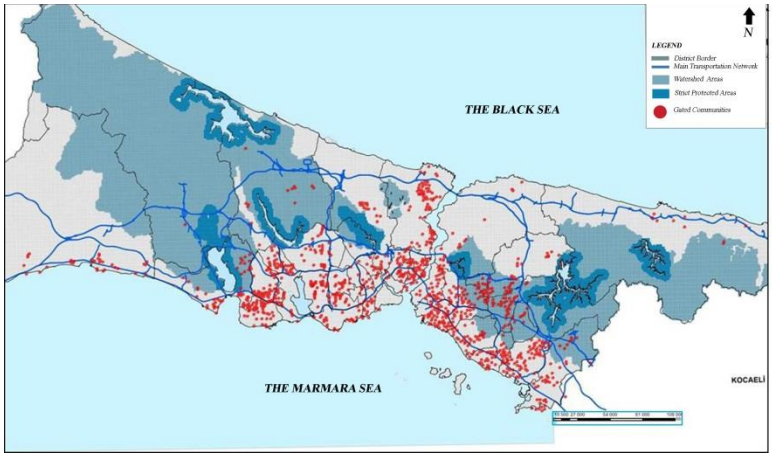


Figure 14. Watershed areas and gated communities locations in Istanbul (2015)

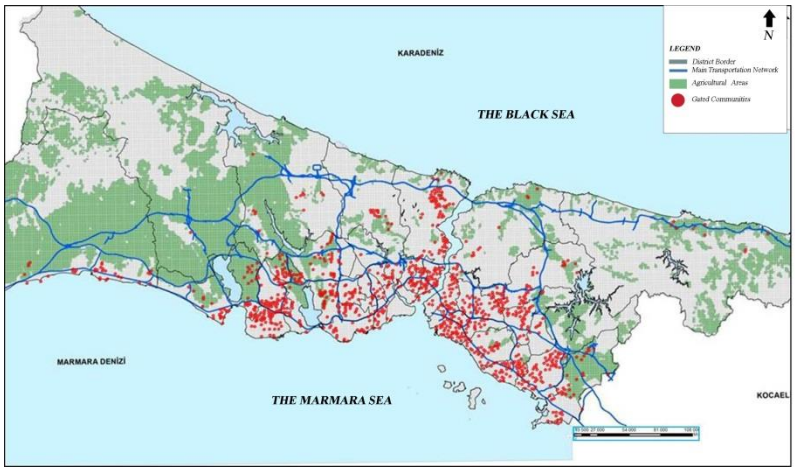


Figure 15. Agricultural areas and gated communities locations in Istanbul (2015)

Finally at the end of mapping; current situation of comparing the gated communities locations and natural areas, results are tabulated for each of the area (see Table 3).

Min 3 Districts	Under Construction Projects	Completed Projects
1	Bayrampaşa-Güngören-Çatalca-Fatih-Sultangazi-Adalar	Adalar
2	Beyoğlu	Çatalca-Fatih-Sultangazi-Esenler
3	Ataşehir-Silivri-Arnavutköy-Şile	Güngören

Table IV: Results of comparing gated communities location and natural areas

It is also evaluated as a graphic for showing the distribution of the usage of natural area types (see Figure16).

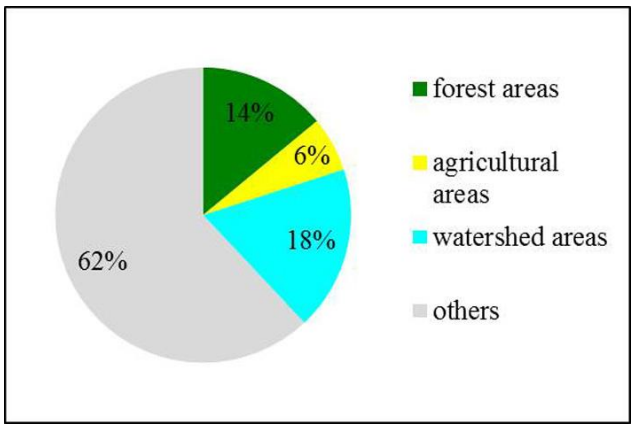


Figure 16. Distribution of gated communities on the natural areas (2015)

The results show that 38 % of the total gated communities are located on the naturally rich areas in Istanbul. Especially on for the watershed areas (18 %) there is a great pressure.

CONCLUSION

In conclusion, results of this study can be summarized such that since it has reached the effect of consumer culture on the cultural reproduction of capitalism, consumer culture also helps to overcome the crisis of capitalism in the era of fordism and post-fordism. According to Baudrillard, in the 21st century post-modernist information era, people move away from their real identity and are transforming into virtual avatar in simulation life. Therefore, people in this era want to have objects for their sign value rather than functional, exchange or symbolic values. Consumption factor is directly related to filling and completing this simulation parallel life. Media is using this second life option and emphasizing sign value of the objects, offering people to be special ones with the commercials. All of the efforts for canalizing people's senses to consumption is using happiness situation which is linked to equality invisibly in fact. Gated community case study chosen in Istanbul is one of the most suitable examples for understanding the relationship among consumption, sustainability and urban planning. Gated communities commercials offer a new life and are being special for owners by not only with technical opportunities, but also with segregation from the others and other parts of the city.

The results of this study show that in Istanbul there is a quietly increasing trend for the gated communities. 20 % of the officially planned residential areas are used as gated communities. In 2015, the number of the gated communities is 1452 for completed and 315 for the under construction ones. Esenyurt and Pendik Districts have both the most completed projects and the most new planned under construction gated communities. So, it can be said that there is an investment tendency focusing on these districts. Their sprawl in both inner and outer city of both the European and Asian sides is encouraged mainly through the north periphery where quantity and quality of natural elements are high. 38 % of these developments are located in naturally rich areas. Especially, there is a gated community construction pressure on the watershed areas (18 % of total areas). Indeed, this study doesn't focus on social impacts. It can be said that their choice of location not only has detrimental effects on the natural environment, but also on the social environment. Gated communities create a chaos and a class division between rural and upper class families. They threaten both natural and social sustainability.

Finally, basically the side effects of consumer behavior always adversely affect the sustainability phenomenon. In this context, gated community can be given as only one of the representative examples. Urban planning, which is directly in a relationship with macro-economical political issues and aimed sustainability since 1970's, may do research about the reasons of demand for gated communities. In addition; it should create the desirable urban places at an optimum

scale for the whole society by taking into consideration these reasons. Especially, local governments which are the most responsible at the 1st step for planning the cities in Turkey have a significant role in this situation. Therefore, they may revise their planning tools and policies. Thus, construction pressure on natural areas can be reduced, social segregation can be prevented; and finally, directly and indirectly negative impacts of consumption on sustainability can be eliminated.

REFERENCES

BOOK

-Bali R., (2002), Modern Sitelerde Yaşam: "Çılgın Kalabalıktan Uzak", Arkitera Forum, Istanbul

-Baudillard J.,(translated to Turkish by A. Şenel), (2002), Tüketim Toplumu (Consumerist Society, Istanbul: Ayrıntı.

-Baudrillard J., (translated to Turkish by A.Bilgin, O. Adanır), (2009), Gösterge Ekonomi Politiği Hakkında Bir Eleştiri(For a Critique of the Political Economy of the Sign) , Istanbul: Bogazici University Press.

-Blakely E J, Snyder M G, (1997), Fortress America: Gated Communities in the United States, Massachusetts: Clothbound.

-Dağtaş E., Dağtaş B., (2009), Medya, Tüketim Kültürü ve Yaşam Tarzları (Media, Consumption Culture And Life Styles) ,pp.4-25, Istanbul: Ütopya Press.

-James P., (2015), Urban Sustainability in Theory and Practice: Circles of Sustainability, New York: Routledge.

-Low S M, 2003, Behind the Gates: Life, Security, and the Pursuit of Happiness in Fortress America, New York: Routledge.

-Nijkamp, P., (1998), Environmental Policy Analysis, Operational Methods and Models, new York: John Wiley & Sons Ltd.

ARTICLE

- Akgün, A.A., Baycan, T. (2011) "Gated Communities in Istanbul: The New Walls of the City", Town Planning Review, 83:1, 87-109

-Berkoz L., 2009, Comparing the residential developments in gated and non-gated neighborhoods in Istanbul, ITU A|Z , Vol: 6, No: 1, pp.41-59, 2009-1.

-Douglas I., 2012, Urban Ecology And Urban Ecosystems: Understanding The Links To Human Health And Well-Being, environmental sustainability, 4, pp.385-392

-Firidin-Özgür, E.,2006, Sosyal Ve Mekansal Ayrışma Çerçevesinde Yeni Konutlaşma Eğilimleri: Kapalı Siteler, İstanbul, Çekmeköy Örneği, SPO Planlama Dergisi,vol4, Pp.79-95.

-Munda G.,2006, Social Multi-Criteria Evaluation For Urban Sustainability Policies, Land Use Policy, (23), 86-94.

CONFERENCE PAPER

-Akbulut A., Ozcevik O., (2015), "The Ideal of Sustainability in Planning: A Study on Consumption Factor Related to the Green Economy", AESOP 28th Annual Congress, July 13-16 2015, Prague, Chech Republic, pp.1377-1386, electronic version published ISBN 978-80-01-05782-7, available at: http://aesop2015.guarant.eu/aesop-2015-proceedings-2015-07-09.pdf (accessed 30 August 2015)

-Baycan Levent T, Gülümser A A, 2004, "Production and Marketing of Gated Communities in Istanbul", paper presented at the 44th European Congress of the European Regional Science Association, Regions and Fiscal Federalism, CD-ROM, Porto, Portugal, 25-29 August 2004.

-Grant J, 2003, "Planning Responses To Gated Communities in Canada", paper presented at Gated Communities: Building Social Division Or Safer Communities?, Glasgow, September 18-19, 2003

-Landman K, 2000, "Gated Communities and Urban Sustainability: Taking a Closer Look at the Future", paper presented at Strategies for a Sustainable Built Environment, Pretoria, 23-25 August 2000.

-Roitman, S. (2003) Who Segregates Whom? , Gated Communities: Building Social Division or Safer Communities? Conference, Glasgow UK, 18-19 September 2003(unpublished).

Internet Sources:

-United Nations, (1987), Our Common Future Report, available at :http://www.un-documents.net/our-common-future.pdf , (accessed 2 November 2014).

- DAP Construction Firm Official web site, web page of Dragos Royal gated community advertising, available at: www.dap.yapi.com.tr , http://usi.web.tr/gorsel/i/dragos-royal/ (accessed 28 April 2015).

-Google Maps, Aerial Photo of Toskana Valley Town gated community, available at: https://www.google.com/maps/place/Emaar+T%C3%BCrkiye+Toskana+Vadisi/ (accessed 28 April 2015).

-Toskana Valley Town Official web site, web page of Toskana Valley Town gated community advertising, available at: http://www.toskanavadisi.com (accessed 28 April 2015).

- Toskana Valley Town Official web site, web page of Toskana Valley Town gated community sales service, available at http://www.toskanavadisi.com/pages.php?cont=16 (accessed 28 April 2015).

-Dumankaya Construction Firm Official web site, web page of Dumankaya Ikon Towers gated community advertising, available at: http://www.dumankaya.com/Sayfalar/projeler/yasam-baslayan-projeler/dumankaya-Ikon.aspx (accessed 28 April 2015)

THE OTHER SOURCES (VECTOR DATAS)

- Istanbul Metropolitan Municipality, (April 2015), Natural Land Use Raw Datas.

-Maptriks Company Datas, (April 2015), Confirmed From Istanbul Metropolitan Municipality.

Lusophone 01

Urban Planning for sustainable development in lusophone contexts

Chair: Isabel Loupa Ramos, Universidade de Lisboa, Portugal

Scientific Committee: Dennilson Pinto, Direcção da Ordem dos Engenheiros de Angola, Angola
Judite Nascimento, University of Cabo Verde, Cabo Verde
Margarida Queirós, Universidade de Lisboa, Portugal
Maria Encarnação Sposito, Universidade Estadual Paulista, Brasil
Maria Rosário Partidário, Universidade de Lisboa, Portugal

A fast urbanization process linked to road infrastructures and sprawl housing and economic activities expansion characterizes many countries in the last decades.

This track is dedicated to the presentation of urban planning in practice supported in the analysis of the main transformations in Portuguese-speaking territories and the presentation of legal and instrumental frameworks related to sustainable development.

- What are the main problems that cover these territories?
- Which main conflicts are emerging?
- Which programs and solutions are being pursued?

PROPOSTA DE EXPANSÃO URBANA PARA O MUNICÍPIO DE PALHOÇA/SC, BRASIL

Session L1.1 | 31 Maio | 11:00 – 12:30

Arthur Wippel de Carvalho (1); Bruno Franklin Lopes Gaspar (2); Jean de Bona Veronez (3); Tiago Umberto Pazolini (4)
(1) Analista Ambiental; Geógrafo pela Universidade Federal de Santa Catarina – Campus Reitor João David Ferreira Lima, s/n, Trindade, Florianópolis, Santa Catarina, BRASIL
(2) Agente de Pesquisa e Mapeamento; Licenciado em Geografia pela Universidade Federal de Santa Catarina – Campus Reitor João David Ferreira Lima, s/n, Trindade, Florianópolis, Santa Catarina, BRASIL
(3) Acadêmico de Geologia pela Universidade Federal de Santa Catarina – Campus Reitor João David Ferreira Lima, s/n, Trindade, Florianópolis, Santa Catarina, BRASIL
(4) Técnico em Cartografia; Geógrafo pela Universidade Federal de Santa Catarina – Campus Reitor João David Ferreira Lima, s/n, Trindade, Florianópolis, Santa Catarina, BRASIL
arthur.wippel7@gmail.com; brunofranklin6@gmail.com; jeangeol13@gmail.com tiago_pazolini@hotmail.com

RESUMO: O Sistema de Informação Geográfica (SIG) vem sendo cada vez mais utilizado para auxiliar planejadores urbanos e gestores do território em tomadas de decisão. Isso se deve, pois, essa ferramenta permite a integração de dados em um único ambiente de análise. Para demonstrar sua aplicabilidade, o presente estudo demonstra como o SIG pode auxiliar na indicação de áreas mais favoráveis à expansão urbana no município de Palhoça/SC, Brasil. Para isso, são gerados polígonos que indicam alta, média e baixa aptidão à essa expansão, levando em consideração temas físicos, bióticos e socioeconômicos em um sistema de análise multicritério.

PALAVRAS-CHAVE: planejamento urbano, análise multicritério, sistemas de informação geográfica.

INTRODUÇÃO

No Brasil o processo de expansão urbana evoluiu consideravelmente nas últimas décadas, principalmente após o processo de industrialização iniciado em meados da década de 1930. As mudanças no cenário político-econômico brasileiro refletiram na migração de contingentes populacionais do campo para a cidade. Com isso, inúmeras apresentaram um expressivo crescimento demográfico, impactando no progresso e desenvolvimento urbano, sobretudo na disponibilidade de infraestrutura básica, como por exemplo, moradia, saneamento, transporte, entre outros.

A ausência de mecanismos para a fiscalização e ordenamento do uso e ocupação do solo é um problema intrínseco na história territorial brasileira. Em relação a esta problemática, verifica-se que a falta de legislação atualizada bem como o aparto técnico-profissional para a realização do planejamento territorial são uma das causas do crescimento desordenado do tecido urbano. Atualmente diversos municípios apresentam dificuldades na elaboração de estudos e projetos que envolvam o controle do uso e ocupação do solo.

Visando superar essa questão, gestores públicos municipais, estaduais e federais, por meio de secretarias de planejamento e geoprocessamento, estão se prevalecendo da utilização de Sistemas de Informação Geográfica (SIG) para acompanharem o desenvolvimento do território, compreendendo as especificidades locais/regionais e prevenindo a inadequada utilização do solo urbano, sobretudo os eventuais prejuízos à população e à administração pública.

A utilização de tecnologias computacionais permite a modelagem da superfície terrestre e a geração de produtos que subsidiam a gestão do território. Esses processos facilitam a visualização de aspectos geográficos em uma plataforma de análise, além de propiciar uma integração de dados distintos em um único sistema de informação.

Como forma de demonstrar a importância da utilização de SIG para o planejamento urbano e gestão territorial, o presente trabalho demonstrará como essa ferramenta é capaz de auxiliar os gestores públicos na delimitação das áreas favoráveis à expansão urbana em um município, subsidiando a implementação do zoneamento municipal, evidenciando as áreas onde a ocupação antrópica tornam-se inaptas, como por exemplo as áreas protegidas ambientalmente, e direcionando-as para as zonas menos susceptíveis a processos erosivos, movimentos de massa, entre outras. Para tal será adotada uma ferramenta de análise multicritério do software ArcGIS.

Como área de estudo foi escolhido o município de Palhoça/SC. Essa opção se deu devido às transformações ocorridas neste município desde o final da década de 1960, quando a expansão urbana aconteceu de forma mais expressiva. Por localizar-se em uma área próxima à rodovia BR-101, inaugurada em 1971, motivou sua participação no Plano de Desenvolvimento Integrado da Grande Florianópolis, que seguiu o ideário do “milagre brasileiro” consolidado pela expansão capitalista no período da ditadura militar. Um dos principais objetivos desse plano era em transformar as áreas próximas à rodovia, nos municípios de Biguaçu, São José e Palhoça em uma zona industrial.

O crescimento de Florianópolis e a consolidação da área industrial em torno da BR-101, fizeram com que muitos migrantes viessem a se estabelecer nessa região, principalmente devido a sua localização próxima aos novos postos de trabalho e do preço da terra em valores inferiores aos encontrados na capital. Diante disso, houve um expressivo acréscimo de unidades habitacionais, fator que veio a se ampliar nas últimas décadas. Sendo assim, faz-se necessário identificar as áreas ambientalmente mais favoráveis para a edificação de novas residências, estabelecimentos comerciais e unidades industriais. Nessa definição será considerado o Zoneamento Municipal, excluindo as áreas que a essa legislação restringe ao parcelamento do solo urbano, como áreas de marinha, institucionais, de preservação, etc.

CARACTERIZAÇÃO DA ÁREA DE ESTUDO

Palhoça é um município brasileiro do estado de Santa Catarina. Está localizado na mesorregião da Grande Florianópolis, possuindo uma área de 394,662 Km² e população de 157.833 habitantes. É limítrofe dos seguintes municípios: ao norte São José e São Pedro de Alcântara, a oeste Santo Amaro da Imperatriz e ao sul Paulo Lopes.

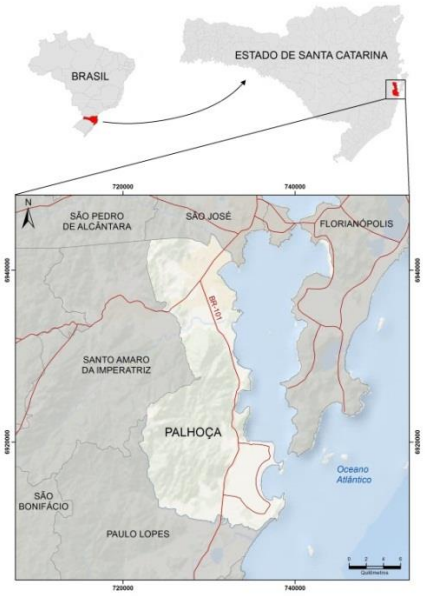


Figura 1. Localização da área de estudo. Projeção UTM, Datum SIRGAS 2000, Zona 22S.

A economia palhocense está pautada nos três grandes setores, sendo que segundo o Produto Interno Bruto do município, divulgado pelo IBGE em 2013, o setor terciário é o que movimenta um maior capital, com R$ 2.376.244.000, seguido do setor secundário, com R$ 783.142.000 e o setor primário, com R$ 41.817.000.

De acordo com o mapa elaborado pelo Programa Estadual de Gerenciamento Costeiro-GERCO (2013), o município de Palhoça é constituído principalmente por zonas de Preservação Permanente que integram 52% do Parque Estadual da Serra do Tabuleiro (PEST), considerada a maior Unidade de Conservação do estado. O município possui também zonas rurais, zonas de uso restrito e zonas de uso urbano. Além disso, foram delineadas faixas de terras de uso especial, como áreas urbanas não consolidadas, faixas marginais de rodovias (200 m), área de atividade aeroportuária, áreas institucionais e área mista de serviços compostos por distritos industriais. Em menor proporção, há áreas de uso especial destinadas aos interesses turísticos e sociais, áreas de saneamento básico (água, esgoto e resíduos), áreas de alteração por mineração e núcleos de ocupação humana e de acervo patrimonial.

A maior parte dessas áreas, com mais de 60% do território municipal, é pertencente à unidade morfológica denominada Planalto Atlântico, suportado por rochas ígneas intrusivas e extrusivas como granitos, riolitos, riodacitos e dacitos, além de ortognaisses polifásicos e ortognaisses quartzo-monzoníticos. O Planalto Atlântico é seguido pela unidade Planície Costeira, composta por areias finas a grossas e cascalheiras. Por fim, há a unidade de Planície de Maré, composta por sedimentos síltico-argilosos, onde se concentram as principais vias urbanas e interurbanas que interligam a Grande Florianópolis às demais regiões circunvizinhas.

As classes pedológicas encontradas no município são representadas pelo Argissolo Vermelho-Amarelo, Cambissolo Flúvico, Espodossolo, Gleissolo, Neossolo Flúvico, Neossolo Litólico, Neossolo Quartzarênico, Organossolo e Solos Indiscriminados de Mangue.

METODOLOGIA

A metodologia selecionada para a realização da análise integrada foi o uso de um SIG com aplicação baseada na análise integrada desenvolvida por Crepani et al. (1996), pautada nos conceitos de Tricart (1977).

Essa aplicação requer a definição de uma poligonal de estudo, escolha e classificação dos parâmetros a serem correlacionados e a definição do software com sua respectiva ferramenta de análise multicritério.

Cada uma dessas etapas será apresentada nos itens a seguir.

DEFINIÇÃO DA POLIGONAL DE ESTUDO

No mapeamento das áreas de maior aptidão para a expansão urbana em Palhoça não foi considerado todo o território do município, pois muitas áreas já se encontram consolidadas, com presença de dispositivos urbanos como prédios, rodovias, residências, galpões, etc. Para essa discriminação do que já está consolidado e quais áreas são passíveis do recebimento de estabelecimentos residenciais, comerciais e industriais, foi realizado o mapeamento do uso e ocupação do solo de Palhoça, em escala 1:50.000, considerando uma imagem de satélite do município do ano de 2015 do software Google Earth.

Após identificadas as áreas ainda providas de vegetação ou solo exposto, partiu-se para a definição das zonas que permitem o parcelamento do solo e para aquelas que restringem essa utilização ao território do município.

Para efeitos de aplicação do Plano Diretor de Palhoça (Lei Complementar nº 104/12), o município é dividido em áreas que definem os limites de ocupação do solo, estabelecidas por meio do Zoneamento Municipal, elucidado na Lei Municipal nº 16/1993, que “dispõe sobre o zoneamento de uso e ocupação do território do município de Palhoça, estado de Santa Catarina”.

De acordo com os parâmetros de ocupação do solo, o território municipal é dividido em 3 macrozonas, a saber: zona urbana, zona rural e zona de proteção ambiental. Estas subdividem-se em microáreas residenciais, industriais, mistas, institucionais, turísticas, ambientais, entre outras.

As áreas que permitem o parcelamento do solo urbano são as áreas residenciais (ARE, ARE-1, ARP-1, ARP-2, ARP-3, ARP-4, ARP-5, ARP-6, ARP-7, ARP-P, ARP-P1, ZEIS), áreas turísticas residenciais (ATP, ATE, ATR-1, ATR-2, ATR-3), áreas industriais (AIE, AIE-E) e as áreas mistas destinadas ao comércio e serviços (AMC-1, AMC-2, AMC-3, AMC-4, AMC-5, AMC-6, AMC-7, AMC-8, AMS, AMS-1, AMS-2, AMS-3).

Já as zonas restritas ao parcelamento para uso do solo urbano são apresentadas na

Tabela I:

Tipo de zona	Código da zona
Áreas comunitárias e Institucionais	ACI, ACI-1, ACI-2, ACI-3, ACI-4, ACI-5, ACI-6
Áreas verdes e de preservação ambiental	AVL, AVL-1, AVV, APL, APP, AEH
Áreas do sistema de transporte	ASV-1, ASV-2, ASV-3
Áreas para empreendimentos públicos	ASE-1, ASE-2, ASE-3, ASE-4, ASE-5
Área de preservação cultural	APC
Área de Marinha	AMA
Área de alteração da superfície do solo	AA
Área de exploração rural	ERA, AMR

Tabela I. Zonas restritas ao parcelamento para uso do solo urbano em Palhoça/SC.

Definidas as zonas do município que restringem o parcelamento do solo, realizou-se o agrupamento dos polígonos das zonas passíveis de ocupação. Como resultado obteve-se um arquivo shapefile indicando as áreas ainda não habitadas e aptas perante a legislação para a expansão urbana de Palhoça.

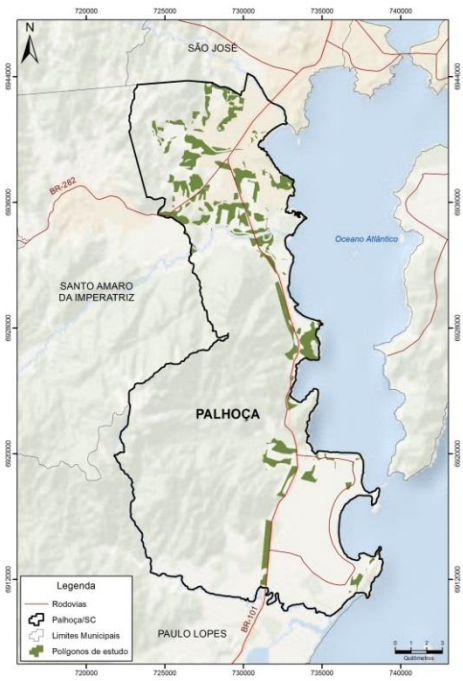


Figura 2. Indicação dos polígonos que compõem a área de estudo.

ESCOLHA DAS VARIÁVEIS

Para a análise multicritério do presente estudo foram definidas as variáveis que expressam as características físicas, antrópicas e bióticas do município.

Os itens de geologia, geomorfologia, pedologia e susceptibilidade a inundações mostram o substrato rochoso, relevo, solo e áreas que, em épocas de altos índices pluviométricos, podem sofrer com inundações. Com esses parâmetros foi possível compreender as classes mais favoráveis à ocorrência de processos erosivos, movimentos de massa e processos de dinâmica de superfície que prejudiquem e/ou comprometam a instalação de empreendimentos nas áreas passíveis para a expansão urbana.

Para os itens relacionados ao meio antrópico, foram consideradas os territórios indígenas (TI) e comunidades quilombolas (CQ) que porventura fossem encontrados dentro do território municipal. Para tal, é considerada a delimitação da área dessas variáveis, bem como as distâncias dessas comunidades definidas por lei.

Por fim, para o meio biótico foram levadas em consideração as UCs municipais, estaduais e federais. Essa escolha se deu visando respeitar as áreas protegidas de Palhoça, não entrando em desacordo com as áreas ambientalmente protegidas pelo Ministério do Meio Ambiente (MMA, 2016).

Cada um dos parâmetros e suas respectivas fontes se encontram na tabela a seguir:

Parâmetro	Fonte
Geologia	GERCO (2010)
Geomorfologia	GERCO (2010)
Pedologia	GERCO (2010)
Susceptibilidade a inundações	CPRM (2013)
Territórios indígenas	FUNAI (2016)
Comunidades quilombolas	INCRA (2016)
UCs	MMA (2016)

Tabela II. Fonte das bases cartográficas utilizadas no estudo.

CLASSIFICAÇÃO DOS PARÂMETROS

A classificação dos parâmetros seguiu a aplicação de Crepani et al. (1996), dividindo o ambiente de análises em classes que expressem o grau de aptidão do terreno para determinado fim. Neste estudo foi definido o intervalo de 1 a 3, sendo 3 o valor que representa um terreno de maior aptidão ambiental para a expansão urbana, 1 para as áreas

de baixa aptidão e 2 para zonas intermediárias que apresentam características favoráveis e desfavoráveis para o recebimento de um novo contingente populacional.

A partir disso, classificou-se cada um dos sete parâmetros considerados nesta pesquisa, conforme a

Tabela III.

Meio	Parâmetro	Características	Aptidão	Valor
Físico	Geologia	Depósitos recentes	Baixa	1
		Sedimentar	Média	2
		Embasamento Cristalino	Alta	3
	Geomorfologia	Relevo Acidentado	Baixa	1
		Relevo de Transição	Média	2
		Relevo Aplainado	Alta	3
	Pedologia	Solos poucos desenvolvidos	Baixa	1
		Solos intermediários	Média	2
		Solos desenvolvidos	Alta	3
	Susceptibilidade a inundações	Alta	Baixa	1
		Média	Média	2
		Baixa	Alta	3
Biótico	UCs	Inserido em UC	Baixa	1
		Inserido na Zona de Amortecimento	Média	2
		Fora de UC	Alta	3
Socioeconômico	Territórios indígenas	Dentro de TIs	Baixa	1
		Raio de 15 km	Média	2
		Fora de TIs	Alta	3
	Comunidades quilombolas	Dentro de CQs	Baixa	1
		Raio de 15 km	Média	2
		Fora de CQs	Alta	3

Tabela III. Classificação dos parâmetros socioambientais.

Para o item de geologia, a classificação considerou o grau de coesão de cada unidade cartografada na área de estudo, além da maturidade da rocha. Para tal, foram utilizadas classes que agrupam as unidades integrantes do embasamento cristalino, que são rochas coesas e que representam um ambiente estável; as rochas sedimentares, com intermediário grau de estabilidade; e os depósitos recentes, que abrangem as unidades geológicas compostas por sedimentos pouco a não-consolidados e que, nesse caso, representam um ambiente de baixa aptidão.

As unidades geomorfológicas foram divididas quanto ao grau de inclinação natural do terreno. Para as unidades que representam relevos acidentados, foi considerado o parâmetro de baixa aptidão, pois esse ambiente favorece o surgimento de movimentos de massa e focos erosivos; para os relevos aplainados foi considerado um ambiente de alta aptidão, levando em consideração um terreno que favorece processos de pedogênese frente aos mofogenéticos; já para os terrenos intermediários, com médio grau de inclinação, foi considerado o valor 2.

As classes de pedologia foram separadas no que tange à maturidade de cada solo, ou seja, quanto mais maduro, maior a aptidão para a instalação de dispositivos urbanos em sua superfície. Nesse caso, cada classe foi enquadrada em solos desenvolvidos, pouco desenvolvidos ou intermediários.

Para a classificação do tema de susceptibilidade a inundações, o mapeamento realizado pela CPRM (2014) divide o município de Palhoça em 03 classes: alta, média e baixa susceptibilidade. Nesse caso, a classe alta recebe o valor 1, a média susceptibilidade o valor 2 e a baixa, 3.

No meio biótico, foi considerado se o terreno está inserido em UCs, sua Zona de Amortecimento ou fora destes. Caso esteja em local mapeado como UC, foi definido o valor 1; se o terreno se encontra em Zona de amortecimento, 2; caso a área não esteja inserida em nenhuma das duas, recebe o valor 3, de aptidão ambiental.

Por fim, foram consideradas as comunidades quilombolas e territórios indígenas situados no município de Palhoça. As áreas que adentram esses territórios foram consideradas com baixa aptidão, por causarem interferência direta a essas populações. Os terrenos que distam minimamente 15 km dessas áreas são considerados intermediários, levando em conta a Portaria Interministerial nº 60, de 24 de março de 2015. Já as áreas que distam mais de 15 km possuem alta aptidão, pois extrapolam a distância mais restritiva apontada na portaria anteriormente citada.

WEIGHTED OVERLAY

Para a análise multicritério dos parâmetros considerados nesta pesquisa, foi escolhida a ferramenta Weighted Overlay, do software ArcGIS, a qual realiza a correlação de todos os parâmetros a partir de pesos definidos para estes.

A ferramenta Weighted Overlay aceita apenas a utilização de arquivos matriciais. Nesse caso, a primeira operação a ser feita é a conversão dos arquivos shapefile para raster.

Feito isso, parte-se para a escolha de um intervalo de classificação da aptidão à expansão urbana, no caso deste estudo sendo definida de 1 a 3 (campo Field da

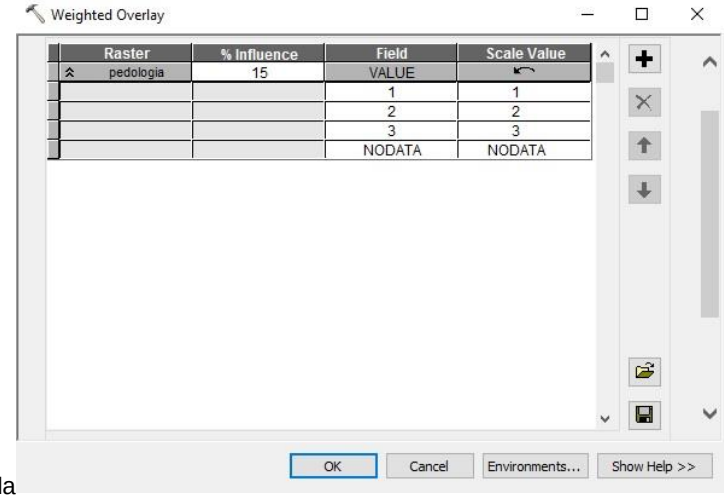


Figura 3).

Esta ferramenta também permite realizar uma ponderação de cada critério considerado no estudo (campo % Influence da

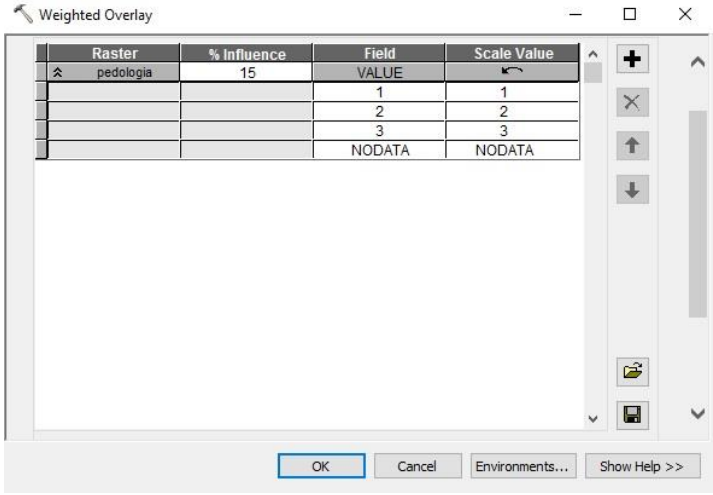


Figura 3).

Neste campo deve-se apontar a influência de cada parâmetro no resultado final do cruzamento dos dados. Para esta pesquisa, adotou-se 15% para os parâmetros de pedologia e susceptibilidade a inundações e 14% para os demais, totalizando os 100% exigidos pela ferramenta.

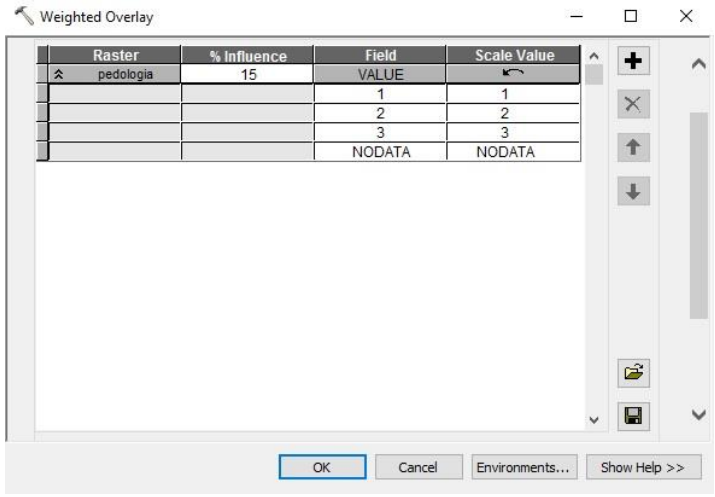


Figura 3. Layout da ferramenta Weighted Overlay, do software ArcGIS.

RESULTADOS E DISCUSSÃO

A partir da correlação dos parâmetros físicos, ambientais e sociais, foram gerados polígonos que definem o grau de aptidão à expansão urbana no município de Palhoça. Como resultado não foram apresentadas áreas com baixa aptidão à ocupação, apenas áreas com alta e média aptidão, conforme a tabela a seguir:

Classe de aptidão	Área (Km²)	Representatividade (%)
Alta	1,28	5,15
Média	23,57	94,85
Baixa	0,00	0,00
TOTAL	24,85	100,00

Tabela IV. Representatividades das classes de aptidão para a área de estudo.

As áreas com maior aptidão se encontram na franja da expansão urbana e/ou próximas às áreas de preservação permanente. Essas áreas se encontram fora de UCs, comunidades quilombolas e territórios indígenas. Na maior parte dos casos, essas áreas de maior aptidão se encontram em relevos de planície, favorecendo um cenário que dificulta a ocorrência de movimentos gravitacionais de massa.

As áreas com intermediário grau para expansão urbana são decorrentes da sobreposição de camadas que juntas denotam um comportamento que não se enquadra em nenhuma das extremidades da escala de classificação aqui consideradas. As áreas com essa classificação foram cartografadas na maioria dos polígonos gerados para a área de estudo, sendo encontradas desde a porção norte do município, onde se encontra a maior densidade populacional de Palhoça, até a porção centro-sul, onde é característico o predomínio de áreas ainda não ocupadas.

Não foram encontradas áreas com baixo grau de aptidão. Esse cenário se fez presente pois é sabido que a maior parte da área de estudo se encontra em planícies, fora de UCs e comunidades quilombolas, porém integrando o raio de 15 km a partir do território indígena encontrado no município. Esse último caso, somado aos demais parâmetros correlacionados, acaba não conduzindo a um ambiente de baixo grau de aptidão.

No que tange à legislação municipal, foi constatado que a Lei Municipal nº 15/1993 (Plano Diretor de Palhoça/SC), que define os parâmetros de ocupação do solo, não considera em sua totalidade a definição das áreas de preservação permanente expressas na Lei Federal nº 12.651/2012 (Novo Código Florestal).

É possível identificar que muitas APPs que deveriam ser protegidas são consideradas como permissíveis ao parcelamento de solo urbano no município, entrando em desacordo com a legislação federal. Porém, para o mapeamento realizado nesta pesquisa, as APPs entraram como áreas restritas, nesse caso não integrando a área de estudo.

A Figura 4 apresenta a distribuição das classes de aptidão para o município de Palhoça:

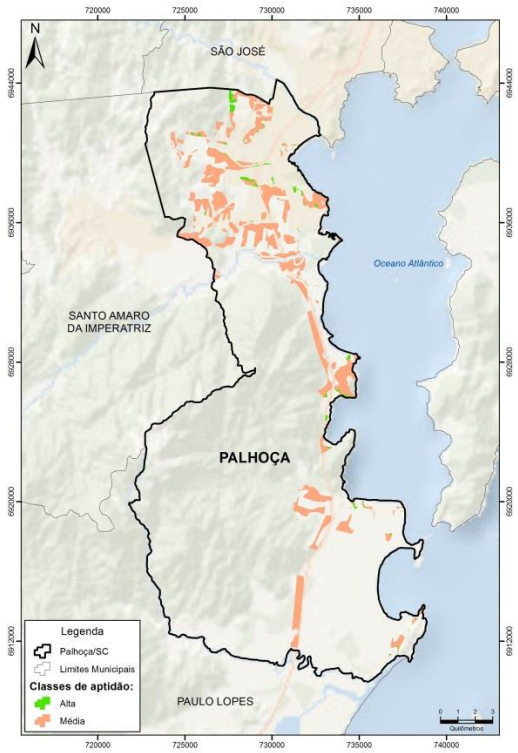


Figura 4. Apresentação das classes de aptidão à expansão urbana no município de Palhoça/SC.

A Figura 5 mostra que grande parte dos polígonos classificados como alta aptidão para a expansão urbana é encontrada na região de maior concentração da população palhocence. Essas áreas caracterizam-se pela proximidade de loteamentos urbanos, unidades industriais e estabelecimentos comerciais. O relevo predominante nessa área é de planícies, com presença de sedimentos recentes. Não há áreas protegidas integrantes a esses polígonos, assim como comunidades quilombolas e territórios indígenas.

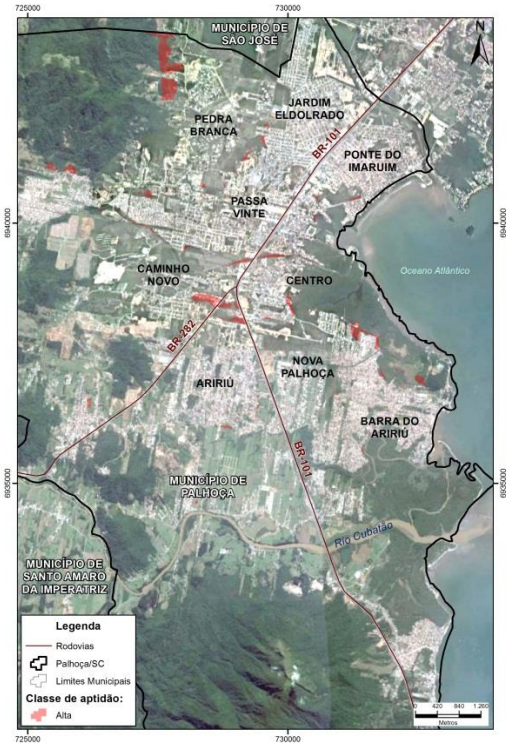


Figura 5. Polígonos classificados como alta aptidão à expansão urbana na porção norte do município.

Já a Figura 6 apresenta alguns polígonos situados na Enseada do Brito, sendo que um deles é encontrado na encosta de um morro com encostas de inclinação considerável, desocupado e com presença de vegetação arbórea ainda preservada. Isso se deve pois no zoneamento municipal, essa área é definida como Área Turística Residencial. Além disso, essa área apresenta um solo desenvolvido e rochas de elevado grau de coesão, não classificando-a como baixa aptidão.

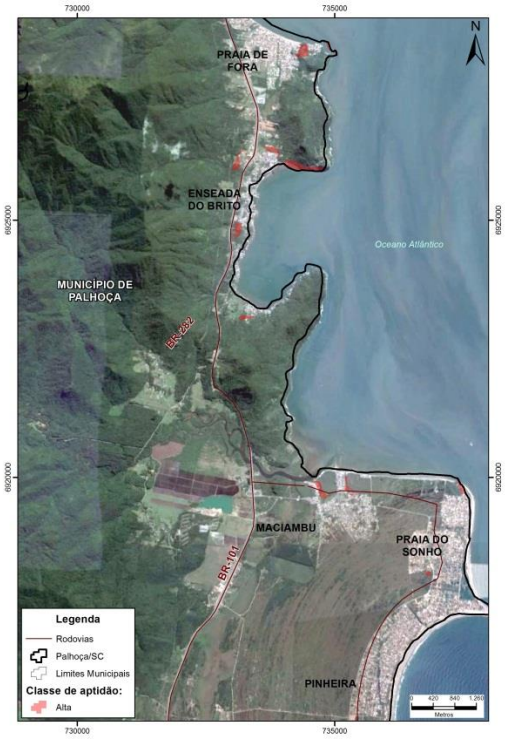


Figura 6. Polígonos classificados como alta aptidão à expansão urbana na porção sul do município.

Ainda na Enseada do Brito, foram gerados outros três polígonos, dois à margem oriental da Rodovia BR-101 e um à margem oriental. Esses polígonos estão situados em áreas planas, fora de UCs e comunidades quilombolas, porém integram o raio de 15 km de entorno do território indígena, fato esse que não foi capaz de alterar a classificação dos respectivos polígonos.

Mais ao sul, na Praia do Sonho, estão cartografados outros polígonos que denotam alta aptidão à ocupação urbana. Essas áreas situam-se próximas à outras já ocupadas, em relevos pouco movimentados e fora de áreas protegidas.

CONCLUSÃO

A utilização do SIG para o planejamento urbano vem sendo amplamente discutido e cada vez mais utilizado. Dentre suas grandes vantagens pode-se citar a possibilidade em se integrar dados distintos em um único ambiente de análise, fornecendo uma visão mais completa sobre o município ao gestor público. Visto isso, é possível concluir que apresentar as áreas ambientalmente favoráveis e restritas para a expansão urbana por meio de um mapeamento favorece um melhor entendimento de diversos públicos interessados nessa informação, pois os mapas atuam como veículos de transmissão do conhecimento.

No caso deste estudo em especial, o mapeamento aponta para áreas inaptas a serem ocupadas por estar em conflito com áreas de vulnerabilidade e/ou preservação ambiental. Para isso, as prefeituras municipais e demais instituições precisam acervar bases cartográficas em boa escala para os mais diversos temas, além de possuir departamentos e profissionais que saibam manuseá-las.

Agregar o conhecimento cartográfico aos gestores públicos facilita, agiliza e pode enriquecer os debates e definir as tomadas de decisão, como neste caso, orientando a expansão urbana do município e enfatizando um desenvolvimento sustentável, que visa a manutenção da fauna e flora, da qualidade da água, dos remanescentes florestais e das demais riquezas naturais que o município possui.

REFERÊNCIAS

CPRM – Serviço Geológico do Brasil (2014). Cartas de Suscetibilidade a Movimentos Gravitacionais de Massa e Inundações. Retrieved from http://www.cprm.gov.br/publique/Gestao-Territorial/Geologia-de-Engenharia-e-Riscos-Geologicos/Cartas-de-Suscetibilidade-a-Movimentos-Gravitacionais-de-Massa-e-Inundacoes-3507.html.

CREPANI et al. (1996). Curso de Sensoriamento Remoto Aplicado ao Zoneamento Ecológico-Econômico. Ministério de Ciência e Tecnologia. Instituto Nacional de Pesquisas Espaciais - INPE. São José dos Campos.

FUNAI – Fundação Nacional do Índio (2016). Arquivo shapefile de territórios indígenas. Retrieved from http://www.funai.gov.br/index.php/shape.

INCRA – Instituto Nacional de Colonização e Reforma Agrária (2016). Download de Dados Georreferenciados. Retrieved from http://acervofundiario.incra.gov.br/i3geo/datadownload.htm,

MMA – Ministério do Meio Ambiente (2016). Dados Georreferenciados. Retrieved from http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/dados-georreferenciados.

GERCO - Plano Estadual de Gerenciamento Costeiro (2010). Implantação do Plano Estadual de Gerenciamento Costeiros – Mapas Temáticos (Setor 3). Retrieved from: http://www.spg.sc.gov.br/index.php/visualizar-biblioteca/acoes/gerco/diagnostico-socio-ambiental/34-gerco-setor-3-site/file;

GERCO - Plano Estadual de Gerenciamento Costeiro (2013). Mapa de Zoneamento Ecológico Econômico Costeiro-C – Setor 3, 1° Fase.

Tricart, J. Ecodinâmica. (1977). Rio de Janeiro. IBGE/SUPREN.

BAÍA DE SEPETIBA: O ANACRONISMO NO PLANEJAMENTO

Session L1.1 | 31 Maio | 11:00 – 12:30

Silvio Cesar Alves Rodrigues (1); Marcelo Bessa de Freitas (2)
(1) Mestre e Doutorando em Planejamento Urbano e Regional (IPPUR/UFRJ-Brasil), e Doutorando em História (FLUP-Portugal) - Bolsista FAPERJ.
(2) Doutor em Saúde Pública (ENSP/DSSA/FIOCRUZ)

RESUMO: Este artigo se propõe a identificar prováveis anacronismos no planejamento em curso na Baía de Sepetiba (RJ). Um ambiente fluviomarinho caracterizado pela paisagem natural e atividades artesanais que, depois de ser parcialmente contaminado por metais pesados, no século XXI foi percebido pela parceria público-privada como "zona de sacrifício", e invadido por empreendimentos logísticos, portuários e industriais. Embora reivindique concepções hodiernas, tal decisão político-econômica parece reeditar um "enclosure", ao empregar técnicas primitivas, ao limitar a participação popular e reduzir a hidrovia e parque industrial. Dessa forma assina (entre práticas e mentalidades) numerosos desajustes cronológicos na Baía, cercada por muros simbólicos e concretos.

PALAVRAS-CHAVE: planejamento urbano; anacronismo; história ambiental; baía de Sepetiba.

INTRODUÇÃO

De acordo com o dicionário - instrumento no qual o "enunciado definitório, na sua dimensão mais geral, caracteriza-se por realizar uma delimitação […] ao mesmo tempo, não se resume à colocação de limites" (Finatto, 2003) - Planejamento pode ser o ato ou efeito de prever, antecipar, ou vislumbrar algo que ainda não aconteceu, ainda preparar ou projetar. Em linhas gerais, é um processo dinâmico que envolve ações intencionais, integradas, coordenadas e orientadas nas mais diferentes áreas, com a expectativa de atender, as mais diversas, demandas. Porém, planejar implica em pensar e desenvolver uma ideia, que para a sua realização é fundamental tomar a melhor decisão. Contudo, diferente da realidade, toda e qualquer decisão de fazer deveria se limitar a competência técnica e metodológica, por sua vez, condicionada à fabricação mental de cada época, como é possível intuir no seguinte trecho:

> *Cada época fabrica mentalmente seu universo. Ela não o fabrica apenas com todos os materiais de que dispõe, todos os fatos (verdadeiros ou falsos) que herdou ou que acaba de adquirir. Fabrica-o com seus dons próprios, sua engenhosidade específica, suas qualidades, seus dons e suas curiosidades, tudo aquilo que a distingue das épocas precedentes (Febvre, 1970).*

Embora a crítica formulada por Lucien Febvre nos anos 1940 encontre realce na escrita da História, sua análise, pertinente ou não, de eventos em uma determinada época baseada em valores e conceitos de outra, não é fundamentalmente chancela apenas desse lugar na produção do conhecimento. Tanto que a apropriação e o emprego do termo/conceito, com a finalidade de transmitir a ideia de "contra o tempo", pode se evidenciar em estudos de economia, ecologia, saúde pública, ciência política, na história e no planejamento, dentre outras disciplinas. Assim sendo, mesmo considerando as tomadas de decisão para realizar uma ação planejada incorporarem métodos e práticas inscritas na tradição, ou habituais, estas, quando comprovada a eficácia se legitimam por saberes, éticas e estéticas fabricadas ou vigentes no mesmo domínio temporal do emprego, ou seja, no tempo presente equivalente.

Isso posto, este artigo sob o prisma do Planejamento Urbano, afinado à produção da História Ambiental, se propõe a identificar no modelo adotado no espaço de experiência denominado Baía de Sepetiba, mentalidades e práticas no âmbito técnico, ambiental, social, econômico e político, bem como evidenciar medidas que podem ser avaliadas inadequadas a realidade do século XXI. A ideia toma força por perceber a efervescência de práticas, interesses, cumplicidades e permissividades a delinear o processo de incorporação e anunciar a privatização da Baía de Sepetiba, no estado do Rio de Janeiro. Ainda, pelo fato de verificar no projeto a existência de mecanismos fora do seu registro temporal, os quais a partir de arbitrariedades viabilizam as decisões verticais e assim intensificam o uso dos estoques naturais em defesa dos pretensos vetores de crescimento econômico.

Com a finalidade de alimentar o texto e refletir sobre os possíveis desvios cronológicos - ainda a ignorância dos progressos científicos - que permeiam o processo de desestruturação e reestruturação desse domínio ambiental, os recursos teórico-metodológicos recorrem ao exame dos EIA e RIMA confeccionados para a construção do Porto Sudeste, da Usiminas/Ingá, do Programa de Desenvolvimento de Submarinos - Estaleiro e Base Naval (Prosub-EBN). Também se apoia em conteúdos obtidos durante a realização das pesquisas: "A construção compartilhada de cenários exploratórios e prospectivos entre atores envolvidos em conflitos socioambientais: o caso do passivo ambiental da Companhia Mercantil e Industrial Ingá" (Freitas, et al., 2009); e, "Impactos de grandes empreendimentos projetados para a região da Baía de Sepetiba nas condições de vida e situação de saúde dos

trabalhadores da pesca das Colônias de Pedra de Guaratiba (Z-14), Sepetiba (Z-15) e Itacuruçá (Z16)" (Idem, 2013). Essa apreciação orienta-se pelo viés da análise de métodos de construção de cenários futuros proposta por autores como Ghemawat (2000), Godet (2000), Porter (1985), Schoemaker (1991) e Schwartz (2006). Não obstante, valoriza o diálogo interdisciplinar, que combina conhecimentos de Sociologia, Economia, Geografia, Urbanismo, Ciência Política e Direito, e pontua estudos atuais do Planejamento Urbano e Regional.

A partir do procedimento anteposto, espera primeiramente apresentar o processo, ordenado pela decisão refratária de afirmar uma rugosidade urbana e economicista em detrimento a práticas e hábitos tradicionais, que reduz a Baía a hidrovia e parque industrial. Em segundo plano, facilitar a visualização de medidas potencialmente fora do contexto temporal, por isso alinhadas ao espírito predatório (Holanda, 1936), e suas consequências sobre a realidade econômica, social, cultural e ambiental da Baía de Sepetiba. Isto, na finalidade de identificar os anacronismos esboçados, que ajudam a cerca-la com muros simbólicos e concretos, e parece planejar a reedição de uma espécie de "enclosure".

O INTERESSE DESSE PLANEJAMENTO

Ao longo do tempo, disputas, guerras e batalhas diplomáticas foram travadas em busca de uma saída para o mar. No caso brasileiro, a "Amazônia Azul", além de guardar profundos segredos e riquezas, historicamente desperta interesses e a cobiça. Quanto a essa imensidão marítima, a visão romântica defenderia argumentos para realçar os ilimitados valores simbólicos inscritos na paisagem. Por sua vez, aos olhos da geopolítica, o caráter estratégico e o caminho que se desvela para encontrar "riquezas" merece o destaque. Enquanto, a importância do mar para a subsistência, como delineador da organização e compreensão sobre o mundo da vida, sobretudo para as populações litorâneas, é o foco de um olhar identificado com as preocupações sociais e ambientais. Mas, como por encanto, esse ativo ambiental, econômico e social desperta signos, experiências, expectativas e interesses, no Brasil do século XXI serve para sustentar e ampliar a refrataria e requentada política de commodities agrícolas e minerais, amparada pelo Programa de Aceleração do Crescimento (PAC) lançado em 28 de janeiro de 2007.

O programa articula investimentos em infraestrutura e medidas institucionais; em relação à primeira assinatura, atende os eixos de logística, energia e social e urbano. A respeito das medidas institucionais, volta-se para a desoneração e o aperfeiçoamento do sistema tributário, estímulo ao crédito e ao financiamento, melhoria do ambiente de investimento e medidas fiscais de longo prazo. Devido à dificuldade de acompanhar suas ações, por reunir os orçamentos da União, de estados, dos municípios e recursos da iniciativa privada, o Tribunal de Contas da União (TCU) determinou ao Grupo Executivo do PAC (GEPAC) o encaminhamento periódico de informações sobre a execução físico-financeira de todos os empreendimentos monitorados.

Definido como de interesse público, social e ambiental, o PAC catalisa a execução de obras e intervenções pontuais em vários lugares do país, assim como arranjos, acordos, benefícios, desarranjos, desacordos e prejuízos. Isto em meio a divisão social do trabalho, donde regredimos gradativamente por força do módico investimento na educação, da desindustrialização e dos esforços na direção de exportar matéria-prima, commodities no jargão do século XXI. Todavia, seu maior compromisso parece ser o de manter as expectativas da acumulação financeira, índices de crescimento econômico e capitais políticos eleitorais. Na época de seu lançamento, o Governo Federal divulgou investimentos na ordem de R$509,3 bilhões, mas segundo o TCU, ainda em 2009 os recursos já atingiam R$1,1 trilhão, envolvendo valores previstos depois de 2010. E, devido à crise moral e ética que o Brasil atravessa desde 2015, alguns artigos veiculados na imprensa especulam os custos poderem atingir cerca de R$3 trilhões.

Por conta desse projeto, o estado do Rio de Janeiro recebeu uma grande reforma urbana na capital, arquitetada no objetivo de granjear votos e megaeventos. Simultaneamente, promulgando o discurso de elevação dos padrões de eficiência e competitividade, a instalação de plantas industriais e de logística portuária invadiram a Baía de Sepetiba. Tais estruturas produtivas além dos óbvios interesses, assimilados pela lógica e racionalidade vigente, potencializam o uso da Baía como hidrovia e zona industrial. Mas, ao trazer no vácuo o aumento de escala através de intervenções e impactos significativos ao meio ambiente, impetram dificuldades para o desempenho das atividades tradicionais, como a pesca e o turismo ecológico, logo, prejuízos a essa cadeia produtiva e consequências à condição humana (Arendt, 2007). Enquanto o projeto político nacional insufla o crescimento econômico, como compensação, as tentativas de apropriação do espaço, para refuncionalizá-lo, produzem deformações no cenário natural, geram impactos e riscos aos ecossistemas. Com isso, ao interferir nas bases tradicionais de subsistência, desestabilizam as comunidades artesanais inscritas no território.

No arrasto, o processo que determina a obrigatoriedade do salto de escala, ao fragmentar e pulverizar elementos do concreto ao simbólico (Bourdieu, 2009), inverte tradicionais valores de uso, enraizados no território e na territorialidade, para articular sua desterritorialização e sucessivamente proceder a uma reterritorialização artificial (Deleuze & Guattari, 2010). Por fim, preocupadas em resguardar bens materiais, as estruturas erguidas, ou em

processo de construção, valem-se do expediente de cercar o espaço, antes público, ocupado por suas instalações e impõem a “arquitetura das grades”.

Em outras palavras, a empreitada direta ou indiretamente ao criar as denominadas áreas de exclusão, além de explicitar seu poder repelente e o desinteresse em compartilhar o espaço, vislumbra a possibilidade da rica e menos famosa Baía do Rio de Janeiro por tais ações ser forjada como tão somente um mar de minas. Dessa forma, à luz de premissas weberianas, da ação pelo fim em si, objetivada na forma de compensação, sem observar valores, sobretudo, imateriais (Cassirer, 1994), apresenta elementos consonantes a uma pretensa reconfiguração sócio espacial. De igual modo, expõem as estratégias de legitimação do econômico e político e sua afirmação sobre os valores ambientais e sociais que se desenvolveram na Baía de Sepetiba.

O QUE É A BAÍA DE SEPETIBA?

A Baía de Sepetiba é um complexo ecossistema costeiro, com cerca de 305km2 no Estado do Rio de Janeiro. Além de banhar parte da capital carioca, se estende pelos municípios de Itaguaí e Mangaratiba, esse último excluído da Região Metropolitana em 2002. Historicamente, a Baía atraiu populações que se organizaram em torno da base extrativista e o emprego de técnicas artesanais, sobretudo, em virtude de abrigar significativa faixa de Mata Atlântica, manguezais, rios e importante bioma, ainda remanescentes no XXI. Entre os séculos XVII e XVIII, assumiu a função de ponto estratégico, segundo Fridman e Ferreira (1996) por ela passava o minério extraído das Minas Gerais, que vencia o caminho de Paraty e se destinava à Lisboa. Seu recôncavo também foi palco de batalhas entre corsários e soldados de D. João VI, na disputa pelo ouro e riquezas como o pau-brasil, serviu ao transbordo do comércio escravista, e ao longo do tempo passou por modificações sutis. Somente a partir de 1959, com a chegada da Companhia Mercantil e Industrial Ingá, começou a sofrer impactos sistemáticos.

A respeito da Ingá, a empresa aportou na Ilha da Madeira, bairro do município de Itaguaí/RJ, amparada no apelo da Industrialização Nacional, e não tardou a promover transformações consistentes, tanto no meio físico, que por aterros consolidou sua ligação ao continente, quanto no núcleo social, exposto a remoções e aos primeiros cerceamentos. Contudo, o empreendimento conseguia mover um sopro otimista e, mesmo em meio a inovações e estranhamentos, criou postos de trabalho formais absorvendo boa parte dos moradores, até então dependentes exclusivamente das atividades sazonais.

> *A movimentação despertava esperanças, numa época de preocupações ambientais reduzidas e de um progresso quase despido de cargas simbólicas negativas, por não supor acionar com tanta eficiência processos devastadores. Na mesma época a produção de pescado na Baía de Sepetiba, que até 2006 era a segunda maior do Brasil, continuava abundante, contrastando com o cenário atual em que se encontra em progressivo declínio e projeções cada vez mais pessimistas (Rodrigues, 2012).*

O empreendimento, empenhado em produzir lingotes de zinco através de indução química da calamina, minério com alto teor de zinco extraído na cidade de Vazante (Minas Gerais), iniciou a extração de zinco de minérios constituídos de ou contendo silicato de zinco ou outros silicatos solúveis por hidrometalurgia. O refugo sólido desse procedimento, contendo chumbo, cobre, cádmio e zinco, na impossibilidade de ser reaproveitado ou disperso no meio hídrico por anos foi depositado no terreno ocupado pela indústria. Um expediente que ignorava a propriedade cumulativa desses traços metais, e resultou na edificação de uma montanha avermelhada com aproximadamente 3,5 milhões de m3 de metais pesados. Além de resíduos sólidos, a técnica produzia efluentes líquidos, despejados sobre uma área de manguezal até 1984, quando por determinação da Secretaria de Estado de Meio Ambiente e Desenvolvimento Urbano, através da Fundação Estadual de Engenharia do Meio Ambiente (FEEMA), foi obrigada a construir um dique para tentar controlar a contaminação. Mesmo assim, até 2005 foram notificados vazamentos que impactaram gravemente o ecossistema com a dispersão de altas taxas de traços metais, comprometendo sucessivamente as atividades pesqueiras e comerciais.

A Mercantil Ingá teve a falência decretada em 1987, além de dívidas trabalhistas deixou o incalculável rastro de destruição ambiental. Em 2008, sob o argumento de recuperar a área degradada, o seu terreno foi arrematado em leilão pela Usiminas. Embora, em função do alto poder poluidor se faça possível entender a inovação introduzida como um símbolo na produção de ameaças, a época da concepção e realização dessa ideia, ou desse planejamento, o procedimento significava um avanço tecnológico. Sendo assim, a operação pode ser considerada legitima, por estar em consonância a realidade e ao conhecimento produzido numa época assinalada pela quase ausência de preocupações ambientais e conquistas sociais, e mesmo de outras alternativas para atender os objetivos mercantis e industriais. Porém, dessa experiência abrolha a rotina de perseguições, resistências e tensões contemporâneas, as mesmas endossam permissividades e viabilizam novas experiências e transformações. Sobretudo, por incitar a construção da compreensão desse espaço como área invalidada e própria a injustiças ambientais, em outras palavras, pelo seu reconhecimento como “zona de sacrifício” (Bullard, 2004). Isso, foi possível

constatar, a partir de 2009, durante a realização da investigação sobre o passivo ambiental da Companhia Mercantil e Industrial Ingá. No momento em que tomamos ciência das intervenções afiançadas e financiadas pelo poder público para remediar o terreno contaminado, e do significado para alguns moradores, estudiosos e ativistas, da instalação do Terminal Portuário (Usiminas/Ingá), do Superporto Sudeste (LLX/MMX) e do Programa de Desenvolvimento de Submarinos Convencionais e Nucleares e Base Naval (Marinha/Odebrecht/DCNS). Simultaneamente, as ações integradas para o incremento das atividades logístico-portuários e industriais inseridas no PAC, passaram a ser objeto de atenção, e investigação. Além de perquirir a potencialidade econômica e, mesmo tomadas precauções, a capacidade de produzir riscos da empreitada.

Por conta de tais indícios, a chegada dos novos empreendimentos serviu para avigorar a sensação de que o tradicional reduto de atividades artesanais, caracterizado pela pesca e turismo ecológico, mais uma vez seria submetido a transformações significativas. Logo, ao surgirem as primeiras implicações ao ambiente e ambiência, causadas para o assentamento das plantas produtivas, moradores/pescadores começaram a reagir através de manifestações. A iniciativa desses atores, buscava simplesmente por esclarecimentos e medidas comprometidas com a boa qualidade do ecossistema. Porém, as não respostas, ou apenas as protocolares, fornecidas pelos órgãos públicos e empresas, reiteram a legitimidade fabricada nos Estudos e Relatórios de Impacto Ambiental (EIA e RIMA).

A respeito desses protocolos, um breve exame permite encontrar imprecisões e contradições, em relação aos aspectos técnicos e processos licitatórios. Tais arbitrariedades, inclusive, são utilizadas na instrumentalização de denúncias e peças processuais encaminhadas ao Ministério Público. Contudo, os poderes instituídos pela parceria público-privada (PPP), somados à morosidade do judiciário, evitaram e evitam embargos e paralisação das operações. Quando muito, em virtude da magnitude que algumas agressões alcançam, ultrapassando o controle e a blindagem do projeto público-privado, as iniquidades reconhecidas pela opinião pública produzem paliativos, como os Termos de Ajuste de Conduta (TAC).

Sobre essas exceções, cabe reforçar, além das justificativas político-econômicas, a PPP se vale da opacidade do território (Santos, 1997), para expor a população e o estuário a acometimentos. Nesse sentido, a atmosfera de vulnerabilidade da Baía, e das pessoas da Baía, acontece em função do pouco reconhecimento do lugar e do processo, afinal, demandas e problemas só existem quando reconhecidos. Portanto, a processual redefinição da paisagem, através de práticas que não foram renovadas, como a supressão da cobertura remanescente e os aterros sobre os manguezais, crimes ambientais previstos na Constituição Federal, são permitidos, entre outros motivos, devido à baixa luminosidade da Baía de Sepetiba.

Quanto à opacidade, é fundamental considerar uma sucessão de fatores vinculados a localização. Mesmo ornada por belezas e recursos naturais indiscutíveis, por anos considerada um dos mais produtivos ecossistemas pesqueiros do país, e banhando parte da cidade do Rio de Janeiro, a Baía está na periferia da capital. Ou seja, no subúrbio, afastada do centro de decisão, do interesse político mais imediato, sucessivamente dos investimentos e dos serviços essências. Razões pelas quais a Baía, relativamente, foi esquecida pela classe política e ocupada majoritariamente por uma população modesta, crescendo como “espaço dos pobres” (Marzulo, 2005).

A montagem desse quadro é responsável por determinar um ritmo, que por analogia remete ao conceito de “homem lento” analisado por Ana Clara Torres Ribeiro (2012). Trata-se de um compasso que desconectou a Baía das dinâmicas impressas nos espaços luminosos, mesmo sem qualquer benefício, inibiu a substituição agressiva da paisagem natural, mesmo impactada, pela construída, mas aparentemente não foi suficiente para construir seu reconhecimento, ao menos pela autoridade pública, em função dos atributos ecológicos. Pelo contrário, a partir dos anos 2000, as potencialidades estratégicas despertaram o interesse da PPP, que munida de argumentos fornecidos pela contaminação da Mercantil Ingá, empunhou o discurso da recuperação pautado no viés economicista. Por isso, a expansão do Porto de Itaguaí, a construção do Porto Sudeste, da Usiminas/Ingá, do Estaleiro e Base de Submarinos da Marinha, do Arco Rodoviário Metropolitano do Rio de Janeiro e da Companhia Siderúrgica do Atlântico (TKCSA), entre outros, enquanto acendem as luzes na Baía, a reconfigura e ameaça sobrepor tanto as imagens negativas, quanto as positivas. Mas, apesar das incertezas, do ceticismo e da mobilização dos mais atingidos com a imolação dos recursos naturais, do possível fim das atividades artesanais e do uso residencial, a inexorável submissão do ambiente continua.

Como esse setup, ou conjuntura, projeta profundas alterações na paisagem e consequências aos usos tradicionais, ocasionando implicações na produtividade, na saúde e na segurança. E o histórico de degradação e contaminação marca a Baía de Sepetiba com “X” , tornou-se evidente o poder desse “planejamento” em dissolver os arranjos socioeconômicos e afetar os capitais ecológicos. Ao observar o cometimento de ações em oposição a racionalidade vigente, a fronteira da percepção foi ultrapassada, e a evidencia de o cenário sofrer modificações radicais induziu a utilização de câmeras fotográficas, filmadoras e gravadores, durante a pesquisa citada, na tentativa de preservar alguns frames.

Estes, além de aprisionar vestígios do território, efígies insurgentes e estoques representativos, servem à produção acadêmica, na composição de versões sobre o recanto na Baía de Sepetiba, ainda coberta de hábitos e práticas características da convivência e sobrevivência do indivíduo com o meio ambiente através de atividades tradicionais. Dessa forma, os estoques acumulados se convertem em conteúdo dessa natureza e foram uteis na realização do documentário: “Território de Sacrifício ao Deus do Capital: o caso da Ilha da Madeira”.

O EPICENTRO DAS INJUSTIÇAS

Combinando elementos contíguos à “história-problema” , três dos negócios fundeados na Baía de Sepetiba começaram a sequestrá-la a partir da Ilha da Madeira. O processo, desencadeado no atendimento a economização do território com a chegada de empresas e injeção de capitais políticos e econômicos, tem o protagonismo dividido entre o Porto Sudeste, Usiminas e Prosub-EBN. Tais empreendimentos erguem-se com a demolição de dezenas de casas, equipamentos públicos, privados e comerciais do bairro. Juntos, são responsáveis por forjar um “mar de minas” em pelo menos três acepções: como área marítima do estado de Minas Gerais (MG); local de onde se extrai o minério; e como artefato bélico.

O Porto Sudeste promove uma transformação, ou esbulho, iniciada em março de 2007, quando a LLX Operações Portuárias S. A., e a Sepetiba Empreendimentos e Participações Ltda., autorizadas a extrair, estocar, movimentar, beneficiar pedras e britas e a construir o Superporto, abalroaram na Ilha da Madeira. Tempos depois, em leilão da BM&F Bovespa de 20/05/2011, a gestão dessa operação foi transferida a MMX Mineração e Metálicos S. A., que adquiriu 92,28% da PORTX Operações Portuárias e, depois da controversa falência do empresário Eike Batista, transferiu a PortCo. O empreendimento, onde o mantra da recuperação ambiental não catalisa justificativas, embora suspenda metais pesados estabilizados, aterre manguezais e desfloreste remanescente de Mata Atlântica, irradiou as maiores preocupações, reclamações, incertezas, denúncias, investigações e polêmicas. Sobretudo, por interferir no jogo de interações complexas entre meio físico, elementos vivos e práticas produtivas da sociedade. Segundo Grinover (1989), a importância desses elementos está ligada diretamente à cultura, classe social e atividades de cada indivíduo. Na intervenção chamou atenção a magnitude, a frequência e a intensidade de explosões para abrir um túnel de acesso, assim como a supressão da cobertura vegetal, mas principalmente a despossessão na Vila do Engenho. Em 2007, o pequeno núcleo residencial era composto por uma centena de casas, posto policial, escola, quadra poliesportiva, posto de saúde e comércios. Em 2015, as vinte e cinco famílias que resistiram as investidas da empresa e não venderam seus imóveis, estavam cercadas pelo movimento do Porto Sudeste e desprovida de serviços públicos. Isso levou o Ministério Público Federal (MPF) no Rio de Janeiro (RJ) a ingressar com ação civil pública contra a empresa e o Instituto Estadual do Ambiente (Inea) visando a suspensão da Licença de Operação no município de Itaguaí (RJ).

O MPF alegou a empresa deixar de cumprir obrigações estabelecidas pela Licença de Instalação do Porto, em razão da comprovada emissão de gases e partículas altamente prejudiciais à saúde, dentre os quais dióxido de enxofre (SO2); dióxido de nitrogênio (NO2); partículas inaláveis (PM10), partículas totais em suspensão (PTS), hidrocarbonetos (HCT) e monóxido de carbono (CO). Contudo, o cenário de abandono não sofreu alterações significativas, o Porto não parou de funcionar e os remanescentes continuam na mesma condição.

Essas e outras injustiças, instauradas no cotidiano, arrefecem a força dos locais para enfrentar a ação impetrada pela PPP. Nem mesmo as suspeitas de favorecimento e corrupção, como as denúncias efetuadas na reportagem sobre a compra de terrenos, assinada por Azevedo em 2011, impediu a “chantagem locacional” (Acselrad, 2010). Por exemplo, a publicização da obscuridade originou a criação de uma Comissão Parlamentar de Investigação (CPI), na Câmara Municipal de Itaguaí para apurar o curioso ágio de 20.500% pago pela MMX/EBX às empresas, constituídas dias depois da compra dos terrenos, Schulter do Brasil Empreendimentos e Participações, de Alexandre Valle, e KOF Empreendimentos e Participações, de Alexandre Oberg. A presunção recaía na aquisição de dois terrenos de 40.000m2 por R$50.000,00, junto aos herdeiros do comerciante Azizi Abrahão em setembro de 2010, vendidos a MMX/EBX em dezembro do mesmo ano por R$10.300.000,00.

Na época, Oberg era o procurador-geral, responsável pelos negócios municipais, e Valle o secretário municipal de Indústria, Comércio e Turismo de Itaguaí, tesoureiro das campanhas eleitorais de Carlo Busatto, prefeito até 2012, condenado por desvia fundos públicos, destinados a compra de ambulâncias, e fraudar licença ambiental em 2015. No entanto, mesmo as evidências dessas e de outras irregularidades, que se projetam na concessão de licenças, modificação dos aspectos tangíveis e intangíveis e deformação do panorama local, não permitiu o inquérito encontrar culpados. Dessarte, o planejamento prosseguiu e o terminal, montado sob uma estrutura metálica, que polui visualmente a enseada, recebeu a autorização de operação parcial para exportar minério de ferro da Agência Nacional de Transportes Aquaviários (Antaq) em 2014. Nesse mesmo ano, Alexandre Valle foi eleito Deputado Federal pelo Partido Republicano Progressista (PRS) com 26.526 votos, e a Baía de Sepetiba assumiu contornos de mar para o transbordo de minério.

Porém, as impropriedades não pararam e outro quadro pitoresco tem autoria da Usiminas. Seguindo o planejado, a 29 de maio de 2007, durante a reunião do Conselho Nacional de Meio Ambiente (Conama), foi assinado um acordo pela ministra Marina Silva, governador Sérgio Cabral, Jarbas Barsanti, administrador da massa falida da Mercantil Ingá e os secretários do Meio Ambiente, Carlos Minc (RJ) e José Carvalho (MG). O acordo, costurado antes mesmo das eleições para Governador, levou a imprensa no dia 9 de dezembro de 2006 publicar: "Minas ganhará uma saída para o mar no Rio":

> *O governador eleito Sérgio Cabral anunciou nesta terça-feira um acordo com o governador de Minas Gerais, Aécio Neves, para dar a Minas uma saída para o mar e despoluir uma área degradada no Rio. Pelo acordo, será cedida a área de 1,1 milhão de metros quadrados onde funcionava a Ingá, em Itaguaí, às margens da Baía de Sepetiba, para que Minas tenha o seu porto, por onde escoará minérios e outros produtos (Passos, 2006).*

Mas, a falta de transparência sobre as bases negociais, a ausência de uma consulta popular, suspeitas de irregularidades, e a falta de compromissos com a despoluição e reparação dos danos produzidos pela Mercantil Ingá, ofereceram argumentos na tentativa de impedir a realização do leilão. Porém, mesmo sob protestos, manifestações e ações na justiça este aconteceu em junho de 2008. Depois de arrematar, pela quantia de R$72 milhões (60% do lance mínimo), a empresa do setor siderúrgico chegou a Baía de Sepetiba, revestida da aguardada solução para o passivo ambiental, e divulgou a necessidade de investir R$92 milhões para recuperar o terreno de 968.000 m2. Embora, esse espaço seja reservado a uma retroárea portuária para manuseio e estocagem de minério, a iniciativa tinha como objetivo a construção de um terminal para exportar de 25 a 29 milhões de toneladas ano, e escoar a produção excedente de suas minas, no interior de Minas Gerais. Na ocasião, a Usiminas informou a escolha ser determinada, entre outras razões, pela proximidade ao Porto de Itaguaí com profundidade para navios graneleiros, de um ramal ferroviário e rodovia federal consolidada. Também influenciou a decisão, a disponibilidade de área plana para estocagem na linha do litoral e previsão de crescimento urbano.

No cenário projetado, de acordo com a sétima pagina do Relatório de Impacto Ambiental encomendado junto a empresa HAZTEC Tecnologia e Planejamento Ambiental S.A., apresentado em 2010, não seria possível o crescimento desse setor da economia sem o projeto, que ampliaria a arrecadação de impostos e a distribuição de royalties. Durante o cenário de implantação, previu os R$3bilhões investidos gerarem entre 1.500 a 2.000 empregos, acrescendo na massa salarial da região R$15 milhões anuais, e 400 empregos na fase de operação. Dessa forma, o antigo "sonho" inscrito no folclore mineiro , defendido desde 1857 pelo político Teófilo Ottoni que atribuía a uma saída para o mar as condições para superar o atraso econômico, se consolidava e a Baía de Sepetiba era transformada em um mar de Minas Gerais.

Por último, justificado como de interesse e relevância ao bem público, o Programa de Desenvolvimento de Submarinos - Estaleiro e Base Naval (Prosub-EBN), objetiva a construção, operação e manutenção de Submarinos Convencionais e de Propulsão Nuclear. O projeto, assinado em 2008 pelo presidente Luiz Inácio Lula da Silva (Brasil) e Nicolas Sarkozy (França), reúne a Marinha do Brasil, a Direction dês Constructions Navales et Services (DCNS), empresa francesa associada a Norberto Odebrecht, na formação da Itaguaí Construções Navais (ICN). De acordo com a licença de instalação, concedida em agosto de 2010, a obra previa um aterro hidráulico protegido por enrocamento de 413.000 m² de área total; a dragagem para implantação de bacia de evolução, protegida por enrocamento, além de canal de acesso, com volume total aproximado de 6.875.000 m³; o acesso viário ao estaleiro, de 600 metros de extensão, e o túnel de acesso exclusivo com 671 metros de extensão. Em resumo, a eliminação de uma praia natural e a criação, com dragagem de areia, aprofundamento de canais, remoção de cobertura verde e aterros de uma área plana artificial.

O projeto enlaça o argumento da "Defesa Nacional", e encontra justificativas na proteção da área marítima de 3,5 milhões de Km2, que pode ser ampliada em 963 mil km2 e atingir perímetro próximo a 4,5milhões de Km2, se aceita pelas Nações Unidas a solicitação de estender os limites até a Plataforma Continental. Em seu portal eletrônico, o comando da Marinha informou a iniciativa expressar a vontade de superar o "apartheid" tecnológico, e o Almirante-de-Esquadra Julio Soares de Moura Neto definiu a importância estratégica estabelecer sua razão de ser; a tecnológica, que significa uma mudança de patamar para o Brasil; e sua contribuição para o desenvolvimento de uma indústria nacional de defesa, que levará o país à autossuficiência no projeto e na fabricação do seu próprio material militar.

Segundo alguns entusiastas, proteger a gerar riqueza a partir da exploração oceânica viabiliza a produção do primeiro submarino brasileiro de propulsão nuclear e mais quatro convencionais (diesel-elétrico), ao custo de €6.790.862.142, assim como a transferência de tecnologia, compra de sobressalentes e torpedos (Poggio, 2011). Essa expectativa foi reiterada pela presidente Dilma Rousseff, durante a cerimônia de 16 de julho de 2011, dando início a Construção dos Submarinos em Itaguaí. Segundo Rousseff, "nosso interesse é de garantir a segurança de nossas riquezas, de defesa nacional, jamais de ataque" (Grellet, 2011). Porém, o discurso de investimento em

função da obtenção de lucros, com a exploração e uso do meio aquático, aclara o processo de subsunção da Baía de Sepetiba e a presume somente como hidrovia e polo industrial. Mas, a observação da seguinte advertência no estudo: “o empreendimento terá sistemas múltiplos de segurança e proteção adequados e indispensáveis ao tipo de atividade militar” (MRS, 2009), deixou claro, o aparecimento de restrições e de muros para proteger a área. Agora, os arredores do empreendimento de segurança nacional, estão sob o código ISPS (International Ship and Port Facílity Security Code), e a Baía cercada por esse protocolo de máxima segurança também foi transformada em um mar de minas bélicas.

OS PRIVILÉGIOS EXCEPCIONAIS

A Usiminas/Ingá, o Porto Sudeste e o Prosub-EBN, nutridos pela fórmula neoliberal “crescer para distribuir”, a expensas do erário, e ancorados no tripé: solução do passivo ambiental; fonte de desenvolvimento da região; defesa e segurança nacional. Sem delongas, receberam Autorizações de Supressão de Vegetação (ASV). Tais licenças, instrumentos utilizados em casos excepcionais, outorgadas por órgãos ambientais de responsabilidade federal, estadual, municipal, através da Secretaria Municipal de Meio Ambiente, Agricultura e Pesca (SEMAAP), credenciou a desmatar, retificar e alterar os padrões ambientais. Além disso, demonstra a atmosfera de poder e os atores que se apropriam da Baía de Sepetiba, sugere o esboço de uma espécie de estado de exceção e a concessão de inimputabilidades. Tal beneplácito, permitiu, em 2011, a Marinha do Brasil divulgar, sem constrangimento, a realização de aterros em uma área marítima de 320 mil m² para construir dois píeres de 150 metros e três docas com 170 metros de extensão.

Para ilustrar a arquitetura desenhada pelo poder público e iniciativa privada, o quadro abaixo indica as áreas de supressão e as compensações previstas nos EIA e RIMA, confeccionados pela Ecology (2008), MRS (2009) e Haztec (2010):

Empresa	Licenciador	Atividade	Área Supressão	Compensação
LLX/MMX	Inea	Extração argila, saibro e granito. Terminal Exportação de Minério	31,16 ha 5,74 ha Vegetação de Terra firme 1,8 ha Manguezal 0,12 ha Floresta Ombrófila Densa	100 ha Floresta 5,74 ha 5,4 ha Manguezal 1 ha F. Ombrófila Densa
EBN Prosub	IBAMA	Estaleiro e Base Naval	17,75ha	2,06ha
Usiminas	Inea	Projeto Integrado Remediação+Funcional	11,29 ha Floresta Ombrófila Densa 5,10 ha Manguezal	12 ha Floresta Ombrófila 6 ha Manguezal

Acreditamos, a leitura dos dados acima auxiliar o reconhecimento de anacronismo nas medidas, que além de emular “efeitos pressão” atingem tanto a ambiência quanto as territorialidades. Igualmente, perceber os aumentos de ações antrópicas estimularem o esvaziamento de hábitos e práticas, promover desequilíbrios na transmissão da cultura e na estruturação dos núcleos sociais. Por isso, algumas lideranças, ao sentirem a propagação desses efeitos, inclusive para além da escala local, começaram a articular novas reações. Todavia, cientes de que diante do poder instituído não poderiam ambicionar a desmontagem das operações, como foi possível no passado e impediu a instalação de uma Usina Termoelétrica a Carvão. Apenas se esforçam no que julgam factível, de acordo com as regras do jogo e da regulação, buscam a mitigação e a compensação dos impactos, e continuar a viver “na” e “da” Baía através das atividades culturais e laborais enraizadas.

Outro problema se revela em função da legitimidade das comunidades tradicionais na Baía de Sepetiba. Por exemplo, a Marinha do Brasil, não as reconhece como tais, o que produziu ecos, desconfortos e questionamentos. De acordo com seu RIMA:

> *Na Área de Influência Direta do empreendimento pescadores artesanais e catadores/coletores de moluscos e crustáceos foram encontrados, no entanto estes não se caracterizam estritamente como comunidade tradicional, pois não há clara definição de limites sociais e profundidade*

> *histórica em suas memórias [...] O que foi observado foi pescadores artesanais oriundos de migrações em diferentes períodos, cujas relações de solidariedade ocorrem a partir das práticas pesqueiras sem, contudo, ocorrer relações fortes de parentesco e de longa descendência na região (MRS, 2009, p.67-68).*

Quanto a essa desqualificação, alguns moradores/pescadores responderam descender de famílias que "aportaram" na Baía, há no mínimo 4 gerações. Em função desse impasse, vale destacar que a legislação federal brasileira, pelo Decreto 6.040 de 07 de fevereiro de 2007, no art. 3º, inciso I, fruto de intensos debates que precedeu a aprovação da Política Nacional de Desenvolvimento Sustentável dos Povos e Comunidades Tradicionais, celebra:

> *Povos e Comunidades Tradicionais: grupos culturalmente diferenciados e que se reconhecem como tais, que possuem formas próprias de organização social, que ocupam e usam territórios e recursos naturais como condição para sua reprodução cultural, social, religiosa, ancestral e econômica, utilizando conhecimentos, inovações e práticas gerados e transmitidos pela tradição. Assim são comunidades tradicionais: povos indígenas, quilombolas, populações ribeirinhas, ciganos, povos de terreiro, dentre outras.*

Por tal pressuposto, não é plausível classificar apenas como povos e comunidades tradicionais as pessoas que vivem isoladamente, afastadas do mercado ou os povos primitivos distantes do comportamento geral. Nesse caso específico merece destaque apontamentos do professor Alfredo Wagner Berno de Almeida:

> *Embora a noção de tradição [bem como os termos daí derivados, em forma e significação] apareça em textos clássicos associada ao postulado de 'continuidade', conforme sublinha Foucault in 'Resposta ao Círculo Epistemológico' (1968), importa sublinhar que o termo 'tradicional' da expressão 'povos tradicionais', aqui frequentemente repetida, não pode mais ser lido segundo uma linearidade histórica ou sob a ótica do passado ou ainda como uma 'remanescência' das chamadas 'comunidades primitivas' e 'comunidades domésticas' [...]. "O chamado 'tradicional', antes de aparecer como referência histórica remota, aparece como reivindicação contemporânea e como direito involucrado em formas de autodefinição coletiva. [...]. Deste ponto de vista, além de ser do tempo presente, o 'tradicional' é, portanto, social e politicamente construído". "Ao problematizar a historicidade da 'tradição' e reinterpretá-la criticamente estamos de fato produzindo uma análise arqueológica, porquanto a libertamos da noção de passado, remetendo-a para os conflitos contemporâneos" (Almeida, 2006, p. 9-11).*

Ainda, no trabalho "O mito moderno da natureza intocada", Antônio Carlos Sant'Ana Diegues elenca algumas características auxiliares na identificação dos "povos e comunidades tradicionais":

> *a) dependência da relação de simbiose entre a natureza com os quais constrói um modo de vida; b) conhecimento aprofundado, estratégico e o manejo destes recursos naturais e seus ciclos. c) moradia e ocupação do território por várias gerações e com uma noção de "território" pautada no espaço onde o grupo social se reproduz econômica e socialmente; d) reduzida acumulação do capital com ênfase nas atividades de subsistência, ainda que a produção de 'mercadorias' possa estar mais ou menos desenvolvida, o que implicaria uma relação com o mercado; evidente importância dada unidade familiar e aos mitos e simbologias associados à caça, pesca e atividades extrativistas (Diegues, 1996).*

Portanto, povos ou comunidades tradicionais são sujeitos historicamente construídos, interventores em um processo de afirmação da diversidade social, por isso, a importância da intervenção não deve ser ignorada, como ocorre em setores mais conservadores da sociedade brasileira em defesa de privilégios. A existência social e política encontra-se no seio do processo de reafirmação, o que transforma a luta das comunidades tradicionais em uma luta social pelo espaço, reconhecimento da legitimidade e hegemonia de um modo de vida próprio nas condições em que historicamente o construíram e que lhes é vital. Desse modo, é necessário abandonar o conservadorismo e romper com a miopia de um discurso colonial, para compreender as comunidades tradicionais, a partir de sua importância em um cenário sociopolítico democrático.

CONSIDERAÇÕES FINAIS

A Baía de Sepetiba metaforicamente encontra-se em erupção, os moradores/pescadores, ainda resistentes, temem por diferentes razões serem removidos ou expulsos do lugar. As áreas de exclusão se multiplicam e grades visíveis e invisíveis a cercam. Os aterros de manguezais e a retirada da vegetação, teoricamente protegidos por lei, sucumbem ao poder de licenças que são trocadas por privilégios e capitais escusos. O pescado, também afetado pelo excesso de luz, barulho, despejo de materiais orgânicos e inorgânicos, embora os órgãos competentes, ao

contrário do que se espera, não façam levantamentos estatísticos recentes, desaparece. A modificação da paisagem, assim como a privação e ausência de ações democráticas afinadas a responsabilidade e a justiça ambiental e social, removem as camadas de histórias e apaga os símbolos, as identidades e os pertencimentos, e o aumento da população flutuante cinzela apenas um não lugar (Augé, 2012).

Apesar do conjunto de medidas e ações pintarem soluções para o território, desprestigiado e assolado pelo grande mal imposto com a degradação, as respostas produzidas se mostram ineptas ou afeitas a desvios do objetivo central, que seria reparar a qualidade ambiental e recupera-lo daquilo que "tecnicamente" deixou de ser um bem e passou a ser um fardo. Enfim, a contrapartida, na rotina contemporânea só esboça desconfortos e mudanças significativas. Estas, inclusive dão origem a remoções sequer previstas pelos EIA e RIMA, como as requeridas pela Marinha para a segurança do Estaleiro e Base Naval.

> *Moradores da Ilha da Madeira se reuniram, na noite de terça-feira (12), com o comandante da Marinha, Gilberto Huet de Bacellar Sobrinho, gerente de apoio ao licenciamento ambiental do órgão. Na pauta, eles cobraram explicações sobre desapropriações previstas para acontecer na Baía de Sepetiba, em função do Estaleiro e Base Naval que contempla o Programa de Desenvolvimento de Submarinos (PROSUB) [.]. Uma fonte do ATUAL contou que eram muitas as reivindicações dos moradores como, por exemplo, saber o tamanho exato da área que será desapropriada. E a informação que obtiveram do comandante Gilberto é que será de aproximadamente 2, 4 milhões/ m², começando pela Praia do Inglês, passando pelo alto da serra até o Morro da Mariquita [...] os moradores questionaram, em outras ocasiões, a Marinha garantir não haver desapropriações. Porém, o comandante justificou não ser possível haver empreendimento num raio de 250 metros da Base Naval, o que foi duramente questionado pelos moradores, sob a alegação do cais do Superporto Sudeste estar a menos de 200 metros do local. "Se os moradores vão ser desapropriados, o mesmo deve acontecer com o empreendimento da MMX", enfatizou a fonte (Leão, 2013).*

Quanto a reportagem, o link indicado inicialmente nas referências, estranhamente despareceu do sitio consultado, porém encontramos um resumo em um outro endereço.

A Ilha da Madeira, como outros lugares inscritos na Baía de Sepetiba, antes bucólica, sofre em função do trânsito intenso de veículos pesados, de detonações e de máquinas ininterruptamente em funcionamento. A movimentação produz lama nas ruas, algumas inclusive fechadas desaparecerão, e o sossego acabou. Enquanto isso, vibrações e decibéis racham paredes e pisos das casas. Os riscos são representados e carregados em dragas, navios de grande porte e caminhões, que dificultam a circulação de pessoas e dos pequenos barcos, utilizados nas atividades de pesca e turismo, no bairro e nas águas que até outro dia a todos pertencia. Se o passivo da Ingá finalmente desapareceu, o procedimento adotado continua a ser um mistério. Mesmo quando esclarecimentos foram solicitados, sem surpresa, generalizações e protocolos somente reafirmaram o procedimento adotado.

Da mesma forma, políticos e empresas, denunciados por venda e compra de benesses, quando muito, apoiam-se em desculpas como o financiamento legal de campanha. Por tais evidências o processo de refuncionalização, com desterritorialização, apropriação e reterritorialização, leva a temer pelo arranjo de subsistência e o fim das práticas e cargas culturais societárias. E assim, o processo aquiescido pelo poder público e financiado com recursos originários do contribuinte, traz a reflexão o preço a ser pago, para construir um Mar de Minas e erigir a arquitetura da eficiência/competitividade em função do projeto político de crescimento econômico. Ou seja, será dessa época uma ação que deixa de observar valores, sobretudo, imateriais, os quais comumente não admitem a precificação, mas por força de imperativos anômalos passaram a preencher as tabelas de natureza econômica, e dessa forma recrudesce violências afinadas aos quadros de injustiça ambiental na sua forma mais refinada?

Mesmo a sopesar as "compensações", previstas na forma da lei, a verborragia vinculada a defesa de investimentos no capital social, na manutenção de patrimônios tangíveis e intangíveis, os resultados até então reconhecidos, assim como os parcos recursos revertidos para estes fins, dos quais é possível ter conhecimento, mais funcionam como "cala boca". Ou ainda, é razoável considerar tímidos os esforços nessa direção, principalmente se comparadas às prioridades desenhadas "estratégica e gerencialmente" pelo traço do capital. De tal modo, no século XXI, o Estado faz uso das encanecidas táticas de fragmentar, desmobilizar e enfraquecer a participação civil para contrafazer as decisões unilaterais. Ainda, vale-se de prerrogativas, como a de produzir a regulação, para impor práticas e técnicas superadas e em desacordo com o tempo presente.

Se por um lado, esse distanciamento dos comuns evita discussões, impasses e resistências que poderiam insurgir e demandar tempo no estudo de alternativas, por outro, mais uma vez legitima e transfere deliberações para a elite econômica e política, ávida por ensaiar acordos e negociações esvaziadas de cuidados com a projeção de prejuízos ao meio ambiente e à sociedade. Com essa prática, a rubrica da parceria entre o poder público e a iniciativa privada

endossa a direção e execução de vicissitudes destinadas a serem convertidas em deliberações. As quais, depois do acabamento institucional, são revestidas pelo verniz de adequadas e imprescindíveis, e depois, de serem veiculadas com essa conotação a opinião pública, confere uma imagem coerente e responsável do Estado. Ao passo em que, demandas reais no âmbito social e na ecologia humana, onde se multiplicam desigualdades, desequilíbrios e déficits, são preteridas. Nas questões relacionadas ao meio ambiente não é diferente, enquanto discussões e ações se avolumam em abrangência, a progressiva deterioração dos recursos e estoques, a geração de poluentes e a farta distribuição de impactos sobre diferentes lugares são amplificadas.

Nesse caso, em todos os cenários, a intimidação e a produção de perigos se afirmam como lógica, porém, depois de assimilada pelo corpo social, como não houvesse escolha, assumem o status de normalidade. Isso causa a sensação de que, mesmo em um tempo pautado por premissas de civilidade, informação, racionalidade e exercício da democracia as resoluções, sobretudo "estratégicas", reproduzem atos e planejamentos preenchidos por práticas e técnicas que não foram renovadas, por conseguinte, anacrônicas. Dessarte, o "rolo compressor" devasta significados e efeitos do lugar, e nos permite somente questionar: o sofrimento produzido para transformar a Baía de Sepetiba em um "Mar de Minas" e esse planejamento pertencem de fato a época em que é produzido?

REFERÊNCIAS

Acselrad, H. (2010). Ambientalização das lutas sociais – o caso do movimento por justiça ambiental. Estudos Avançados, São Paulo, v.24, n.68, p.103-109.

Almeida, A. W. B. (2006). Arqueologia da tradição: Uma apresentação da Coleção 'Tradição e Ordenamento jurídico'. in. SHIRAISHI NETO, Joaquim. Leis do Babaçu livre: práticas jurídicas das quebradeiras de coco babaçu e normas correlatas. Manaus: PPGSCA-UFAM/ Fundação Ford.

Arendt, H. (2007). A condição humana (10nd ed.). Rio de Janeiro: Forense Univer-sitária.

Augé, M. (2012). Não lugares: introdução a uma antropologia da supermodernidade. Campinas: Papirus.

Azevedo, R. (2011, Jun 12). Obra nova, Brasil velho. Veja. Acesso Junho 12, 2011, em http://veja.abril.com.br/blog/reinaldo/geral/obra-nova-brasil-velho-mmx-de-eike-paga-20500-mais-caro-por-terras-de-autoridades-da-cidade-onde-fara-seu-porto/.

Bourdieu, P. (2009). O poder simbólico. Rio de Janeiro, RJ: Bertrand Brasil.

Bullard, R. (2004). Enfrentando o racismo ambiental no século XXI. In: Acselrad, H., Pádua, J. A., Herculano, S. (Orgs.). Justiça ambiental e cidadania. São Paulo: Delume Lumará.

Cassirer, E. (1994). Ensaio sobre o homem: introdução a uma filosofia da cultura humana. São Paulo: Martins Fontes.

Deleuze, G. & Guattari, F. (2010). O Anti-Édipo. São Paulo: Ed 34.

Diegues, A. C. (1996). O mito moderno da natureza intocada. São Paulo: HUCI-TEC.

Ecology /Brasil (2008). Relatório de Impacto Ambiental para as obras de construção de Terminal Marítimo, para estocagem de minério de ferro e carvão, Empresa LLX – Porto Sudeste, Mu-nicípio de Itaguaí. Rio de Janeiro.

Febvre, L. (1970). O Problema da Descrença no Século XVI: a religião de Rabelais. Paris/Lisboa: Éditions Albin Michel/Editorial Inicio.

Finatto, M. J. B. (2003). A definição de termos técnico-científicos no âmbito dos estudos de terminologia. Revista de Estudos da Linguagem, Belo Horizonte, v. 11, n. n.1jan/jun, p. 197-222.

Freitas, M. B., Gondim, G., Freitas, J., Peiter, P. C., Casanova, A. (2009). A construção compartilhada de cenários exploratórios e prospectivos entre atores envolvidos em conflitos socioambientais - o caso do passivo ambiental da Companhia Mercantil e Industrial Ingá. Relatório de Pesquisa - EPSJV/CGVAM/FIOTEC-812: Rio de Janeiro, 2009.

Freitas, M. B., Rodrigues, S. C. A., Miranda, L., Silva, V. (2013). Impactos de grandes empreendimentos projetados para a região da Baía de Sepetiba nas condições de vida e situação de saúde dos trabalhares da pesca das Colônias de Pedra de Guaratiba (Z-14), Sepetiba (Z-15) e Itacuruçá (Z-16). Relatório de Pesquisa. FAPERJ: Rio de Janeiro.

Fridman, F., Ferreira, M. S. N. (1996). Cidade flutuante: os portos do Rio de Janeiro colonial. In: 4º Seminário de História da Cidade e do Urbanismo. Rio de Janeiro, p. 515-530. Disponível em: http://unuhospedagem.com.br/revista/rbeur/index.php/shcu/article/view/463

Grellet, Fabio (2011, Julho 16). Submarino é para segurança das riquezas, diz Dilma. Folha de São Paulo. Disponível em http://www1.folha.uol.com.br/poder/944718-submarino-e-para-seguranca-das-riquezas-diz-dilma.shtml.

Grinover, L (1989). O planejamento físico-territorial e a dimensão ambiental. Ca-dernos FUNDAP, São Paulo, v.9, n.16, p.25-32.

Haztec Tecnologia e Planejamento Ambiental S.A. (2010). Relatório de Impacto Ambiental: Instalação do Terminal Marítimo para o Embarque de Minério de Ferro na Ilha da Madeira, Itaguaí - RJ. Rio de Janeiro.

Holanda, Sérgio Buarque (1936). Raízes do Brasil. Rio de Janeiro: José Olympio.

Leão, Francisco (2013, Março 14). Moradores cobram explicações sobre desapro-priações. Jornal Atual. Disponível em: em: http://jornalatual.com.br/portal/?p=41118 / http://arquivo.jornalatual.com.br/2013/03/moradores-cobram-explicacoes-sobre-desapropriacoes

Marinha do Brasil (2011). Programa de Desenvolvimento de Submarinos (PROSUB) Web site. Disponível em: www.mar.mil.br/menu_v/ccsm/temas_relevantes/prosub-completo.pdf.

Marzulo, Eber P. (2005). Espaço dos pobres: Identidade social e territorialidade na modernidade tardia. Tese de Doutorado, Instituto de Pesquisa e Planejamento Urbano e Regional - Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brasil.

MRS Estudos Ambientais Ltda. (2009). Estudo de Impacto Ambiental (EIA) do Estaleiro e Base Naval para a Construção de submarinos Convencionais e de propulsão Nuclear, em Itaguaí. Rio de Janeiro.

Passos, J. M. (2006, Novembro 28). Minas ganhará saída para o mar no Rio. O Globo. Disponível em: http://kevin-blott.livejournal.com/4706.html.

Poggio, Guilherme (2011, Junho 19). Estágio das obras da base de submarinos da MB. Poder Naval. Rio de Janeiro. Disponível em: http://www.naval.com.br/blog/tag/mb-prosub/#ixzz1ixgWkYyw.

Ribeiro, Ana Clara T. (2012). Homens lentos, opacidades e rugosidades. Redobra, ano 3, n. 9, p. 58-71.

Rodrigues, S. C. A. (2012). A Ilha da Madeira que vira carvão: o processo de apropriação de um território na baía de Sepetiba. Dissertação de mestrado, Instituto de Pesquisa e Planejamento Urbano e Regional - Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brasil.

Santos, Milton (1994). Técnica, espaço e tempo: globalização e meio técnico-científico informacional. São Paulo: HUCITEC.

PORQUE PASSEAR NO PARQUE? BENEFÍCIOS CONCEBIDOS E PERCEBIDOS PELA ÓTICA DA TRANSFORMATIVE SERVICE RESEARCH

Session L1.2 | 31 Maio | 11:00 – 12:30

Ítalo Brener de Carvalho (1), Marlusa de Sevilha Gosling (2)
(1) CEFETMG – Centro Federal de Educação Tecnológica de Minas Gerais, BRASIL
(2) CEPEAD - Universidade Federal de Minas Gerais – UFMG, BRASIL
italobrener@hotmail.com; ufmg@gmail.com

RESUMO: Os Parques Urbanos são espaços verdes em áreas urbanizadas, de uso público que propiciam a população recreação e lazer aos seus visitantes. Este estudo exploratório em desenvolvimento no NEECIN-TUR/UFMG, Núcleo de Estudos e Estratégias de Comunicação Integrada de Marketing e Turismo busca compreender se um Parque Urbano encontram-se adequadamente geridos numa perspectiva do Concebido pelas normativas do CONAMA comparada com o Vivido e Percebido por seus visitantes. As descobertas primárias desta investigação em relação as percepções do consumidor de espaços públicos verdes gratuitos reforçam a teoria co-criação de valor pelo consumidor, presente na Trasformative Service Research – TSR proposta por Anderson (2010, 2013). Em sua essência, a relação entre serviço ofertado e bem-estar, melhoram a vida dos indivíduos, famílias, a comunidades, a sociedade (Anderson et al. 2013). Este artigo apresenta a normatização do planeamento urbano de áreas verdes no Brasil pela Resolução CONAMA 369/2006, resolução jurídica instrumental na qual os Parques Verdes Urbanos Brasileiros devem se enquadrar. A partir dessa normativa extraiu-se do conteúdo proposto, o Planejado, e através de pesquisa de campo com usuários de um parque na cidade de Belo Horizonte buscou-se o Percebido e o Vivido por seus usuários. A contribuição das categorias: Concebido, Percebido e Vivido proposta por Lefebvre (1966) contribui para uma pesquisa que utiliza a ótica TSR ao propor uma ideia, uma mudança cognitiva, de ação ou comportamento de pessoas pela compreensão de suas percepções. seus indicadores contribuem para o bem-estar, suas propostas métricas se concentram em avaliar os aspectos de bem-estar, como a saúde física, saúde, a discriminação, a marginalização, a alfabetização, a inclusão, o acesso, capacitação e diminuição da disparidade entre outras (Anderson et al 2013; Rosenbaum et al 2011).

PALAVRAS-CHAVE: Serviços, Parques Urbanos, Transformative Service Research.

INTRODUÇÃO

Este estudo apresenta parte dos resultados do projeto realizado pelo NEECIN-TUR/UFMG, Núcleo de Estudos e Estratégias de Comunicação Integrada de Marketing e Turismo. Apresentando as percepções dos usuários do Parque Municipal Américo Renné Giannetti em Belo Horizonte, Minas Gerais. O estudo compõe uma tese de doutorado, em sua fase exploratória.

A estrutura deste artigo será assim dividida: uma breve objetivação dos Parques Verdes Urbanos, seguido pela apresentação da comissão responsável pela gestão nacional de Áreas Verdes e Parques Urbanos. Em um terceiro momento apresenta-se a metodologia que compõe o estudo, seguido por um quarto capítulo que apresenta as analises e por último, as considerações finais.

Os Parques Urbanos apresentam um desafio ao oferecer serviços sociais, culturais ou educacionais em uma área de multiuso pública. Cada Parque é único já que dificilmente se pode “copiar” integralmente as boas práticas de uns para outros, sendo a inovação e a diferenciação o que mais contribuem para experiências capazes de dar respostas mais memoráveis ao encontro dos seus públicos(GONÇALVES, 2012).

Porém, a preocupação com a satisfação de diferentes públicos ou com a qualidade da experiência de seus visitantes nestes parques, pode ser considerada precária. Alguns parques oferecem serviços de convívio social, culturais e educativos, portanto seu potencial é considerado estratégico, o mercado por exemplo, compreende o uso potencial de parques pelo turismo, para envolver comunidades e cidadãos no desenvolvimento sustentável da cidade.

Entre os aspectos considerados de maior relevância ao planejamento estratégico de um parque, basear-se-á em seus recursos ofertados: recursos estes culturais, sociais e naturais do território, exigem a cooperação entre os agentes presentes na gestão dos espaços dos parques públicos. Esta estratégia tem como base o desenvolvimento dos parques como atrações turísticas, como equipamento multiuso por seus visitantes.

A natureza multidisciplinar e interdisciplinar da compreensão dos equipamentos da cidade tem dificultado e tornado mais complexa a determinação de respostas únicas para esta questão. As temáticas que envolvem as questões da cidade, das atrações culturais, o patrimônio combinadas com a noção de lazer, recreação e prazer, bem-estar e satisfação em uma esfera coletiva e individual.

Os gestores de planejamento urbano normatizaram as consideradas Áreas Verdes de domínio público, mas uma lacuna foi encontrada. Segundo Lefebvre(1966) este campo deve ser observado e continuamente analisado pela ótica do (1) Concebido, (2) Vivido e (3) Percebido. É neste autor que apontamos uma lacuna de pesquisa: Os parque urbanos encontram-se adequadamente geridos numa perspectiva do Concebido pelas normativas do CONAMA, pelo Vivido e Percebido por seus visitantes?

OBJETIVOS SOCIAIS, CULTURAIS E ECUCACIONAIS DE UM PARQUE URBANO

> *De acordo com o Art. 8º, § 1º, da Resolução CONAMA Nº 369/2006, considera-se área verde de domínio público "o espaço de domínio público que desempenhe função ecológica, paisagística e recreativa, propiciando a melhoria da qualidade estética, funcional e ambiental da cidade, sendo dotado de vegetação e espaços livres de impermeabilização".*
>
> *As áreas verdes urbanas são consideradas como o conjunto de áreas interurbanas que apresentam cobertura vegetal, arbórea (nativa e introduzida), arbustiva ou rasteira (gramíneas) e que contribuem de modo significativo para a qualidade de vida e o equilíbrio ambiental nas cidades. Essas áreas verdes estão presentes numa enorme variedade de situações: em áreas públicas; em áreas de preservação permanente (APP); nos canteiros centrais; nas praças, parques, florestas e unidades de conservação (UC) urbanas; nos jardins institucionais; e nos terrenos públicos não edificados.*
>
> *Exemplos de áreas verdes urbanas: praças; parques urbanos; parques fluviais; parque balneário e esportivo; jardim botânico; jardim zoológico; alguns tipos de cemitérios; faixas de ligação entre áreas verdes. (http://www.mma.gov.br/cidades-sustentaveis/areas-verdes-urbanas/parques-verdes)*

Segundo Toledo & Santos (2008) oss Parques Urbanos são grandes espaços verdes localizados em áreas urbanizadas de uso público, com o intuito de propiciar recreação e lazer aos seus visitantes. Em sua maioria, oferecem também serviços culturais, casas de espetáculo, centros culturais e educativos. Também estão frequentemente ligados a atividades esportivas, com suas quadras, campos, ciclovias etc .

A grande vantagem dos parques urbanos é propor aos moradores de metrópoles a opção de visitar áreas naturais, com paisagens verdes, fauna e flora, sem a necessidade de percorrer grandes distâncias. É neles que grande parte da população urbana desenvolve sua relação com a natureza, o que faz deles uma importante ferramenta para conscientização ambiental.

> *Seção III Da implantação de Área Verde de Domínio Público em Área Urbana Art. 8o A intervenção ou supressão de vegetação em APP para a implantação de área verde de domínio público em área urbana, nos termos do parágrafo único do art 2o da Lei no 4.771, de 1965, poderá ser autorizada pelo órgão ambiental competente, observado o disposto na Seção I desta Resolução, e uma vez atendido o disposto no Plano Diretor, se houver, além dos seguintes requisitos e condições: I - localização unicamente em APP previstas nos incisos I, III alínea "a", V, VI e IX alínea "a", do art. 3o da Resolução CONAMA no 303, de 2002, e art. 3o da Resolução CONAMA no 302, de 2002; II - aprovação pelo órgão ambiental competente de um projeto técnico que priorize a restauração e/ou manutenção das características do ecossistema local, e que contemple medidas necessárias para: a) recuperação das áreas degradadas da APP inseridas na área verde de domínio público; b) recomposição da vegetação com espécies nativas; c) mínima impermeabilização da superfície; d) contenção de encostas e controle da erosão; e) adequado escoamento das águas pluviais; f) proteção de área da recarga de aqüíferos; e g) proteção das margens dos corpos de água. III - percentuais de impermeabilização e alteração para ajardinamento limitados a respectivamente 5% e 15% da área total da APP inserida na área verde de domínio público. § 1o Considera-se área verde de domínio público, para efeito desta Resolução, o espaço de domínio público que desempenhe função ecológica, paisagística e recreativa, propiciando a melhoria da qualidade estética, funcional e ambiental da cidade, sendo dotado de vegetação e espaços livres de impermeabilização. § 2o O projeto técnico que deverá ser objeto de aprovação pela autoridade ambiental competente, poderá incluir a implantação de equipamentos públicos, tais como: a) trilhas ecoturísticas; b) ciclovias; c) pequenos parques de lazer, excluídos parques temáticos ou similares; d) acesso e travessia aos corpos de água; e) mirantes; f) equipamentos de segurança, lazer, cultura e esporte; g) bancos, sanitários, chuveiros e bebedouros públicos; e h) rampas de lançamento de barcos e pequenos ancoradouros. § 3o O disposto no caput deste artigo não se aplica às áreas com vegetação nativa primária, ou secundária em estagio médio e avançado de regeneração. § 4o É garantido o acesso livre e*

gratuito da população à área verde de domínio público.(RESOLUÇÃO CONAMA nº 369, de 28 de março de 2006 Publicada no DOU no 61, de 29 de março de 2006, Seção 1, páginas 150 – 151)

Parque urbano é uma área verde com função ecológica, estética e de lazer, no entanto, com uma extensão maior que as praças e jardins públicos. Diferente das Unidades de Conservação existem parques cuja finalidade principal é oferecer opções de lazer à população. Esses parques são classificados como Parques Urbanos.

Jeoung(2007); Pine e Gilmore (1999); Prentice (2001) e Morgan (2006), afirmam que quando se investiga a experiência do visitante, a descoberta em relação as características a tornam particular. Ou seja, diz respeito sobretudo as atividades de consumo que ocorrem quase em simultâneo e pressupõe a presença da pessoa, e regra geral, a sua participação.

Conforme Miranda (2011), essas áreas são classificadas em quatro diferentes categorias conforme a sua acessibilidade:

- Urbanas Públicas: nesta categoria estão inclusos os parques urbanos, as praças, complexos recreativos e esportivos, jardim botânico e zoológico, cemitério, etc.
- Urbanas privadas e semi-públicas: nesta categoria estão inseridos os jardins residenciais, hortos urbanos e verdes semi-público.
- Sub Urbanas: nesta categoria pode citar os cinturões verdes e canteiros viários.

RESPONSAVEIS PELO ´´CONCEBIDO``

O Conselho Nacional do Meio Ambiente - CONAMA é o órgão consultivo e deliberativo do Sistema Nacional do Meio Ambiente-SISNAMA, foi instituído pela Lei 6.938/81, que dispõe sobre a Política Nacional do Meio Ambiente, regulamentada pelo Decreto 99.274/90.

O CONAMA é composto por Plenário, CIPAM, Grupos Assessores, Câmaras Técnicas e Grupos de Trabalho. O Conselho é presidido pelo Ministro do Meio Ambiente e sua Secretaria Executiva é exercida pelo Secretário-Executivo do MMA (Caporusso; Matias; & Lindon, 2008).

O Conselho é um colegiado representativo de cinco setores, a saber: órgãos federais, estaduais e municipais, setor empresarial e sociedade civil. Conforme o Regimento Interno CONAMA Portaria MMA Nº 452/2011 - "Regimento Interno do CONAMA" - Data da legislação: 17/11/2011 - Publicação DOU, de 17/11/2011 Compõem o Plenário:

Ministro de Estado do Meio Ambiente, que o presidirá;

- Secretário-Executivo do Ministério do Meio Ambiente, que será o seu Secretário-Executivo;
- um representante do IBAMA;
- um representante da Agência Nacional de Águas-ANA;
- um representante de cada um dos Ministérios, das Secretarias da Presidência da República e dos Comandos Militares do Ministério da Defesa, indicados pelos respectivos titulares;
- um representante de cada um dos Governos Estaduais e do Distrito Federal, indicados pelos respectivos governadores;
- oito representantes dos Governos Municipais que possuam órgão ambiental estruturado e Conselho de Meio Ambiente com caráter deliberativo, sendo:
- um representante de cada região geográfica do País;
- um representante da Associação Nacional de Municípios e Meio Ambiente-ANAMMA;
- dois representantes de entidades municipalistas de âmbito nacional;
- vinte e dois representantes de entidades de trabalhadores e da sociedade civil, sendo:
- dois representantes de entidades ambientalistas de cada uma das Regiões Geográficas do País;
- um representante de entidade ambientalista de âmbito nacional;
- três representantes de associações legalmente constituídas para a defesa dos recursos naturais e do combate à poluição, de livre escolha do Presidente da República; (uma vaga não possui indicação)
- um representante de entidades profissionais, de âmbito nacional, com atuação na área ambiental e de saneamento, indicado pela Associação Brasileira de Engenharia Sanitária e Ambiental-ABES;
- um representante de trabalhadores indicado pelas centrais sindicais e confederações de trabalhadores da área urbana (Central Única dos Trabalhadores-CUT, Força Sindical, Confederação Geral dos Trabalhadores-CGT, Confederação Nacional dos Trabalhadores na Indústria-CNTI e Confederação Nacional dos Trabalhadores no Comércio-CNTC), escolhido em processo coordenado pela CNTI e CNTC;

- um representante de trabalhadores da área rural, indicado pela Confederação Nacional dos Trabalhadores na Agricultura-CONTAG;
- um representante de populações tradicionais, escolhido em processo coordenado pelo Centro Nacional de Desenvolvimento Sustentável das Populações Tradicionais-CNPT/IBAMA;
- um representante da comunidade indígena indicado pelo Conselho de Articulação dos Povos e Organizações Indígenas do Brasil-CAPOIB;
- um representante da comunidade científica, indicado pela Sociedade Brasileira para o Progresso da Ciência-SBPC;
- um representante do Conselho Nacional de Comandantes Gerais das Polícias Militares e Corpos de Bombeiros Militares-CNCG;
- um representante da Fundação Brasileira para a Conservação da Natureza-FBCN;
- oito representantes de entidades empresariais; e
- um membro honorário indicado pelo Plenário;
- integram também o Plenário do CONAMA, na condição de Conselheiros Convidados, sem direito a voto:
- um representante do Ministério Público Federal;
- um representante dos Ministérios Públicos Estaduais, indicado pelo Conselho Nacional dos Procuradores-Gerais de Justiça; e
- um representante da Comissão de Defesa do Consumidor, Meio Ambiente e Minorias da Câmara dos Deputados.

Estas pessoas são, portanto os principais agentes gestores dos espaços públicos verdes nas cidades brasileiras. Desta forma conhecer os agentes torna capaz a interferência, a participação e caracterização das politicas envolvidas nestas áreas (Polita, 2013; Almeida, 2008).

MÉTODO UTILIZADO NESTE ESTUDO

Partindo do ponto da construção da pesquisa, o concebido será investigado através do recorte de um projeto em desenvolvimento optou-se pela seleção da RESOLUÇÃO CONAMA nº 369, de 28 de março de 2006. A aplicação dos questionários e a coleta de informações foram por meio de entrevistas aos frequentadores do parque.

A pesquisa de campo foi realizada em dois momentos a primeira coleta optou-se por um dia útil durante a semana no horário da manhã do dia 20 e a tarde do dia 29 de Outubro 2015, precisamente uma terça e uma quinta feira. Durante a pré-análise dos dados os pesquisadores sentiram a necessidade de coletarem dados durante o final de semana, no Parque Municipal Américo Renné Giannetti em Belo Horizonte, Minas Gerais. Em cada oportunidade foram entrevistadas quinze (15) pessoas que frequentam o local, totalizando uma amostra de trinta (30) entrevistados. Essa intervenção teve por objetivo identificar os benefícios sociais, culturais e educacionais do parque, percebidos pelos frequentadores; bem como identificar as ações necessárias para aumentar o número de frequentadores.

Buscou-se evidenciar ainda a percepção da experiência transformadora por seus visitantes. Sabe-se que o local é propício para o lazer sem deixar de lado o meio ambiente e a importância de preservar uma área verde exuberante dentro da cidade. Visou-se a identificar se os entrevistados percebem a necessidade de haver mais de segurança no local ou dos frequentadores mudarem o comportamento em prol da conservação do espaço.

Delineando a pesquisa utilizou-se da RESOLUÇÃO CONAMA nº 369, de 28 de Março de 2006 (Publicada no DOU no 61, de 29 de Março de 2006, Seção 1, páginas 150 – 151) Corroborando para o desenho do questionário de pesquisa. Com os resultados da pesquisa bibliográfica apresentada, este estudo coletou informações por meio de aplicação de questionários aos usuários do parque. As visitas foram realizadas no turno matutino, horário em que o parque está mais movimentado. Foi realizada uma intervenção no final de semana e outra durante a semana, sendo que em cada visita foram aplicados quinze (15) questionários. Considerou-se que, para o quantitativo total de frequentadores do parque, uma amostra de trinta (30) frequentadores para o horário da intervenção seria satisfatório para os objetivos desta pesquisa.

RESULTADOS E IMPLICAÇÕES PERCEBIDAS

Os resultados parciais de analise apontam que o local é propício para o lazer sem deixar de lado o meio ambiente e a importância sua área verde exuberante dentro da cidade. A Pesquisa aponta sugestões identificadas pelos entrevistados que percebem a necessidade de haver pouco mais de segurança no local ou da necessidade dos próprios frequentadores mudarem o comportamento em prol da conservação do espaço. Os resultados evidenciam a que há uma percepção maior acerca do bem-estar, do sentimento de prazer, experiências de lazer únicas.

Os entrevistados reconhecem que o parque representa uma área verde de domínio público e que suas funções de despertar as funções paisagística e recreativa, propicia melhoria da qualidade estética, funcional e ambiental da cidade, sendo dotado de vegetação e espaços livres de impermeabilização utilizáveis e uteis.

Os dados apontam ainda que conforme a legislação o Paruqe Público possui os seguintes equipamentos públicos ofertados gratuitamente:

a) trilhas ecoturísticas;
b) ciclovias;
c) pequenos parques de lazer, excluídos parques temáticos ou similares;
d) acesso e travessia aos corpos de água;
e) mirantes;
f) equipamentos de segurança, lazer, cultura e esporte;
g) bancos, sanitários, chuveiros e bebedouros públicos; e
h) rampas de lançamento de barcos e pequenos ancoradouros.

Outro dado que confirma a legislação sendo cumprida e ressaltada pelo que disposto no caput deste artigo garantido o acesso livre e gratuito da população à esta área verde de domínio público exceto as segunda s feiras dia de organização e limpeza do parque.

No que se refere à utilização dos parques em diferentes dias e sua frequência, para atividades sociais e ou recreativas, o presente estudo mostrou que a maioria frequentava há 12 meses ou mais, e por dois ou mais dias por semana. Esses dados confirmam que a maioria dos praticantes que frequenta esses espaços tem condições financeiras e consciência da importância da atividades ligadas ao bem estar. No que diz respeito aos motivos relatados pelos visitantes para frequentar o parque estão relacionados contemplação estética (7) , manutenção da saúde, aptidão física, abstração da realidade da rua, harmonia (15) como os principais fatores motivadores para a prática.

Pode-se observar que o aspecto de contemplação estético esteve entre os principais motivos de todas as pesquisas. No presente estudo, a estética pode ser interpretada nas duas categorias.

Isso sugere que, independentemente da relação do visitante com o parque, sendo este morador do interior ou da própria cidade, da formação ou idade, a percepção dos benefícios do parque a cidade e do parque para com os visitantes é latente.

Os estudo propõe a ótica da Transformative Servise Research, em um primeiro momento a mudança de comportamento relacionadas a atividade física sobressaem as de atividades sociais ou culturais, observou que 80% dos indivíduos acreditavam que os principais serviços gerados pelo parque são ligados ao esporte atividade física.

CONSIDERAÇÕES FINAIS

É evidente por este artigo que as funções função ecológica, paisagística e recreativa, propiciando a melhoria da qualidade estética, funcional e ambiental, mencionada no Concebido da normativa não é completamente percebido ou vivido pelos visitantes.

As atividades propostas como a)trilhas ecoturísticas; b) ciclovias; c) pequenos parques de lazer, excluídos parques temáticos ou similares; d) acesso e travessia aos corpos de água; e) mirantes; f) equipamentos de segurança, lazer, cultura e esporte; g) bancos, sanitários, chuveiros e bebedouros públicos; e h) rampas de lançamento de barcos e pequenos ancoradouros. Mais uma vez são parcialmente percebidos pelos vistantes.

O disposto no caput da resolução não se aplica às áreas com vegetação nativa primária, ou secundária em estágio médio e avançado de regeneração.

Quanto o acesso que pelo Concebido seria garantido o acesso livre e gratuito, é alinhadamente percebido e vivenciado pelos visitantes, ressaltando essa como uma das principais características do parque urbano central, sua gratuidade e acessibilidade.

Lefebvre (1966) indica o acesso fenomenológico às três dimensões da produção do espaço com os conceitos de percebido (perçu), de concebido (conçu) e de vivido (vécu). Essa tríade é, ao mesmo tempo, individual e social; não é somente constitutiva da auto-produção do homem, mas da auto-produção da sociedade. Todos os três conceitos denotam processos ativos individuais e sociais ao mesmo tempo.

É na espacialidade que o percebido, o concebido e o vivido se reencontram e deixam transparecer sua total imbricação. Dessa maneira, Lefebvre (1994) quando de sua afirmação quanto a (re)produção do espaço, pois os fenômenos sócio espaciais são simultaneamente produtos e produtores. A cidade deveria ser percebida como uma relação nesta tríade à qual ao refletir sobre a noção de espaço como percebido, concebido e vivido.

Ao final dessa pesquisa, uma leitura martela a cabeça deste pesquisador e que neste momento sugere como um ponto de partida para novas pesquisas: Por isso, é possível compreendermos porque Seabra (1995) acredita que compreender a problemática do espaço implica compreendê-lo criticamente. Isto implica em relacionar o vivido, o percebido e o concebido, onde a critica ao espaço deveria modificar o próprio espaço de representação dos habitantes, poderia fazer parte integrante da prática social. Mas como não existe tal crítica, o usuário do espaço, o habitante ou morador tende a fazer abstração de sua própria prática com e no espaço. Vive e convive com o fetiche do espaço.

Alguns aspectos importantes da presente pesquisa deve ser observados, por tratar-se de um estudo ainda exploratório e parte de um projeto em desenvolvimento, a cuidadosa utilização de instrumentos de pesquisa validados reforçam a fidedignidade dos dados. Por outro lado, limitações devem ser apontadas, especialmente no que diz respeito ao se pensar em ´´benefícios´´ a própria definição deste construto merece ser investigado com mais profundidade para que não se entenda o peso como uma métrica autor referida.

AGRADECIMENTOS

Os autores agradecem o apoio da FAPEMIG e do CEFETMG na viabilização do parecer de reconhecimento do evento e apoio financeiro, respectivamente. Sem os quais não seria possível a apresentação deste artigo.

REFERÊNCIAS

___. Instituto Brasília Ambiental. Projeto MAPEAR: os parques do Distrito Federal. Brasília: IBRAM, 2012. Disponível em: <http://www.ibram.df.gov.br/dfs/projeto_mapear/mapear.pdf>. Acesso em: 15 Jan 2016.

Almeida, Junior. Antônio Ribeiro de. Gestor ambiental: profissional ou intelectual?. OLAM Ciência &Tecnologia, Rio Claro, SP, ano 7, v. 7, n. 3,p. 45, dez. 2007.

Anderson, L., Ostrom, A. L., Corus, C., Fisk, R. P., Gallan, A. S., Giraldo, M., ... & Williams, J. D. (2013). Transformative service research: an agenda for the future. Journal of Business Research, 66(8), 1203-1210.

Anderson, Laurel, Amy L. Ostrom, and Mary Jo Bitner (2011), “Surrounded by Services: A New Lens for Examining the Influence of Services as Social Structures on Wellbeing,” working paper, W. P. Carey School of Business, Arizona State University.

Caporusso, Danúbia; Matias, Lindon (2008). Áreas verdes urbanas: avaliação e proposta conceitual. In: SIMPÓSIO DE PÓS-GRADUAÇÃO EM GEOGRAFIA DO ESTADO DE SÃO PAULO, 1., 2008, Rio Claro, São Paulo. Anais... Rio Claro, SP: SIMPGEO, 2008. Disponível em: <http://www.rc.unesp.br/igce/simpgeo/71-87 danubia.pdf>. Acesso em: 15 fev 2015.

CARLOS, Ana Fani Alessandri. “Novas” contradições do espaço. In DAMIANI, Amélia Luisa, CARLOS, Ana Fani Alessandri, SEABRA, Odette Carvalho de Lima. O espaço no fim de século: a nova raridade. São Paulo: Contexto, 1999, p. 62-74.

DISTRITO FEDERAL. Decreto n. 24.036, de 10 de setembro de 2003. Cria o Parque de Uso Múltiplo da Asa Sul na Região Administrativa de Brasília – RA I. Disponível em: <http://www.jusbrasil.com.br /diarios/6859969/dodf-secao-01-11-09-2003-pg-3>. Acesso em: 16 jan 2016.

Gonçalves, Maria Alexandra Patrocínio Rodrigues A CULTURA MATERIAL, A MUSEALIZAÇÃO E O TURISMO Tese apresentada à Universidade de Évora para obtenção do Grau de Doutor em Turismo ÉVORA, JUNHO 2012

Jeoung, M., Fiore, A. e OH, H. (2007) “Measuring experience economy concepts: Tourism Applications”, Journal of Travel Research, vol. 46, pp.119-132. business a stage. Boston

LEFEBVRE, Henri. The production of space. Oxford, UK: Blackwell, 1994. 454p.

Miranda, Daiane Vanessa de. (2011)Breve histórico das áreas verdes urbanas e sua funcionalidade ambiental e social na cidade de Belo Horizonte: estudo de caso do Parque Municipal Fazenda Lagoa do Nado. www.ibeas.org.br/congresso/Trabalhos2013/VI-059.pdf recuperado em 10/02/2016.

Morgan, M. (2006) “Making space for experiences”. Journal of Retail & Leisure Property,

Pine, J. e Gilmore, J.H. (1999) The experience economy: Works is a theatre and every. Vol.5, (4), pp.305-313.

Polita, Fabíola Sostmeyer. A importância das áreas verdes urbanas. 2013-. Disponível em:<http://www.escolaqualifica.com.br/aimportanciadasareas.php>. Acesso em: 10 Janr. 2015.

Prentice, R. (2006) "Conceptualising Cultural Tourism", Conference on Developing Cultural Tourism, Universidade de Nottingham, 16 de Dezembro de 2003, doc. policopiado, 66 p.TOLEDO, E. S.; SANTOS, D. G. Espaços livres de construção. Revista da Sociedade Brasileira de Arborização Urbana, Piracicaba-SP, v. 3, n. 1, p. 73-91, mar. 2008.

Rosenbaum, M. S., Corus, C., Ostrom, A. L., Anderson, L., Fisk, R. P., Gallan, A. S.,& Williams, J. D. (2011). Conceptualization and aspirations of transformative service research. Journal of Research for Consumers, 19, 1-6.

Toledo & Santos. Espaços livres de construção. Revista da Sociedade Brasileira de Arborização Urbana, Piracicaba-SP, v. 3, n. 1, p. 73-91, mar. 2008.

AGLOMERADOS SUBNORMAIS EM TERESINA, PIAUÍ: REFLEXÕES SOBRE POLÍTICAS PÚBLICAS MUNICIPAIS

Session L1.3 | May 31 | 14:00 – 15:30

Geovana Alves Rocha Vieira (1); Wilza Gomes Reis Lopes (2)
(1) Arquiteta, doutoranda do Programa de Pós-Graduação em Desenvolvimento e Meio Ambiente da Universidade Federal do Piauí, UFPI, BRASIL
(2) Arquiteta, Doutora, Professora Associada do Departamento de Construção Civil e Arquitetura e do Mestrado e Doutorado em Desenvolvimento e Meio Ambiente, da Universidade Federal do Piauí, UFPI, BRASIL
geovanarocha@ufpi.edu.br; izalopes@uol.com.br

RESUMO: A falta de moradia afeta milhares de brasileiros, sendo um problema presente em várias cidades do país. Diversas políticas públicas vêm sendo formuladas com o intuito de atender à crescente demanda por moradia e promover o crescimento ordenado das cidades. Este trabalho apresenta a quantificação e distribuição de aglomerados subnormais e reflexões sobre as políticas públicas voltadas para a regularização fundiária, existentes no município de Teresina, Piauí. Para isso, foi realizado levantamento desses tipos de moradia existentes na cidade, e das políticas públicas que abrangem a habitação e o urbanismo, a partir de coleta de dados em órgãos ligados à Prefeitura Municipal. Somente é possível seguir a direção do desenvolvimento sustentável a partir de um ambiente com identidade para todos e bem-estar social, por meio do planejamento urbano e ações governamentais em conjunto com a participação popular.

PALAVRAS-CHAVE: planejamento urbano; políticas públicas; desenvolvimento sustentável.

INTRODUÇÃO

Com a descentralização da gestão urbana que ocorreu a partir da constituição federal de 1988, os municípios têm mais recursos e autonomia para gerir seu território. Porém, sem uma política urbana definida em âmbito nacional, a extinção do BNH e a crise de habitação no país e a vulnerabilidade financeira dos municípios, fez com que a gestão das prefeituras não tivesse suporte para atender as demandas sociais, porém, há uma busca por gestões inovadoras onde buscavam-se o atendimento as necessidades locais (Lima, 2013).

A produção do espaço urbano no país é marcada pela fragmentação do território pois a terra na cidade é vista como mercadoria induzindo ao afastamento da população pobre do centro para a periferia. No município de Teresina, este quadro não seria diferente, a capital é marcada pela atuação do Estado como agente produtor do território urbano bem como a ação de promotores imobiliários em busca de lucros.

Assim, Santos (1994) afirma que o território é um espaço habitado, espaço humano onde nele há objetos e ações, porém há normas, disciplinas que o regem e que são impostos pelo mercado mundial e os governos. Nestes locais há atores e agentes sociais com interesses diversos e por vezes contrárias. É pertinente que o poder político por meio de políticas públicas intervenha na atuação do poder privado sobre a ocupação da cidade para não permitir que o modelo atual seja reflexo do aumento das desigualdades sociais (Penna, 2002).

Foram estudados temas de planejamento urbano da cidade de Teresina a partir de autores como Lima (2013), Rodrigues e Veloso Filho (2016) e Façanha (2012), que discorrem sobre o processo de evolução urbana da cidade e fazem analises críticas sobre o processo. Foi realizado o levantamento do Plano Diretor de Teresina, Plano de Desenvolvimento Sustentável – Teresina Agenda 2015, elaborado em 2002 e reinstituído em 2006. Este trabalho analisou especialmente o último plano diretor do município. Para fazer análise da questão fundiária e habitacional da cidade a partir dos anos 1990, metodologia utilizada por Rodrigues e Veloso Filho (2016), que analisaram os planos diretores de Teresina por década. A Agenda 2015 ficou como referência para o planejamento urbano do município na década de 1990.

A intenção de fazer estudos sobres estes assentamentos é maior informações para subsidiar a elaboração de políticas públicas que proporcionem uma vida melhor para os residentes em assentamentos precários.

Diante deste quadro, este artigo visa fazer um panorama da produção habitacional na cidade de Teresina no Piaui. Relatando a evolução da cidade, a inserção das políticas habitacionais e a relação com a proliferação dos aglomerados subnormais na cidade.

BREVE HISTORICO SOBRE A CAPITAL DO PIAUÍ

A ocupação do Piauí se deu através da concessão de sesmarias (terras rurais). O proprietário chamava-se Garcia d'Ávila no qual tinha o domínio da sesmaria que seguia da Bahia até o Piauí, em torno do rio Francisco até o rio Parnaíba sendo caminho para o rebanho do gado. A partir de 1670 aconteceram desbravações pelos sertões piauienses. Ao longo das margens dos rios foram se estabelecendo vilas. Um dos primeiros povoados a se estabelecerem no Piauí foi a fazenda de Gado Cabroro localizada as margens do Riacho da Mocha, denominada de Vila da Mocha. Em 1758 foi criada a Capitania de São José do Piauí, e a Vila da Mocha elevada a posição de primeira capital piauiense, passando a ser chamada de Oeiras. No ano de 1759, o coronel de Cavalaria João Pereira Caldas foi nomeado o primeiro governador do Piauí pelo rei Dom José I (Melo e Bruna, 2009).

Devido a sua localização, no sertão do Piauí, estudava-se a possibilidade de transferência da capital, Oeiras, para uma região com a posição geográfica que facilitasse o escoamento da produção agrícola. A rota econômica piauiense ocorria basicamente pelos povoados que margeavam o Rio Parnaíba, principalmente pela Vila Velha do Poti, que estava localizada nas confluências dos rios Poti e Parnaíba, onde havia o porto. O rio tinha importante destaque por ser o meio de comunicação estratégico com outras localidades servindo de rota econômica para trocas de mercadorias, controle do território, subsistência da população, lazer e composição da paisagem urbana. Assim, a localização da até então capital do Piauí não era considerada a ideal. Por isso, em 21 de julho de 1852, tendo Conselheiro José Antônio Saraiva como Presidência da província, a Vila Nova do Poti foi elevada a categoria de capital piauiense intitulada de Teresina (Melo e Bruna, 2009).

Teresina teve seu traçado inicial planejado com ruas paralelas e ortogonais entre si. A capital tinha como marco zero a Igreja Nossa Senhora do Amparo, de onde iniciou o traçado da cidade, estabelecendo-se as ruas, praças, cemitérios e equipamentos urbanos, totalizando 43km² de área (Abreu e Lima, 2000).

A cidade de Teresina tem como limite oeste o estado do Maranhão, o município de Timon que é separado do Piauí pelo rio Parnaíba. Como pode ser visto no mapa exposto na Figura 1, o traçado segue no sentindo leste-oeste e norte-sul, com ruas paralelas e ortogonais entre sim, compondo um traçado urbano reto e simétrico entre os rios Parnaíba e Poti.

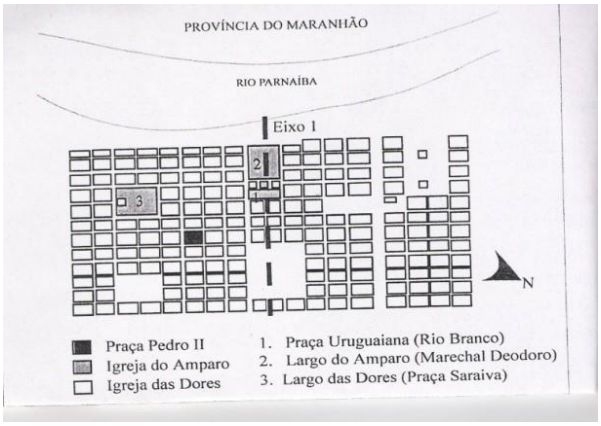


Figura 1: Teresina initial trace
Fonte: http://semplan.teresina.pi.gov.br/historia-de-teresina/

O crescimento populacional ocorre na cidade deste quando foi intitulada capital, porém é acentuado a partir de 1950 quando em todo o Brasil há o processo de correntes migratórias e urbanização. No período de 1950 a 1980 a capital piauiense obteve aumento populacional de 5% ao ano (Melo e Bruna, 2009). As rodovias facilitaram este fluxo bem como os fenômenos climáticos no Piauí que foram fatos agravantes para a as migrações campo-cidade (Lima, 1996).

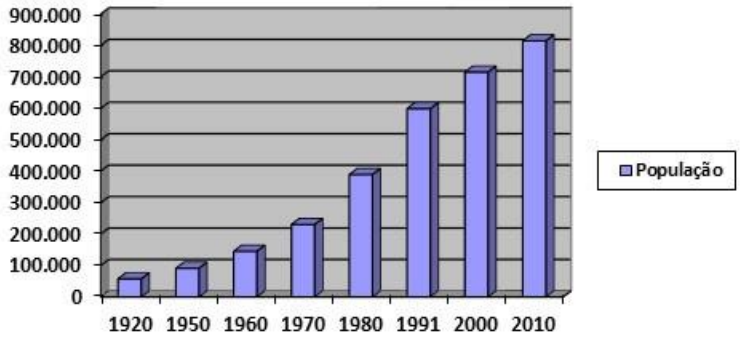


Gráfico 1: Histogram of the number of inhabitants per decade in Teresina
Fonte: Prepared by the author from data 2010 Brazilian Institute of Geography and Statistics [IBGE]

Teresina contava em 1920 com uma população de 57.500 habitantes. Nos anos de 1950 e 1960 passa a ser 90.723 e 144.799, respectivamente. Como pode ser visualizado no Gráfico 1 há um crescimento significativo, porém não tão elevado quanto nas décadas seguintes. Vale informar que nos 1970 a população urbana do país ultrapassa a rural. Nota-se o elevado aumento da população na década de 1970 que era de 230.168 habitantes e passa a ser 388.922 nos anos 1980, crescimento de mais de 68% da população, totalizando aumento acima de 158 mil pessoas que passavam a compor a paisagem da cidade. Já no ano de 1991 e 2000 a população teresinense era de 598.411 e 714.583, respectivamente. O Censo de 2010 consta que há no município uma população residente de 814.230 mil habitantes, e população de 2015 estimada em 844.245 habitantes.

As transformações no espaço urbano da capital ocorreram a partir da década de 1950 como reflexo das modificações que ocorriam no cenário brasileiro com as metas de crescimento propostas pelo presidente Juscelino Kubitschek de “cinquenta anos em cinco”. No qual ele propunha que em 5 anos de trabalho alcançassem 50 anos de progresso.

A GESTÃO DE TERESINA E O ESPAÇO URBANO DO MUNICIPIO

O espaço urbano é produto de agentes que o modelam. Segundo Rodrigues e Veloso Filho (2016) os agentes imobiliários, o Estado, os proprietários do meio de produção, proprietários fundiários e o grupo marginalizado são considerados produtores do espaço urbano. Este trabalho considerará os agentes produtores do espaço urbano os mesmos citados por Rodrigues e Veloso Filho (2016).

O primeiro plano diretor da cidade foi elaborado em 1969, Plano Local de Desenvolvimento Integrado – PDLI, ligado ao Serviço Federal de Habitação e Urbanismo –SERFHAU, primeiro órgão federal voltado ao planejamento urbano, criado em agosto de 1964. O PDLI garantia a integração dos aspectos físicos-territoriais com o econômico, social e

institucional, além disso, compatibilizava os anseios do município com o planejamento nacional e estadual. Em seguida, no ao de 1977 foi instituído o I Plano Estrutural de Teresina, o I PET, considerado uma atualização do plano diretor vigente (Rodrigues e Veloso Filho, 2016).

Os anos 1960 com o PDLI foram marcados pela necessidade física de expansão da cidade que foi intensificada pela implantação dos loteamentos e conjuntos habitacionais populares. A cidade vai além do centro urbano e se expande em diversos sentidos. Nesta década a cidade conta com 22 bairros distribuídos nas regionais sul, centro e norte (Rodrigues e Veloso Filho, 2016).

O I PET, destaca as áreas de interesse da cidade, como áreas comerciais, Centro Comercial e Centro comercial da Piçarreira, e setores de saúde como o hospital Getúlio Vargas, e industrial. Neste plano há analise dos grupos sociais de excluídos, de que são consumidores e produtores do espaço urbano. O déficit habitacional é visto também deste plano que servirá de influência para os posteriores.

Já o terceiro plano diretor da cidade foi instituído em 1983, Plano Diretor de Desenvolvimento Urbano de Teresina, PDDU, que deveria estar dividido em quatro relatórios (R1 - Alternativas de Desenvolvimento, R2 - Formulação de Políticas e Estratégias, R3 - Consolidação das Políticas e Estratégias e R4 - Consolidação do PDDU) nos quais apenas três foram concluídos. Pela primeira vez, utilizou-se a terminologia plano diretor no documento de ordenação territorial do município (Rodrigues e Veloso Filho, 2016).

Em 1988, institui-se o quarto plano diretor do município, II Plano Estrutural de Teresina, o II PET, através Lei Municipal nº 1932, de 16 de agosto de 1988. Devido ao II PET, a cidade foi dividida em cinco regiões administrativas como estratégia para melhor gestão da cidade: Centro, Norte, Sul, Leste e Sudeste (Lima, 1996). Em 2000 com a Lei Complementar nº 2.959, de 26 de dezembro de 2000, que dispõe sobre a Organização Administrativa do Poder Executivo Municipal de Teresina, são estabelecidas as Superintendência de Desenvolvimento Rural – SDR e Superintendências de Desenvolvimento Urbano e Meio Ambiente – SDUs. Desta forma, as regiões urbanas de Teresina ficam sob administração das SDU. Vale citar que a regional Centro e Norte ficam sob a gerencia de uma única SDU, a Centro/Norte. A Figura 2 ilustra Teresina dividida por regionais.

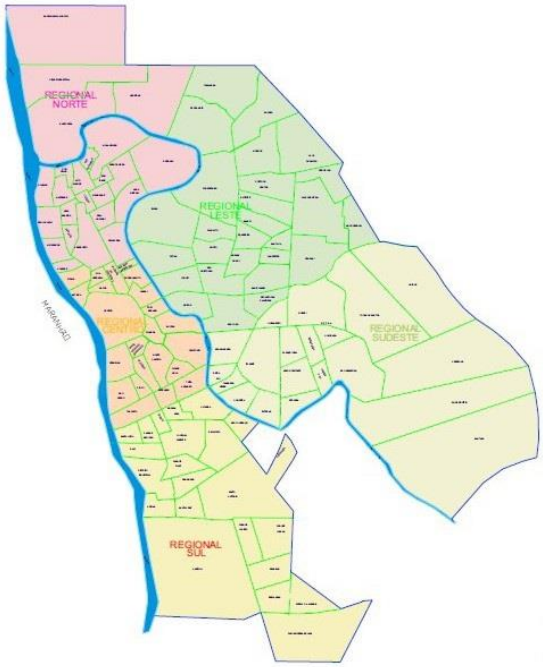


Figura 2: Teresina divided by regional
Fonte: http://www.teresina.pi.gov.br/portalpmt/orgao/SEMPLAN/doc/20080924-161-604-D.pdf

O II PET segundo Rodrigues e Veloso Filho (2016) não é um plano tão completo como os anteriores pois faz um diagnóstico pouco minucioso, confundindo-se com projeto de lei. No II PET há delimitação dos polos de serviços e um destaque para os polos institucionais, desta forma demonstrando como o Estado com suas empresas também é agente da construção do espaço urbano.

A expansão da cidade dos serviços de infraestrutura urbana com a pavimentação de ruas e a implantação de serviços de agua e luz, nos anos 1950 e 1960 acontece especialmente na zona sul devido a localização favorável

economicamente e também as condições topográficas, apesar do primeiro núcleo urbano da cidade ter sido a Vila do Poti na zona Norte (Agenda 2015, 2002). Foram instaladas as avenidas Miguel Rosa e Barão de Gurguéia como vetores que facilitam o tráfego no sentido centro-sul da capital. A zona Leste passa a ser desenvolver a partir da década de 1960 somente após instalação de ponte sobre o Rio Poti, ponte dos Noivos instalada em 1957 no qual permitia a conexão entre o centro e a zona leste da capital (Melo e Bruna, 2009).

Na década de 1990 constatou-se a descentralização das áreas comercias que anteriormente eram centralizadas na área central do município, especialmente para os bairros mais populosos. A atuação dos shoppings centers fez com que pequenos comércios da zona leste perdessem força comercial. Verificou-se que foi intensificada atividades comerciais nos grandes bairros da cidade como Itararé, Parque Piauí e São Cristóvão.

O último plano diretor da cidade foi criado em 2001, reinstituído em 2006, Plano Diretor de Desenvolvimento Sustentável - Agenda 2015, através da Lei nº 3.558/2006, seguindo as normativas do Estatuto da Cidade de 2001 (Rodrigues e Veloso Filho, 2016). Lei de número 10.257/2001, o Estatuto da Cidade regulamenta os artigos 182 e 183 da Constituição Federal que se refere à política urbana no país. Dentre os seus propósitos, há a busca pela utilização dos vazios urbanos, bem como a implantação das Zonas Especiais de Interesse Social (ZEIS) e o aumento da provisão habitacional e a diminuição do valor da moradia. O Estatuto também visa à integração das políticas públicas urbanas, a fim de fornecer uma maior integração e fortalecimento destas, acarretando na melhoria de seu funcionamento, e, em consequência, benefício à população.

A PRODUÇÃO HABITACIONAL DE INTERESSE SOCIAL EM TERESINA

Em Teresina a atuação das políticas públicas habitacionais acontece a partir de 1965 com a inserção pelo Governo Federal da Companhia de Habitação do Piauí – COHAB-PI – que funciona como agente local de atuação do Banco Nacional de Habitação – BNH. (Façanha, 1998). Pela COHAB-PI, 1966 a 1990, foram produzidas no município 34.594 unidades habitacionais (uhs) com a maioria dos recursos advindos do BNH (Agenda 2015, 2002).

O conjunto Parque Piaui, zona Sul, de 1968, foi o primeiro conjunto de grande porte produzido pela COHAB-PI. Esta produção contou com 2.294 unidades habitacionsi todas com a mesma tipologia de casa térra. O conjunto foi impantado na aréa periferica da cidade, sendo necessaria a instalação de servidos urbanos e infraestrutura para atender as demanas do local. Esta ação além dedevastar areas com cobertura vegetl, exigem maior investimento devido a necessidade de urbanização da área. Este empreendimento reflete o estilo de produção habitacional municipal marcada no periodo (Agenda 2015, 2002).

A produção habitacional no municipio nos anos 1960 e 1970 foi de 3.012 e 7.043 uhs respectivamente. Já a decada de 1980 contou com a maior produção pela COHAB-PI financiada pelo BNH, com 22.193 unidades em contrapartida, a menor produção, 1.688 uhs, deu-se na década seguinte. Em todos as decadas expostas a zona sul contou com o maor número de unidades habotacionais edificadas. Isto se explica por aquela região ser considerada local de expansão de Teresina.

Na decada de 1970 devido ao “milagre econimico” foram produzidas diversas moradias populares financiadas pelo BNH, beneficiando em torno de 150 mil pessoas. Eram conjuntos geralmente implatados em terrenos distantes das areas centrais, em regiões desprovidas de infraestrutura e serviços urbanos. A tipologia era de casas terreas unifamiliares sendo a mais aceita por este publico, pois ela perrmite que possam ser feitas alterações na planta de acordo com os desejos e o orcamento da familia (Melo e Bruna, 2009).

Vêem-se nos graficos abaixo, Gráficos 2 e 3, a produção habitacional de Teresina por década bem como distribuidos nas zonas da cidade.

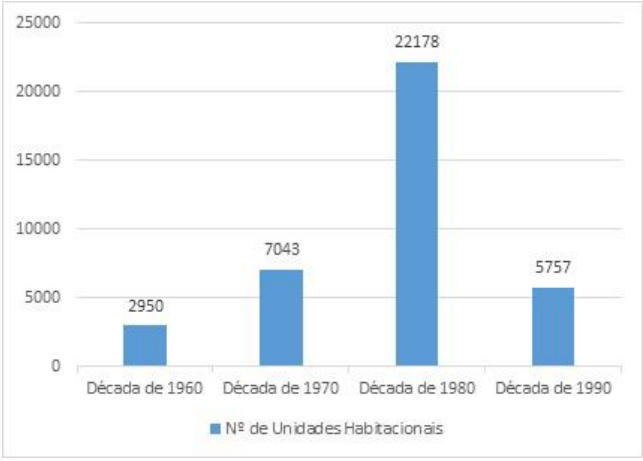


Gráfico 2: Production COHAB-PI per decade in Teresina
Fonte: Façanha (2003); Agenda 2015 (2002); adjustments made by the authors (2016)

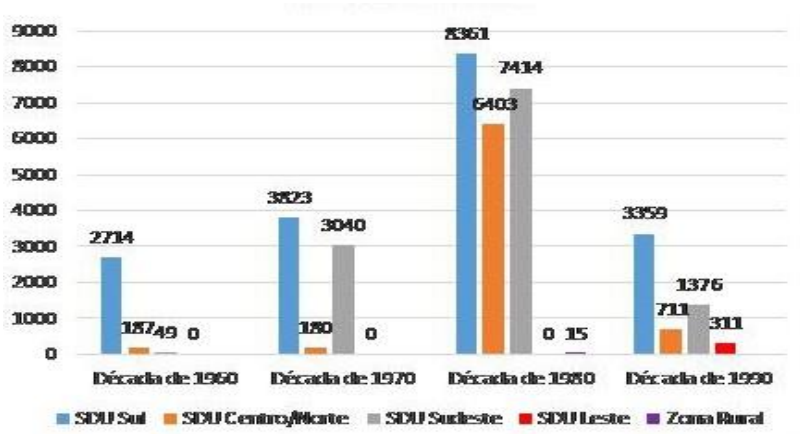


Gráfico 3: Production COHAB-PI in areas of the city of Teresina, per decade
Fonte: Façanha (2003); Agenda 2015 (2002); adjustments made by the authors (2016)

Nos anos 70 e 80 a produção habitacional popular em Teresina triplicou. Em detrimento desta produção, a expansão da cidade aconteceu por diversas regiões. Porém, a implantção de conjuntos habitacionais nas periferias exigiu dos poderes publicos a instalação de condições físicas adequadas para que a população conseguisse residir nestes empreendimentos, porém mesmo havendo o fornecimento de infraaestrutura e serviços urbanos (Melo e Bruna, 2009).

A zona sul foi a que teve maior produção habitacional em todas as décadas expostas especialmente na década de 1980, com mais de 18 mil unidades habitacionais implantadas. A zona sudeste como pode ser visto, foi outra zona que se destacou quanto a implantação de conjuntos habitacionais na cidade, chegando a quase 12 mil uhs. Já a zona leste passa a compor o cenário de implantação destes conjuntos apenas a partir de 1990. Esta zona não teve destaque quantitativamente em relação a produção de habitaççção popular, porém é alvo de investidores imobiliarios e considerada a zona de maior poder aquisitivo da cidade.

A produção do BNH foi marcada por grandes conjuntos habitacionais afastados da cidade. Nas décadas de 1960 e 1970 tiveram conjuntos com mais de duas mil uhs, já na década de 1980 com a intensidade de produção, chegou a mais de quatro mil, como foi o caso do Conjunto Promorar, na zona sul, com 4.696 unidades habitacionais e o Conjunto Dirceu Arcoverde II, na zona Sudeste com 4.254 uhs.

Figura 3: Urban evolution of Teresina 1960-2000
Fonte: RODRIGUES; VELOSO (2016) apud RODRIGUES (2013)

Observa-se na Figura 3 exposta, a expansão da cidade nos anos 1960 nos sentidos sul e leste tendo influência direta da ação do Estado através da implantação de unidades habitacionais e a construção de ponte de ligação sobre o Rio Poti. Na década de 1970 continua intensa a expansão para a zona sul, porém intensifica-se o da zona norte. Na década de 1980 dar-se uma atenção espacial para a zona leste e mais intensamente para a zona sudeste. Na década de 1990 percebe-se que há expansão em todos os sentidos da cidade. Como foi visto no Gráfico 2, a produção habitacional nesta década diminuiu consideravelmente comparada a década anterior.

A partir dos anos 1990 a produção da COHAB-PI não é mais financiada pelo BNH, passando a ser pelo IAPEP, pela própria Cohab, por órgão do governo federal Habitar Brasil e também por autofinanciamento. Deste período até 2001 em Teresina foram produzidas 4.086 unidades habitacionais. A extinção do BNH, e a crise financeira do período afetaram a produção habitacional, daí, buscam-se alternativas de produção pela população para sanar a questão habitacional, inicia-se a proliferação de favelas na cidade de Teresina (Rodrigues e Veloso Filho, 2016).

A AGENDA 2015 E OS AGLOMERADOS SUBNORMAIS

Segundo a Agenda 2015, o espaço urbano de Teresina é caracterizado pela baixa densidade habitacional e as grandes extensões, reflexo da presença de vazios urbanos nas áreas centrais marcados pela especulação imobiliária.

O Instituto Brasileiro de Geografia e Estatística – IBGE - classifica como aglomerados subnormais os assentamentos irregulares existentes no país como palafitas, mocambos, favelas, invasões, grotas, baixadas, comunidades e demais. Desta forma, as favelas seriam “Aglomerados de domicílios autoconstruídos, dispostos de forma desordenada, densos e carentes de serviços públicos essenciais, ocupando terreno de propriedade alheia. ” (Política Nacional de Habitação, 2014, p.8). O Censo do IBGE constatou que no Brasil há 15.868 aglomerados subnormais, mais de 11 milhões de pessoas no país vivem neste tipo de ocupação e mais de 3 milhões de famílias vivendo em favelas (Sinopse do Censo Demográfico 2010, 2010).

A palavra favela é atribuída a diversas plantas brasileiras, dentre elas a espécie da família Euphorbiaceae. Porém, esta denominação é associada também a outra origem, a partir da guerra de Canudos, 1986-1897. Uma encosta na vila de Belo Monte, na Bahia, intitulada de Alto da favela, foi palco do combate no final do século XIX. Encerrados os confrontos, os soldados sobreviventes do Rio de Janeiro, então capital do país, que regressaram a suas terras, instalaram no morro da Providencia uma cruz em homenagem a Antônio Conselheiro, integrante religioso líder da tropa, nomeando o local de Morro da Favela, devido a semelhança da topografia (Queiroz Filho, 2011).

O termo passa a ser a associado a agrupamentos de domicílios urbanos precários a partir da segunda do século XX. E, a partir do ano de 1937 este termo é inserido no Código de Obras do Rio de Janeiro, então capital do Brasil (Silva, 2009).

A princípio a favela é vista como um local onde não há saneamento básico, coleta de lixo, esgoto, agua luz e marcada pela homogeneização. Porém, ela se estabelece em diversos sítios geográficos como planícies, morros, margens de rios, constituindo uma diversidade de paisagens urbanas. O que se percebe é que a fundamentação do que seja favela vem de ideias estereotipadas de paisagens homogenias marcadas pela ausência de infraestrutura, serviços urbanos, cultura, lazer e relação social. O que se tem de favela hoje é diferente do que foi conceituado na década de 1940 e 1950 com o início da propagação das mesmas (Silva, 2009). Há uma heterogeneidade dentro e ao redor das favelas, para se conhecer alguma deve-se conhecer cada uma individualmente visto que cada qual há uma história, modo dia, economia, população e interesses diferente das demais (Cavalleri, 2009).

A solução para a favela se encontra dentro dela e não fora (Duarte, 2009). A favela deve ser vista não mais como locais de ausências e sim lugares com produção de identidade. A tônica da definição de favela não deve ser o que ela não possui e sim a especificidade deste tipo de assentamento para servir de embasamento para elaboração de políticas públicas voltadas para este tipo de ocupação.

O primeiro Censo de Vila e Favelas da cidade é de 1991, nele forma constatados 56 vilas e favelas. O II Censo em 1993, apontou 144, já no III do ano de 1999, existiam na capital do Piauí 150, onde residiam 133.857 habitantes, representando 20% da população urbana de Teresina. O censo também aponta que 88,61% dos domicílios de Teresina ocupam áreas consideradas normais, já 4,53% estão localizados em áreas de risco e 3,60%, ocupam leitos de ruas; e 2,81%, áreas alagadiças (Censo de Vilas e Favelas de Teresina/99, 2000).

O III Censo de Vilas e Favelas de Teresina conceitua vila como “a área de moradia (comunidade) surgida a partir de ocupação por famílias sem-teto sem obedecer as exigências feitas pela lei do parcelamento do solo, mas possível de ser regularizada, saneada e urbanizada” e favela é definida como “área de moradia (comunidade) surgida a partir da ocupação por famílias sem-teto geralmente localizada em áreas de risco iminente (alagamento/desmoronamento) ou em leito de vias públicas (ruas e/ou avenidas) sujeitas quase sempre a remoção” (Censo de Vilas e Favelas de Teresina/99, 2000, p.9). Nesta pesquisa, é considerado como favela as ocupações em terrenos ilegais independentemente se a ocupação é possível de ser regularizada, saneada e urbanizada. Sendo assim, o conceito utilizado de favela neste trabalho engloba as definições tanto para vila quanto favelas presente no III Censo de Vilas e Favelas de Teresina.

No ano de 1997 foi instituído através do Decreto Lei n. 3.344, o Projeto "Habitação, Infraestrutura e Erradicação de Pobreza em Vilas e Favelas de Teresina" mais conhecido por Projeto Vila-Bairro. Este projeto visava integrar a habitação, infraestrutura, erradicação da pobreza urbana e geração de emprego e renda. Dentre os quesitos está incluso ações de urbanização de favelas e a inserção de equipamentos comunitários como creches e escolas, afim de proporcionar qualidade de vida os moradores da comunidade (Lima, 2002). A partir deste ano também foi criado o Sistema Municipal de Habitação, ligado ao projeto Vila-Bairro, onde presava por uma administração integrada e participativa que tem como órgão deliberativo o Conselho Municipal de Habitação e gestores as Superintendências de Desenvolvimento Urbano e Meio Ambiente e a Superintendência de Desenvolvimento Rural, que tinha por objetivo a aquisição de moradia, a urbanização de lotes e a melhoria habitacional através dos Projetos de Banco de Terras Municipais, terras urbanizadas no perímetro urbano destinadas ao assentamento de famílias de baixa renda; Minha Casa, financiamento de moradia popular do regime de mutirão e autoconstrução; Lotes Urbanizados, facilidade de compra de lotes urbanizados para famílias; Casa Melhor, fornecimento de material de construção para famílias que residiam em habitações precárias; Casa Própria para Servidor Municipal – facilidade de financiamento e melhoria de unidade habitacional para servidor municipal; Arte Rende – construção de moradia para população e baixa renda associada a melhoria da renda através do trabalho com arte (Agenda 2015, 2002).

O Estatuto da Cidade é um documento que reúne instrumentos de ordens jurídicas, urbanísticas e tributarias para efetivar a ação do Plano Diretor. O estatuto da cidade quanto ao planejamento urbano visa o direito à terra urbana, à moradia, ao saneamento ambiental, à infraestrutura urbana, ao transporte, serviço, trabalho e lazer para as presentes e futuras gerações (Lei nº 10.257, 2001). O município de Teresina visando atender as exigências presentes no Estatuto da Cidade estabelece seu Plano Estratégico no ano de 2002 Estabeleceu o Plano de Desenvolvimento Sustentável de Teresina, conhecido como Agenda 2015, com o intuito alcançar uma cidade sustentável (Façanha e Viana, 2012).

Para se obter cidades sustentáveis necessita-se da democratização de acesso a terra a redistribuição equitativa delas e dos bens e serviços urbanos. Porém, o que acontece é que a teoria exige novas práticas mas há uma dificuldade de introduzir atuação democrática na gestão das cidades. Ao se planejar uma cidade deve-se levar em

consideração a cidade real para se alcançar a cidade ideal. Deve-se pensar na integração dos assentamentos de baixa renda à cidade. (Façanha e Viana, 2012).

Segundo Façanha e Viana (2012) o desenvolvimento sustentável é pautado na gestão democrática e participativa. Os Planos Diretores devem ser elaborados a partir de discussões coletivas pautados na qualidade de vida.

A Agenda 2015 objetiva a elaboração da Agenda 21. Porém par a agenda 2015, a comunidade não foi convidada para a participar da elaboração, apenas convocação para que a população teresinense tivesse conhecimento do conteúdo presente nela, as discussões serviam mais para legitimar e homologar o conteúdo que já estava presente no documento (Façanha e Viana, 2012). A Agenda 2015 foi instituída como Plano Diretor para o Município através do Projeto de Lei Nº 148/2002 no qual estabelece que o Plano Diretor de Teresina se refere ao Plano de Desenvolvimento Sustentável – Teresina Agenda 2015 (Façanha e Viana, 2012).

A partir da Agenda 2015, percebeu-se que há uma carência quanto as questões sociais, ambientais e urbanísticas da cidade. Sem citar também a ausência da participação da sociedade para elaboração do plano diretor do Município.

Atualmente segundo Censo do IBGE, há 113 aglomerados subnormais no município de Teresina (Sinopse do Censo Demográfico 2010, 2010). Atualmente Teresina possui 38 setores de risco que abrigam 5.995 edificações, dados do Mapeamento de riscos e Desastres de Teresina (2014).

Gráfico 4: Number of households of subnormal agglomerates distributed by regional
Fonte: Synopsis of the Census 2010 (2010) adapted by the authors (2016)

Os aglomerados subnormais de Teresina são distribuídos pelas 4 regionais da cidade além da Zona Rural. A zona Sul possui a maioria dos aglomerados, contando com 33 deles, totalizando 11.635 unidades habitacionais. A zona leste da capital é a segunda regional de maior número de aglomerados subnormais, 32, e também de domicílios nestas áreas, 10.906. Já na SDU Centro Norte e Sudeste, há 25 e 21, totalizando 7.756 e 4.499 unidades habitacionais respectivamente. A Superintendência de Desenvolvimento Rural possui dois deste tipo de ocupação com 129 domicílios no total.

As favelas são diversas e heterogenias. É difícil elaborar políticas públicas eficazes baseadas por dados imprecisos e defasados. Deve-se fazer o levantamento da população, economia e espaço físico das favelas. A informação sobre ela é dinâmica assim como as cidades, então deve-se haver a preocupação em alimentar de informações atuais. Desta forma, o conceito de favelas homogêneas deve ser eliminado, deve haver uma nova conceituação em relação as favelas (Strozemberg, 2009)

A grande dificuldade de estudo e propor melhorias para as favelas é falta de atualização do banco de dados. Fazer diagnostico com dados obsoletos gera propostas defasadas que não atendem as demandas da população.

O maior desafio para a sustentabilidade urbana é a exclusão da diferenciação social e eliminação da segregação espacial, característica da ocupação dos centros urbanos (Morin, 2013). A falta de moradia afeta milhares de brasileiros, havendo necessidade de estudos voltados para a questão habitacional e de regularização fundiária, voltados para as implicações ambientais, sociais e econômicas.

CONSIDERAÇÕES FINAIS

O espaço urbano não é produzido de forma aleatória. É necessário identificar os agentes produtores do espaço urbano para entender a dinâmica de crescimento da cidade.

Foi identificado que a região sul da cidade no século XXI foi o sentido de expansão da cidade devido à ausência de barreiras geográficas e o estabelecimento de serviços e infraestrutura urbana. Esta zona foi marcada 3specialemnte nos anos 1970 e 1980 pela implantação de conjuntos habitacionais sociais de grande porte afastados das áreas centrais da cidade, característica predominante da produção de moradia do BNH.

O estabelecimento da zona leste da cidade deu-se apenas a partir da década de 1960 após a implantação de uma ponte sobre o Rio Poti em que fez a ligação entre o centro da cidade e aquela região. Esta área da cidade foi marcada a partir dos anos 1990 pelo estabelecimento de investimentos imobiliários, sendo até nos dias de hoje a área de maior poder aquisitivo da cidade.

É a partir dos anos 1990 também que há um declínio na produção de habitação de interesse social devido a desestabilidade das políticas habitacionais intensificada com a extinção do BNH, é neste período que se inicia a proliferação de aglomerados subnormais na cidade como as favelas.

Observa-se que o estado tem interferência direta na produção do espaço de Teresina, sendo marcada nos anos 1960, 1970 e 1980 pela produção de conjuntos habitacionais, diminuindo nos anos 1990 e dando vazão aos produtores imobiliários e a atuação da população em busca de moradia.

O governo Municipal buscou a parti da redemocratização em 1988 atuar na questão dos aglomerados subnormais na cidade. O projeto Vila-Bairro e a Agenda 2015 foram elaborados a fim de atender as demandas da população especialmente na função social da propriedade, porém o que se foi analisado são documentos que desde o princípio com a ausência da participação da população na sua elaboração não atendem as demandas sociais.

REFERÊNCIAS

Abreu, I. G., & Lima, I. M. M. F. (2000). Igreja do Amparo: O Marco Zero de Teresina. Revista Cadernos de Teresina. Teresina (PI): Fundação Monsenhor Chaves, 15 – 20.

Agenda 2015: a cidade que queremos. (2002). Teresina: Prefeitura Municipal de Teresina. Recuperado em 30 abril, 2016, de http://www.teresina.pi.gov.br/portalpmt/orgao/SEMPLAN/doc/20080924-160-599-D.pdf.

Cavalleri, Fernando. (2009). Favelas no Rio - a importância da informação para as políticas públicas. In: SILVA, Jasilson de Souza. O que é favela, afinal? Rio de Janeiro: Observatório de Favelas do Rio de Janeiro. Rio de Janeiro, 24-29

Censo de Vilas e Favelas de Teresina/99. (2000). Teresina, Prefeitura Municipal de Teresina.

Duarte, C.F. (2009). A “reinvenção” da cidade a partir dos espaços populares In: SILVA, Jasilson de Souza. O que é favela, afinal? Rio de Janeiro: Observatório de Favelas do Rio de Janeiro. Rio de Janeiro, 59-61

Façanha, A. C. (1998). A evolução urbana de Teresina: agentes, processos e formas espaciais na cidade. 1998. Dissertação de (mestrado) - Departamento de Geociências da UFPE. Recife.

Façanha, A. C. (2003, Janeiro). A evolução urbana de Teresina: passado, presente e ... Carata CEPRO, Teresina, v.22, n.1, 59-69.

Façanha, A. C., & Viana, Bartira Araújo da Silva. (2012). Planejamento e gestão urbana em Teresina (PI): notas da agenda 2015 como plano diretor. Revista Equador (UFPI), v.1, nº 1, p. 60-78.

Lei nº 10.257, de 10 de junho de 2001. (2001). Regulamenta os arts. 182 e 183 da Constituição Federal, estabelece diretrizes gerais da política urbana e dá outras providências. Diário Oficial [da] República Federativa do Brasil, Poder Executivo, Brasília, DF.

Lima, Antônia Jesuíta de. (1996). Favela COHEBE: uma história de luta por habitação popular. Teresina: EDUFPI.

Lima, A.J. (2013). Gestão urbana e Habitação de Interesse Social. Sociedade em Debate, Pelotas, 136-165

Lima, José Júlio. (2002) Vila Bairro: habitação, infraestrutura e erradicação da pobreza em vilas e favelas, Teresina/PI. Rio de Janeiro: IBAM/CEF.

Mapeamento de riscos e Desastres de Teresina. (2014). Relatório 1730-R7-14: Município de Teresina, PI – Lote 11. São Paulo.

Melo, Constance de Carvalho C. Jacob. & Bruna, G. C. (2009). Desenvolvimento urbano e regional de Teresina, Piauí, Brasil e sua importância no atual quadro de influência na Rede

Urbana Regional no Brasil. In: Congresso de desenvolvimento regional de Cabo Verde, 1. Cidade da Praia. Anais... Cidade da Praia: APDR, 588-3611

Morin, Edgar. (2013) A via para o futuro da humanidade. Rio de Janeiro: Bertrand Brasil.

Sinopse do Censo Demográfico 2010. (2010). Recuperado em 26 abril, 2016, de http://www.censo2010.ibge.gov.br/sinopse/index.php?dados=6&uf=00

Penna, Nelba Azevedo. (2002). Urbanização, Cidade e Meio Ambiente. GEOUSP - Espaço e Tempo, São Paulo, n.12.

Política Nacional de Habitação. (2014). Seminário Nacional Capacitação para Gestores e Comunidades dos CEUS das Artes e Esportes Unificados. Brasília. Recuperado em 15 maio, 2016, de http://grandedancabrasil.cultura.gov.br/novoceus.cultura.gov.br/images/pdfs/SeminarioCEUS2014/Cidades_CEUs.pdf>.

Queiroz Filho, Alfredo Pereira de. (2011, Setembro). Sobre as origens da Favela. Mercator, Fortaleza, v. 10, n. 23, 33-48.

Rodrigues, Rodrigo da Silva. (2013, Janeiro). Planejamento urbano em Teresina: análise das projeções de expansão urbana. Revista Equador (UFPI), v. 1, Nº 1, p. 160- 162.

Rodrigues, Rodrigo da Silva, & Veloso Filho, Francisco de Assis. (2016). A ação dos agentes produtores do espaço urbano em Teresina-PI: um diagnóstico a partir dos planos diretores urbanos. Geosaberes, Fortaleza, v. 6, número especial (3), 230 – 242.

Santos, Milton. (1994). O retorno do território. In: Santos, Milton; Silveira, Maria Laura e Souza, Maria Adélia (orgs.) Território: Globalização e Fragmentação. São Paulo, Hucitec/Anpur, 15-20

Silva, Jasilson de Souza. (2009). O que é favela, afinal? Rio de Janeiro: Observatório de Favelas do Rio de Janeiro. Rio de Janeiro.

Strozemberg, Pedro. (2009). Alguém tem receio de ser multado na favela? In: In: SILVA, Jasilson de Souza. O que é favela, afinal? Rio de Janeiro: Observatório de Favelas do Rio de Janeiro. Rio de Janeiro, 67-69

CROWDSOURCING UTILIZADO COMO TÁTICA DE RESILIÊNCIA EM UM PLANEJAMENTO URBANO

Session L1.4 | May 31 | 14:00 – 15:30

Renata da Silva Oliveira
Rua Silveira Lobo, 21 apto 301 – Loft Casa forte – Poço da Panela
52061-030 Recife/Pernambuco, BRASIL
renata.oliveira@vdgcine.com.br

RESUMO: Parte da sociedade brasileira apresentam uma postura passiva e omissa. Suas reclamações costumam atribuir a responsabilidade dos problemas urbanos unicamente ao poder público. Ignorando assim seus direitos de cidadãos, pois o Estatuto das Cidades legitima o direito da sociedade organizada elaborar propostas urbanas. Neste cenário testou-se um novo modelo de escuta popular, que incorporou conceitos e dinâmicas da resiliência comunitária e do Novo Urbanismo, com foco em soluções de necessidades locais inserindo a participação dos cidadãos. Um Crowdsourcing fomentou a cooperação através de um mapa interativo no qual de forma dinâmica, democrática, organizou-se as necessidades da comunidade, afim de aproximar os atores sociais ao poder público e círculos decisórios, com uma rápida, barata e efetiva escuta.

PALAVRAS-CHAVE: Resiliência; Táticas; Urbanismo; Crowdmap; Crowdsourcing

AS DISCUSSÕES QUE ENVOLVEM O TEMA

Dois aspectos envolvem o trabalho aqui desenvolvido, o primeiro são as soluções baseadas na evolução dos meios de comunicação, do uso da tecnologia em tempo real e do compartilhamento de informação, a diversidade de dispositivos que é possível alcançar nos dias de hoje. Tais assuntos já não são novidade. Porém, a abordagem aqui adotada foi desenvolvida a fim de trazer melhorias mais especificamente do planejamento urbano, contexto no qual ainda podem ser muito explorados. A exemplo é possível citar os trabalhos desenvolvidos no Massachusetts Technology Institute – MIT, em seu laboratório SENSEable City Laboratory, coordenado pelo arquiteto Carlo Ratti, no qual pesquisas utilizam dados de dispositivos eletrônicos buscando novas soluções para as cidades. O objetivo do laboratório parte da prerrogativa de que o planejamento da cidade tem que estar na mesma velocidade do dia a dia. Seus pesquisadores acreditam que, através dos dados advindos da operação cotidiana na crescente quantidade de dispositivos móveis, é possível perceber com outros olhos o ambiente construído, proporcionando um melhor planejamento urbano (MIT, 2014).

Um segundo aspecto abordado e de grande importância, é a tentativa de amenizar o perfil costumeiramente omisso de parte da sociedade brasileira, conhecida pela sua postura reativa muito vista e presente em manifestações. Porém, toda essa energia revela que em grande parte esta mesma sociedade desconhece meios de se auto-organizar para a elaboração e construção de propostas, não despreparada para atuar no planejamento. É o que Somekh (2010) enxerga, quando afirma que no Brasil o espaço urbano é caótico, com cidades que crescem de maneira “difusa e fragmentada”, e que mesmo com a existência dos inovadores planos e leis, não parecem obedecer a regras claras, não se preocupam com a desigualdade. Em suas críticas a autora responsabiliza em parte a sociedade civil por tal situação, pois acredita que tal cenário é potencializado pelo comportamento omisso da sociedade brasileira, que não domina as oportunidades disponíveis no Estatuto das Cidades1 (Brasil, 2001), que garante e legitima “(...) o direito à cidade sustentável, à gestão democrática com participação popular, à justa distribuição do processo de urbanização...” (Somekh, 2010, p. 13). Para a autora tais regras ainda são de difícil compreensão e utilização da população brasileira, não acostumada com este tipo de atuação cívica (Somekh, 2010).

Percebe-se portanto a urgente necessidade de novos modelos de participação, e nada melhor do que utilizar as novas tecnologias para melhorar tal cenário. Promovendo assim uma oportunidade de inclusão e participação da sociedade.

AS NOVAS TECNOLOGIAS A FAVOR DO DESENVOLVIMENTO URBANO

Sendo assim a solução adotada nesta pesquisa partiu da junção das teorias do Novo Urbanismo - CNU, do Crowdsourcing, através do Crowdmap e da resiliência comunitária.

O Novo Urbanismo - CNU surgiu na década de 1980 com o objetivo refutar o CIAM e a carta de Atenas, sinônimo de ruas voltadas para os carros em detrimento dos pedestres, com segregação e racionalidade gerada pela função, replicada a partir do pós guerra (ARCHER, 2010). Com o passar dos anos difundiram suas idéias, até que em 1993 organizaram o Congress for the New Urbanism que teve a adesão de mais de 3000 sócios, e que até os dias atuais é a principal organização internacional a orientar e promover projetos pautados nos princípios de um urbanismo sustentável. Entre suas principais diretrizes estão a implantação de bairros com usos mistos, programas que privilegiam o caminhar, e a diversidade de edificações. São difundidas 27 diretrizes para um planejamento urbano e regional, cujos princípios promovam coesão comunitária, ações de equilíbrio social com necessidades humanas básicas atendidas; valorização do uso misto e principalmente a participação da comunidade na gestão dos espaços públicos de seus bairros como maneira de fomento a participação (Macedo, 2007). A premissa das diretrizes parte do homem como centro de tudo.

O crowdmap é uma plataforma para elaboração colaborativa de mapas interativos georeferenciados. Desenvolvida pela Ushahid, uma empresa com infraestrutura de software aberta. O crowdmap é acessível seja na internet ou celulares ou até mesmo mensagens de texto. O mapa interativo pode ser trabalhado na articulação de redes de pessoas que convidam amigos e parceiros para juntos inserirem no mapa algum tipo de informação, onde de maneira colaborativa e espontânea forma-se uma comunidade e um testemunho sobre determinado assunto. Os dados são inseridos de maneira colaborativa, através de vários usuários, cuja interação dos usuários vai se formando um diagnóstico em tempo real representado em manchas no mapa da área escolhida. Graças a programação aberta permite que a interface seja moldada e formatada na busca de respostas e ou diagnósticos, sugestões e ou fatos para uma determinada área.

[1] O Estatuto das Cidades, Lei Federal de nº 10.257, promulgada em 2001, é o mecanismo jurídico que garante, mais detalhadamente, a implantação dos artigos 182 e 183 da Constituição de 1988, artigos estes relacionados à questão social da terra. O artigo 43 abre caminho para a comunidade participar das audiências públicas e ou em assembleias decisórias sobre orçamentos participativos e ainda no inciso IV, permite que organizações da sociedade civil possam ter a iniciativa popular de projeto de lei e de planos, programas e projetos de desenvolvimento urbano (Brasil, 2001)

O termo Crowdsourcing tomou corpo após o surgimento dos programas de código aberto, como o Linux, sistema operacional open source1 que na formulação de seu código de programação, teve a iniciativa de angariar diversos usuários externos em sua criação e produção, simplesmente dispostos a contribuir para novas soluções e ideias. Funcionando como uma rede colaborativa, o movimento tomou corpo e se estendeu a vários ramos do conhecimento. Logo em seguida, outras iniciativas parecidas o consolidaram esse procedimento como o Crowdsourcing, funcionando atualmente como ferramenta utilizada nos mais diversos meios de construção e difusão do conhecimento. Entre os anos de 2005 e 2010, pela internet e com poucos recursos, multinacionais lançaram projetos para que colaboradores voluntários escolhessem a demanda para seus produtos. É possível citar corporações mundiais como a Fiat – com o projeto do Mio – e a Procter & Gamble, entre diversas outras (Howe, 2008). O crowdsourcing se baseia nas múltiplas possibilidades de uso que uma plataforma open source pode ser utilizada. Seja através de convite público na internet e de redes sociais, é possível encontrar todo tipo de novas propostas, ideias ou respostas. A maior abrangência ao modelo crowdsourcing, baseia-se no perfil da interatividade e cooperação da web.2, plataforma de internet baseada na geração de dados pelo utilizador, cujo diferencial é promover interfaces de troca de informação (Howe, 2008; O'Reilly, 2006).

Para Tim O'Reilly2 a web 2.0 foi a principal mudança que tornou a internet como plataforma, capaz de desenvolver aplicativos que aproveitam os efeitos de rede, e que otimizam o uso da inteligência coletiva. A web 2.0 também funciona como elemento de inclusão, visto que nesses casos passa a funcionar como uma ferramenta, e o software se transforma em um serviço. É participativo e colaborativo pois é gerado pelo consumidor, sendo o próprio usuário o responsável pela organização do seu conteúdo. Sendo assim já não trata o software como um artefato e sim como um processo de engajamento com seus usuários (O'Reilly, 2006). O que torna pertinente utilizar mecanismos compartilhados gratuitamente na internet, para a elaboração de iniciativas que podem ser conduzidas pela própria comunidade.

Em Recife, o tema também foi discutido em março de 2013, durante o XV Encontro da Anapur – Enapur – Desenvolvimento, Planejamento e Governança, o assunto foi abordado pela arquiteta Flávia Neves, que abordou o "Crowd-Urbanismo" como catalisador de cidades criativas na Pós-Modernidade. O conceito proposto seria uma mistura de crowdsourcing e crowdmapping, procedimentos que, segundo a arquiteta, se aliados poderiam auxiliar significativamente na elaboração de projetos urbanísticos, colaborativos e participativos (Maia, 2015).

O argumento de Flávia Maia (2015) pode ser reforçado com projetos bem sucedidos que utilizaram aplicativos semelhantes, como é o caso do By the City for The City (Spontaneous, 2015), em Nova York, projeto lançado pela Secretaria de Mobilidade municipal e que utilizou com uma de suas etapas um aplicativo para que a sociedade civil pudesse ajudar na elaboração de um programa para um concurso público de planejamento urbano.

Em São Paulo (São Paulo, 2014), gestores também fomentaram a participação popular através de aplicativos, quando dividiram com a sociedade a construção do Plano Diretor lançado em 2014, assim como a aprovação de novos projetos urbanos. Em Pernambuco, por sua vez, um projeto pioneiro foi o ColabPE (Recife, 2015), que é utilizado pela sociedade para relatar problemas na cidade do Recife. Este mesmo formato também é utilizado na cidade de Vitória de Santo Antão, no interior do Estado de Pernambuco (Vitória, 2015), lá a Câmara Municipal conta com a colaboração da população através de um aplicativo por meio do qual informam ocorrências do contexto urbano, como defeitos nos equipamentos de sinalização de tráfego, problemas na pavimentação das vias ou temas semelhantes. Nas cidades citadas, as ações apresentaram um grande engajamento da sociedade civil, graças às iniciativas dos governantes. No entanto, essa participação ainda alimenta a postura de uma sociedade com cultura reativa, que reclama e não sabe atuar com planejamento e proatividade.

Seria o crowdsourcing um elemento fomentador dessa proatividade?

Em sua publicação Crowdsourcing The Public Participation Process for Planning Projects, Brabham (2009) cita o crowdsourcing como a ferramenta ideal para se promover o engajamento da população no planejamento urbano, e considera como pertinente e assertiva a utilização de aplicativos para o planejamento das cidades, enxergando o intelecto coletivo como parte de soluções projetuais criativas e facilitadoras do desenho urbano obtido através do conhecimento local, com o não-especialista acrescentando insights sobre os espaços e o meio ambiente construído,

[1] Definição criada pela Open Source Iniciative (OSI) para determinar o que caracteriza um programa (software) de código aberto: deve garantir sua distribuição livre e gratuita, deve ser legível e inteligível por qualquer programador; deve permitir modificações e trabalhos derivados; e deve permitir que eles sejam distribuídos sobre os mesmos termos da licença original. A licença deve explicitamente permitir a distribuição do programa construído a partir do código fonte modificado. Contudo, a licença pode ainda requerer que programas derivados tenham um nome ou número de versão diferentes do programa original e não deve restringir qualquer pessoa de usar o programa em um ramo específico de atuação. Por exemplo, ela não deve proibir que o programa seja usado em um empresa, ou de ser usado para pesquisa genética. Disponível em: <http://softwarelivre.org/open-source-codigo-aberto>.

[2] Tim O'Reilly foi o primeiro a definir o conceito da Web.2. É um dos maiores especialistas no assunto e como também das novas tendências ligadas ã internet WEB.2.

e pode possibilitar meios em que seja possível simular bairros e lugares hipotéticos a partir dos desejos da comunidade.

Brabham (2009) também afirma que o desafio para os planejadores é encontrar a melhor forma de aproveitar o intelecto coletivo através de soluções projetuais criativas. Através de aplicativos é possível encontrar temas não abordados diretamente pelos gestores, enxergar os problemas e potencialidades em determinadas áreas através do olhar e da vivência de seus usuários. O que protege o cidadão comum de possíveis manipulações que são criticadas em audiências públicas e podem contradizer as críticas dos que trabalham contra a participação popular pois preocupam-se com a presença de grupos de interesses específicos que geralmente munidos de gráficos e estatísticas acabam inibindo uma grande parcela dos participantes das reuniões.

Negri (2013) considera que entramos numa idade do capitalismo cognitivo que tem como originalidade captar em uma atividade social generalizada, os elementos inovadores que produzem valor "…e também gerar um processo capaz de incentivar a experiência do cidadão com a cidade e o seu entorno fomentando a coesão da comunidade" (Negri, 2003, p. 94).

A RESILIÊNCIA NO CONTEXTO TÁTICO FOMENTADA PELO CROWDSOURCING

Goldstein (2012) é otimista ao defender o uso de aplicativos, defende que aliar aspectos de resiliência ao uso de aplicativos vai além de uma simples ferramenta, pois ações colaborativas, dado seu perfil interativo, proporcionam uma capacidade de adaptação que reforça a ligação com o lugar e possibilita um olhar otimista para alternativas perante as adversidades. Considera o crowdsoursing é transformador, pois suas narrativas expressam o significado subjetivo e simbólico de resistência, envolvem múltiplas vozes, e ainda permitem uma democrática auto-organização sobre as decisões, diz ele: "(…) expressar significado subjetivo e simbólico de resistência, aumentando a nossa capacidade de envolver múltiplas vozes e permitir que os processos de auto-organização possam decidir o que deve ser feito" (Goldstein, 2012, p. 03).

Percebe-se, assim, o papel do crowdsourcing como um elemento de resiliência e, mais ainda, como um elemento de resiliência tática para cidadãos. Wandeler (2014), por exemplo, discute a distinção que Michel de Certeau criou entre "táticas", entendidas como as práticas cotidianas com as quais grande parte da população responde contra o poder ou ordem rígida, fonte das "estratégias": com tal discurso é possível reforçar o entendimento do crowdsourcing como organizador de táticas. O pensamento de reação de uma comunidade, traz a tona os conceitos que envolvem resiliência, mais especificamente na comunitária, tornando pertinente incorporá-la aos novos projetos de planejamento das cidades. Quando Wandeler (2014) afirma que para reinventar uma cidade é necessário envolvê-la em um nível de "resiliência social" e, assim, enfrentar os desafios apresentados pelo desenvolvimento urbano, sejam eles de crescimento ou de adversidade, ele vai além do que se se discutia sobre resiliência no contexto de desastres. Adverte que a resiliência social reflete o "capital humano" do sistema, incluindo trabalho em equipe, lealdade de seus membros como também a força de seus relacionamentos e alianças e, por fim, a coesão comunitária, sendo amplamente determinada por características da comunidade, nas quais as narrativas culturais são o elo forte dessas interações. Portanto, o ambiente construído constitui um dos principais meios de comunicação e como forma de expressar e reproduzir estruturas e processos sociais.

Existem múltiplos conceitos para a resiliência, e que vão além do aspecto social e humanitário, ou sobre desastres naturais, no entanto alguns outros teóricos já a enxergam como um novo paradigma de saúde, principalmente quando aborda a busca de qualidade de vida, do trabalho coletivo, da comunidade e das instituições, como Secunho (2012), que ao abordar a resiliência comunitária, refere-se à capacidade coletiva de se sobrepor a qualquer problema. Entende as situações de adversidade como desafios que podem ajudar na mobilização da comunidade a fim de contornar e inovar, buscando novas realidades, otimismo pode promover a inclusão social.

Na reedição de A Invenção do Cotidiano, Michel de Certeau (2014) aborda a produção do consumo e de vários temas relacionados à produção cultural. Retrata a capacidade da sociedade, do homem anônimo, das multidões, de confrontar aquilo que lhes é imposto, e com fortes ressalvas ao uso da razão e da técnica, o historiador francês mostra como se impõem tais regras aos indivíduos, criticando o uso dessas dinâmicas e encarando os técnicos como pretensos organizadores de pessoas e ou coisas a serem consumidas. O autor ainda prega que o homem ordinário, simples e comum, em seu cotidiano pode, através dessas "artes de fazer", alterar o que lhe é imposto, construindo táticas de resistência, pelas quais o sujeito pode se reapropriar do espaço e alterar a forma como o utiliza.

As estratégias, por outro lado, são estipuladas por indivíduos ou grupos que representam poder. A partir daqueles que detém tal prerrogativa as ordens são definidas, e tanto podem se referir a limites impostos a ações ou áreas. Se escondem sobre instituições, para atingir os objetivos pretendidos. Segundo o autor, as nacionalidades política, econômica e científica foram construídas sob esse modelo estratégico.

Já as táticas, por sua vez, são justamente o oposto disso tudo, e acontece quando o fraco tira partido daquilo que lhe é imposto, depende do tempo e do desenrolar dos acontecimentos, para que os sujeitos possam criar possibilidades de ganho. Para que se faça o uso das táticas, esses sujeitos precisam lidar constantemente com os acontecimentos, numa espécie de jogo, para transformar as ocasiões, mesmo que adversas, em oportunidades. As táticas não obedecem às leis do lugar, elas na verdade as utilizam a fim de manipulá-las e alterá-las (Certeau, 2014).

Entende-se, portanto, as táticas como um elemento primordial na construção da resiliência dentro das comunidades e, principalmente, como ferramentas necessárias para enfrentar as adversidades impostas pelos gestores da cidade. A tática pode, portanto, ser encarada como uma atitude resiliente, que reage e encara as adversidades.

Sugerindo portanto que novos modelos de escuta popular devem envolver os princípios de colaboração, participação, inclusão e deve ser tático, e resiliente.

Novos modelos, devem possibilitar inovação, agilidade e conhecimento com baixo custo, cuja principal recompensa nem sempre é o retorno financeiro e sim o sentimento de pertencer a algo que movimenta a comunidade.

O teste então utilizou o crowdmap e o crowdsourcing para fomentar a resiliência comunitária. Com os dados levantados pelo Crowdmap com a intenção de gerar um diagnóstico, que posteriormente poderia ser transformado em diretrizes, ou seja, em táticas comunitárias, cuja finalidade seja servir ao poder público como respaldo para uma maior assertividade em seus planos e que incluam a visão da comunidade em novas expansões urbanas.

Onde o grande desafio que era fomentar a participação dos moradores de forma espontânea e inclusiva.

A PARTICIPAÇÃO: COMO QUEBRAR A BARREIRA E INCENTIVÁ-LA

Como o resultado da pesquisa depende exclusivamente da participação social, foi necessário buscar a compreensão além das novas formas de participação, mas também da não participação. Analisou-se teóricos como David Harvey (2014), que questiona muitos críticos do urbanismo quando afirmam sobre a conjuntura e o modelo da construção das cidades, atribuindo o desenvolvimento descontrolado das cidades como resultado do caos posterior à Segunda Guerra Mundial. O que Harvey questiona é que esses críticos esquecem e não avaliam o papel do cidadão dentro da construção das cidades: ele lembra que estes modelos de desenvolvimento modernistas, assim como as cidades capitalistas e democráticas, começaram a deteriorar-se em meados da década de 1960, pois já apresentavam sua vulnerabilidade. Tais modelos foram também criticados principalmente por Jane Jacobs (2011), e William H. Whyte (1980) que, em suas pesquisas, pretendiam entender o comportamento social no cotidiano urbano, a cidade e os seus aspectos qualitativos, dando especial atenção para a monotonia dos espaços; para as ruas vazias de pessoas e, principalmente, a necessidade de se promover uma maior mistura social através da diversidade dos usos. Em 1964, por exemplo, a socióloga Ruth Glass estudou a problemática da gentrificação, um conceito que ilustra a maioria das comunidades ao enfrentarem projetos de reurbanização e expansão em centros urbanos (Limeira e Monteiro, 2012).

Tais conflitos ainda fazem parte atualmente da maioria das discussões acadêmicas brasileiras acerca da produção dos espaços e do papel das comunidades nas cidades, um ponto de destaque foram os debates que procuram entender porquê, apesar de existir a democrática e inclusiva Constituição Brasileira de 1988, na maioria das cidades o planejamento urbano brasileiro continua sendo elaborado através de modelos de ação hierárquica, ou seja, de cima para baixo, com gestores que implantam estratégias nem sempre coerentes com as necessidades das comunidades existentes nas áreas em desenvolvimento. Na análise de vários teóricos, percebeu-se que esta visão é compartilhada por alguns autores. Souza e Rodrigues (2004), por exemplo, afirmam que os planos diretores elaborados a partir da década de 1990, em sua grande maioria, não se preocupavam em potencializar a participação popular. Na verdade, os planejadores voltavam seus olhares para as técnicas do instrumento em si e esqueciam a população (Souza e Rodrigues, 2004). Nos discursos dos autores citados, os elementos comuns, considerados como geradores dos grandes problemas urbanos, são: o lobby junto a políticos, que determinam o uso do solo; a burocracia do sistema público; e a falta de boas condições de qualidade de vida, onde a segregação e decisões erradas demostram a presença de gestores ainda autoritários. Citam também o comportamento omisso que a sociedade brasileira adotou, onde a maior parte dos indivíduos entende que seu papel cívico só é útil a cada dois anos, pelo voto prestado nas eleições, discursos estes presentes nos textos de Somekh (2010), Alves (2009), Souza e Rodrigues (2004) e Quinto (2012).

Também existe a crítica de que apesar da democrática estrutura das leis brasileiras, é questionável, o que se produz nas cidades brasileiras, pois não existem centros de estudos sistemáticos para avaliar sociedade x legislação x espaço urbano (Quinto Jr. e Pereira, 2008).

Diante do exposto, foi reforçada a necessidade de fomentar novos meios de participação.

É necessário ouvir as comunidades quando houver um espaço urbano em declínio, ou em transição por mudanças urbanas, evitando que se promova a segregação.

Como solução o Novo Urbanismo e a Resiliência Comunitária, foram inseridos e trabalhados no desenvolvimento da escuta objeto do presente estudo.

A ÁREA ESTUDADA

A escolha do Quadrilátero de Santo Amaro tornou-se pertinente, visto que seus moradores se encaixam com o perfil citado da sociedade reativa. Inúmeros protestos de moradores relatam suas preocupações e inseguranças em relação ao futuro da comunidade que, representada por diversas associações, vem insistentemente pleiteando novos esclarecimentos para PCR sobre projetos elaborados para a área. Os protestos ganharam força na mídia, quando vários periódicos em suas manchetes davam voz às várias entidades, como à do grupo comunitário #ResisteSantoAmaro (Resiste, 2015), da Associação dos Moradores da Ilha de Santa Terezinha, como também da Associação Amigos da Aurora (Mendes, 2015; Aurora, 2015).

Tanto o Diário de Pernambuco, em 05 de dezembro de 20141, como a Folha de Pernambuco, em 18 de janeiro de 20152, destacaram em suas manchetes principais reportagens cuja tônica era a mesma: os moradores insistem em solicitar uma maior participação da sociedade civil nos processos de decisão e nos projetos de requalificação urbana, reivindicando principalmente seguranças nas ruas, transparência, melhores espaços públicos, revitalização de calçadas, esclarecimentos sobre impactos e mitigações dos novos empreendimentos com construções iniciadas em trechos da Rua da Aurora e adjacências.

As reclamações eram fruto do desenvolvimento previsto para a área, já que o Plano Diretor recifense, em vigor desde 2008, dispõe de coeficientes construtivos que chegam a Cu 5,5 em seu zoneamento, facilitando dessa forma a instalação de espigões comerciais e habitacionais, como também equipamentos de grande porte, o que pode causar um forte impacto na região, principalmente nas diferenças sociais com os antigos moradores. Atualmente poucos são os empreendimentos com este porte na região, o que gera um conflito com antigos moradores cuja renda média mensal familiar é muito baixa, como exposto nas informações do censo de 2010 pelo IBGE – Instituto Brasileiro de Geografia e Estatística, divulgadas no site da Prefeitura da Cidade do Recife (Recife, s.d. a). A prefeitura também implantou outros incentivos que buscam promover um novo conceito de bairro, com foco tecnológico e na economia criativa3, através da lei de incentivo fiscal para o Porto Digital – Lei nº 17.762/ 2011 (Recife, s.d. b; Mendes, 2015).

Os protestos parecem ser uma válida fonte de preocupação, já que tornam clara e indiscutível a hipótese de conflitos sociais. Os argumentos dos moradores passam por dois temas: o primeiro é evitar que a expansão aconteça, a fim de proteger a permanência da população de baixa renda contra a possível expulsão para áreas de risco e ou periferias, a gentrificação. Uma outra parte dos moradores da Rua da Aurora solicita reforma dos espaços públicos e equipamentos ali instalados, exigindo da gestão pública modernização e manutenção dos mesmos. Como consequência da falta de comunicação entre gestores e comunidade, os moradores adotam uma postura que só enxerga os aspectos negativos, são reativos e nas discussões parece não se questionar por que tais espaços públicos foram tão degradados e que, se estão abandonados, bem provavelmente não foram utilizados, e se não foram utilizados, provavelmente não atenderam às necessidades da comunidade. Insistem, portanto, em enfatizar críticas que são atribuídas apenas aos gestores públicos, isentando os cidadãos de qualquer responsabilidade. Postura essa que ilustra bem o comportamento criticado por Somekh (2010) e Quinto Jr. e Pereira (2008).

Isso posto, é admissível sugerir que a sociedade, que adota uma postura reativa que apenas protesta, é pouco participativa e pouco atua em transformações efetivas e, consequentemente, não se organiza para elaborar propostas. Com tal cenário, o presente estudo buscou abordagens mais otimistas, que pudessem propor uma nova leitura aos protestos da comunidade de Santo Amaro, como o percebido no discurso de Luiz Amorim, professor da Universidade Federal de Pernambuco, que em entrevista à Folha de Pernambuco em 2013 afirmou que "(...) é preciso gentrificar sem segregar", referindo-se à requalificação do centro do Recife. Amorim afirmou que acreditava ser possível aliar desenvolvimento a políticas públicas capazes de integrar a diversidade de uma sociedade, onde o termo gentrificação poderia ser substituído por enobrecimento (Bezerra, 2013). Visões que tratam a gentrificação como agente potencializador da comunidade também são tratadas por Loretta Less, Tom Slater e Elvin Wyly (2008), que abordam a gentrificação como solução para tornar as comunidades menos segregadas, pois benefícios das

[1] "Moradores de Santo Amaro querem ter voz no projeto urbanístico", **Diário de Pernambuco**, Recife, 05 dez. 2014.
[2] "Moradores fazem atos em prol da Rua da Aurora", **Folha de Pernambuco**, Recife, 18 jan. 2015.
[3] Para Landry (2013, p. 15) Entende-se que o termo economia criativa, significa uma economia guiada pelo conhecimento, pela inovação, novas formas de aprendizado. Novos tipos de serviços e novos cenários.

comunidades urbanas socialmente mistas são inquestionáveis para se promover “cidades sustentáveis”. No entanto, essas novas políticas exigem atenção crítica no que diz respeito à sua capacidade de produzir um renascimento urbano inclusivo e participativo (Lees et al, 2008).

Percebe-se que uma das soluções para possíveis conflitos, na visão dos teóricos citados, baseia-se na mistura social para promover a inclusão dos que sofrem com as desigualdades perante novas reformas urbanas. Ressaltam também que é necessário encarar a problemática da gentrificação com um olhar crítico e, ao mesmo tempo, com um certo otimismo, acreditando na adaptação, ou seja, por meio de uma visão resiliente que busque conciliar com harmonia o desenvolvimento é a comunidade.

Apesar de polêmicos, os argumentos até aqui expostos podem ser inseridos em novos métodos que possam incentivar boas práticas comunitárias, ao trazer moradores para atuar na elaboração e desenvolvimento de cenários sustentáveis para o bairro. Utilizar a força da mobilização da sociedade civil já iniciada em protestos, como o caso da comunidade aqui estudada, e canalizá-la para percorrer um caminho inverso, auxiliando na elaboração de uma nova proposta para a área, incentivando a comunidade a adotar uma postura resiliente e proativa, tratando as adversidades como oportunidades ao construir táticas através dos preceitos do Novo Urbanismo, acrescentando soluções baseadas na diversidade dos espaços públicos como elemento de proteção e garantia de permanência da população no local, constitui-se num meio de utilizar a inteligência coletiva para a elaboração de diretrizes que atuem em prol do que consideram seu futuro ideal.

UMA NOVA METODOLOGIA

O ponto de partida foi desenvolver uma mapa interativo através de um crowdsourcing, que parametrizado com as diretrizes do Novo Urbanismo – CNU, suas diretrizes fossem voltadas para aprimoramento dos espaços públicos e a multiplicidade dos usos nos bairros como potencializadores de comunidades mais ativas e resilientes, cuja diversidade pode gerar emprego, renda e inclusão.

Deveria revelar necessidades e demandas das comunidades, sem interferências de técnicos e gestores públicos, executado com poucos recursos e de maneira rápida e transparente. O novo modelo de escuta, deveria poder futuramente ser utilizado, melhorado e explorado por qualquer comunidade.

Para a execução do teste foi escolhida uma área onde houvesse dilemas e conflitos entre comunidade e planos de expansão urbana. O trecho conhecido como Quadrilátero de Santo Amaro, situado no bairro de Santo Amaro, na cidade do Recife, em Pernambuco, Brasil. Com cerca de 15 mil habitantes, a área foi assim intitulada após um estudo de mobilidade e expansão urbana elaborado pelo Instituto Pelópidas da Silveira, órgão da Prefeitura da Cidade do Recife (Recife, 2011).

O MÉTODO

Como o embasamento teórico focou sobretudo na multiplicidade de usos para o bairro, e na qualidade dos espaços públicos, foi necessário, como é comum em todo processo de melhorias e intervenções no contexto urbano, foi elaborado um diagnóstico da situação atual da área.

Este diagnóstico foi executado utilizando os preceitos do Novo Urbanismo. Em seguida foi elaborado um quadro comparativo. A seguir é possível verificar a elaboração do quadro I. Sua primeira coluna representa os tipos de usos encontrados mais frequentes nas publicações do Novo Urbanismo. Das colunas 02 à 07 foram inseridos os teóricos, utilizando se eram contra ou a favor de tal uso, utilizando sim e não para ilustrar, o conceito indefinido era escolhido quando o assunto não era abordado pelo autor da coluna. Na coluna 9, baseado no diagnóstico da área, foi utilizada a mesma métrica, verificando se usos e equipamentos encontrados na região, atendiam ou não estavam presentes na área estudada.

No diagnóstico, consolidado na figura 01, a área apresentou quatro usos dominantes, sendo eles: grandes galpões industriais abandonados; empresas ligadas à comunicação e ao jornalismo; prédios governamentais; e o uso residencial. No entanto, percebeu-se a falta de usos básicos considerados fundamentais para o Novo Urbanismo: como exemplo é possível citar a falta de farmácias, padarias e outros serviços básicos. A partir deste resultado, foram elaboradas e sugeridas as categorias do Crowdmap, sendo assim todo uso que não fosse encontrado na comunidade, virava uma das categorias a serem escolhidas pelos moradores. No mapa georreferenciado os usuários escolhiam as opções que achassem mais conveniente para a região. As categorias sugeridas na parametrização tinham em vista potencializar as teorias e a interação da comunidade.

Para facilitar e introduzir o entendimento do usuário a nova ferramenta, um site foi construído para contar a história da área estudada e seu diagnóstico. Um video exibia um resumo das informações de todo o projeto, e mais 4 outras páginas disponibilizadas buscavam tornar mais didático o uso do crowdmap. A primeira explicava como e por que o

projeto foi concebido, a segunda relata o diagnóstico do bairro atualmente, o terceiro funcionou como um passo a passo de como relatar, e o quarto era dedicado a ilustrar novas opções de usos como exemplos a serem escolhidas

Dentro do site, uma das páginas utilizava uma adaptação do método IPS – Pesquisa de Preferência de Imagens, de Douglas Farr (2013), para expor de forma democrática o que estava sendo proposto, como pode ser visto na figura 02, através de fotos diversas o usuário poderia ver exemplos de outros lugares que já utilizavam espaços similares. Ou seja, cada morador ou usuário conseguiu visualizar através de fotos as sugestões de espaços, estilos de rua, comércio, serviços entre outros, para que depois possa votar no que desejava para cada local.

QUADRO I: Comparativo dos usos propostos no Novo Urbanismo e os encontrados no Quadrilátero de Santo Amaro.

IDENTIFICAÇÃO DA LISTA DE USOS PARA INSERÇÃO NO APLICATIVO TESTADO NA COMUNIDADE DE SANTO AMARO									
USOS	**IDENTIFICANDO ESPAÇOS A PARTIR DOS CONCEITOS TEÓRICOS**								**ESPAÇOS EXISTENTES NO QUADRILÁTERO DE SANTO AMARO**
	JANE JACOBS (2011)	**PPS – WILLIAM WHITE (1980)**	**NOVO URBANISMO**	**DOUGLAS FARR (2013)**	**GEHL, JAN (2015) CIDADE PARA PESSOAS**	**FUNDAÇÃO ROCKFELLER ARUP (2015)**	**PLANO DIRETOR / SÃO PAULO**	**SUB-TOTAL**	
creches	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	INDEFINIDO	5	NÃO
lar para idosos	INDEFINIDO	INDEFINIDO	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	3	NÃO
loja de conveniência	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
padaria	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
farmácia	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
banca de jornal	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
café	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
consultórios	INDEFINIDO	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	INDEFINIDO	3	SIM
postos policiais e de monitoramento	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
clínicas	INDEFINIDO	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	INDEFINIDO	3	NÃO
minimercados	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
wifi público	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
uso recreativo em margens com água	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
atividades efêmeras	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
lojas de roupas	SIM	SIM	INDEFINIDO	INDEFINIDO	SIM	SIM	SIM	5	NÃO
redes de grandes varejistas	NÃO	NÃO	NÃO	NÃO	INDEFINIDO	INDEFINIDO	INDEFINIDO	0	NÃO
salão de beleza	INDEFINIDO	SIM	SIM	SIM	SIM	INDEFINIDO	SIM	5	NÃO
chafariz	INDEFINIDO	SIM	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	4	NÃO
centro gastronômico	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
restaurantes	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
floricultura	SIM	SIM	SIM	SIM	SIM	SIM	INDEFINIDO	6	NÃO
lanches rápidos	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
bares	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
escolas[1]	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
lojas de calçados (abertas para a rua)	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
academia de esportes	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
estacionamentos públicos	NÃO	NÃO	SIM	SIM	NÃO	NÃO	NÃO	2	SIM
academias de dança	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
casa lotérica[2]	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
agência dos correios	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
livrarias	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
bicicletários	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
lavanderias	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
colégios[1]	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM

[1] Ensino fundamental, corresponde aos 9 anos iniciais de escolarização no Brasil, incluindo a alfabetização, onde os estudantes podem se matricular a partir dos 6 anos de idade.
[2] No Brasil é possível fazer pagamentos de serviços públicos e pequenas transações bancárias nas casas lotéricas.

universidades	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
escola técnica e centro de serviços de mão-de-obra local	INDEFINIDO	SIM	SIM	SIM	INDEFINIDO	SIM	INDEFINIDO	4	NÃO
espaços públicos a serem, adotados e mantidos pela população	INDEFINIDO	SIM	SIM	INDEFINIDO	INDEFINIDO	INDEFINIDO	INDEFINIDO	2	NÃO
ruas exclusivas de pedestres	SIM	SIM	SIM	SIM	SIM	SIM	INDEFINIDO	6	NÃO
calçadas largas (≥ 5m)	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
ciclovias	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
venda para moradores de outros bairros	SIM	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	INDEFINIDO	4	NÃO
parque de *skate*	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	SIM
quadra de futsal	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
quadra de tênis	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
quadra de basquete	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	SIM
parque para *bike*	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	SIM
pista de *cooper*	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
feira de produtos orgânicos	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
quiosques	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
espaço para trocas e bazar	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
áreas para recreação e contemplação cobertas (protegidas do sol)	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	NÃO
horta pública	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	NÃO
associação de moradores	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
food truck	INDEFINIDO	SIM	SIM	SIM	SIM	INDEFINIDO	SIM	5	NÃO
centros comunitários de trabalho voluntário	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	SIM
posto público de saúde	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
escola ambiental	INDEFINIDO	SIM	SIM	SIM	SIM	SIM	SIM	6	SIM
parque canino	INDEFINIDO	SIM	SIM	SIM	SIM	INDEFINIDO	INDEFINIDO	4	NÃO
parque infantil	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
prédios comerciais multiuso	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
Habitações de uso misto	SIM	SIM	SIM	SIM	SIM	SIM	SIM	7	SIM
NÚMEROS ENCONTRADOS, COMPARADOS À LISTA DE 61 ITENS	35	58	59	58	54	50	48	-	-

FONTE: Produzido pela autora, 2015.

[1] Ensino médio, no Brasil corresponde ao estágio intermediário entre o ensino fundamental e o ensino superior, nas faculdades ou universidades.

Já a resiliência foi inserida subliminarmente, quando no site um diagnóstico sobre a área estudada foi exposto, fazendo com que todos os usuários voltassem o seu olhar para os problemas encontrados, e ainda interagissem ao sugerir novos olhares quando escolhessem as categorias para os espaços. Neste caso também foi utilizado um quadro comparativo, QUADRO II onde a partir dos teóricos da resiliência comunitária, e do Novo Urbanismo um perfil sobre a comunidade foi elaborado.

framework Cynefin (snowen,1999 apud campos,2014 p.157), adaptado para análise do comportamento da comunidade do bairro de santo amaro						
produzido para ajudar as organizações à tomarem decisões, ajudando a fazê-las entender em qual contexto estão inseridas. nesse estudo foi adaptado a comunidade de santo amaro						
contextos da resiliência	**associações reclamam, de várias ações da Prefeitura**	**coesão comuni-tária**	**ações pró ativas**	**líderes e ações que represente m o todo**	**expansão urbana da área**	**fomento da economia criativa**
simples						
complicado					falta a comunidade entender e aprender a pleitear ações que correspondam as suas necessidades	
complexo						
caótico		não é visivel, aparentemente as associações agem isoladamente	só reclamam nao são pró ativos			pouco clara as açoes previstas, não se percebe idéias que possam prover emprego, renda e habitação
desordenado	como são muitas associações , com pouco diálogo e desarticuladas umas com as outras, torna imprevisível o futuro.			não existe		
observações: SIMPLES E COMPLICADO fazem parte do contexto onde é possível prever o resultados das ações envolvidas. COMPLEXO E CAÓTICO FAZEM PARTE DO CONTEXTO ONDE CAUSA E EFEITO JÁ NÃO SÃO PREVISÍVEIS . O DESORDENADO POR SI SÓ JÁ É REVELADOR						

QUADRO II: Comparativo que analisa na ótica da resiliência o comportamento dos moradores.
FONTE: Produzido pela autora, a partir de SNOWEN, 1999 apud CAMPOS, 2014 p.157.

Como conclusão foi possívei considerar que a comunidade a área estudada se encontrava em um contexto caótico, desordenado, diante das complexidades e adversidades de seus problemas, além de possuir poucas iniciativas que avancem sobre suas dificuldades. Dessa forma, percebe-se a necessidade de se promover a resiliência.

Motivou-se otimismo (característica resiliente), visando a oportunidade de criar um futuro melhor. As ideias de colaborar e participar com o local trouxeram à tona os conceitos disseminados na resiliência comunitária.

Com divulgação pelas redes sociais, o teste durou doze dias. No site, após a interação do estado do bairro, o usuário era convidado a acessar o link do crowdmap parametrizado, como pode ser verificado na figura 06, mostra a atuação de um dos participantes, na imagem é possível perceber que o morador pode sugerir vários usos que considerava importante para sua comunidade. Os participantes também tinham a opção de deixar mensagens e conversar com outros usuários. Ao término do período de teste, um mapa georeferenciado foi construído pela comunidade. Como a coleta de dados e as informações estatísticas que o próprio crowdmap disponibilizam instantaneamente, foi gerado um tipo de caderno tático com desejos da comunidade.

A figura 04 é o resultado gerado no crowdmap, onde das 44 categorias elencadas, 41 receberam votos, sendo “aluguel de bicicletas” a que recebeu mais indicações, ficando em segundo lugar “criação de sombras nas ruas”, “calçadas largas” e “café e bar aberto para a rua”. Em terceiro lugar ficaram “wi-fi público”, “espaços para passeio com cães”, “rua para pedestres”, “padaria”, “bicicletário”, “horta comunitária” e “posto policial”.

Uma das fraqueza apresentadas é que o site foi muito acessado, chegando a quase 400 usuários. No entanto poucos efetivamente votaram. Este dado gera a dúvida de que se, pelo fato de não ter sido executado pela comunidade, o engajamento pode ter sido menor. O que reforça que nesses casos, as iniciativas organizadas pela própria comunidade, com afinidades e objetivos comuns, como discutido no nos mecanismos do Crowdsourcing, a exemplo Howe (2009).

Um documento único, visualizado em mapa e em dados, por meio permitiu visualizar necessidades da comunidade, através do mapa, ajudando moradores a comunicar-se com as autoridades de forma clara e ordenada.

Na figura 05, foi desenvolvido mapa consensual georeferenciado a partir dos dados levantados no teste.

CONSIDERAÇÕES FINAIS

Através do referencial teórico foi possível confirmar a importância da resiliência, dos ativismos participativos e colaborativos, e do uso das tecnologias, mas especificamente o crowdsourcing, e os resultados obtidos foram bastante positivos e conseguiram atender ao que foi proposto para este trabalho: foi possível parametrizar e testar uma nova ferramenta de escuta popular. Como planejado, em apenas 12 dias foi possível lançar um aplicativo e consolidar os dados alimentados pela escuta. Os votos dos moradores nas categorias permitiram testar a ferramenta, comprovando a sua utilização como novo método para uma rápida organização e elaboração de documentos que retratem diretrizes alinhadas aos desejos comunitários. Durante a parametrização do aplicativo e até o seu lançamento no site, não houve problemas para a execução. O processo também mostrou que o uso de tecnologias open source permite fácil interação, mesmo por quem não domina as tecnologias da informação. Sendo assim, a opção pelo crowdmap, utilizado em conjunto com o crowdsourcing, mostrou-se pertinente por ambos se tratarem de plataformas de uso aberto, viabilizando sua adaptação a custo zero para o teste desse novo modelo de escuta popular.

As informações recolhidas e a consolidação dos dados e mapa gerados pela comunidade provou que é possível, através do crowdsourcing, executar um rápido diagnóstico para construção de lugares possíveis à vista da comunidade. Demonstrou-se características úteis da metodologia, inclusivas, multifuncionais, capazes de promover o encontro e os contatos sociais, trazendo para o diálogo os atores que interferem para a qualidade de vida dos moradores.

Percebe-se, desse modo, que aplicativos colaborativos podem ser incorporados como novos métodos nos processos de projetos urbanos, capazes de proporcionar diagnósticos coesos, rápidos, baratos e

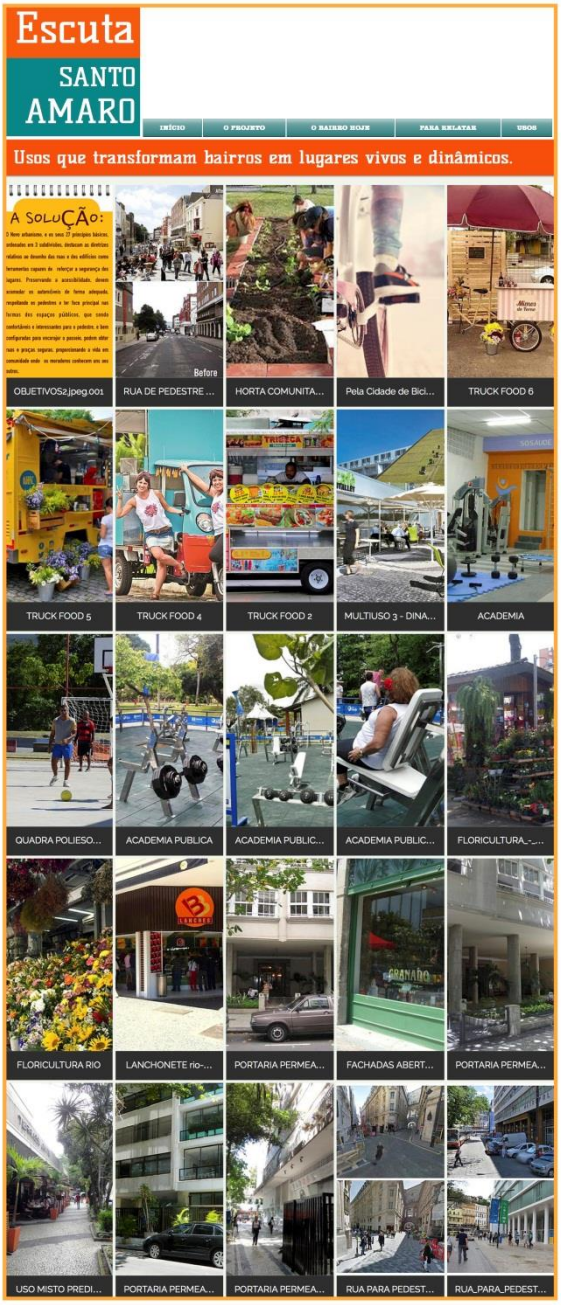
transparentes, ao invés de se continuar com velhas metodologias, que agregam informações desconectadas, difusas e, sobretudo, manipuláveis, normalmente obtidas por meio de questionários convencionais e reuniões de audiências públicas longas e onerosas.

O sucesso de iniciativas como a testada, com resultados dessa ordem, sinaliza a viabilidade e os bons prognósticos para a exploração de tais tecnologias e também sugere que a academia deve continuar a desenvolver pesquisas e ações no sentido de promover novos testes com tecnologias colaborativas. A inteligência coletiva levantou a provocação de que, no futuro, se investigue as potencialidades do crowdsourcing como metodologia de produção das cidades através de aplicativos e sites que fomentem comunidades colaborativas e participativas.

FIGURA 1: Diagnóstico dos usos na área estudada, baseado nos princípios do Novo Urbanismo.

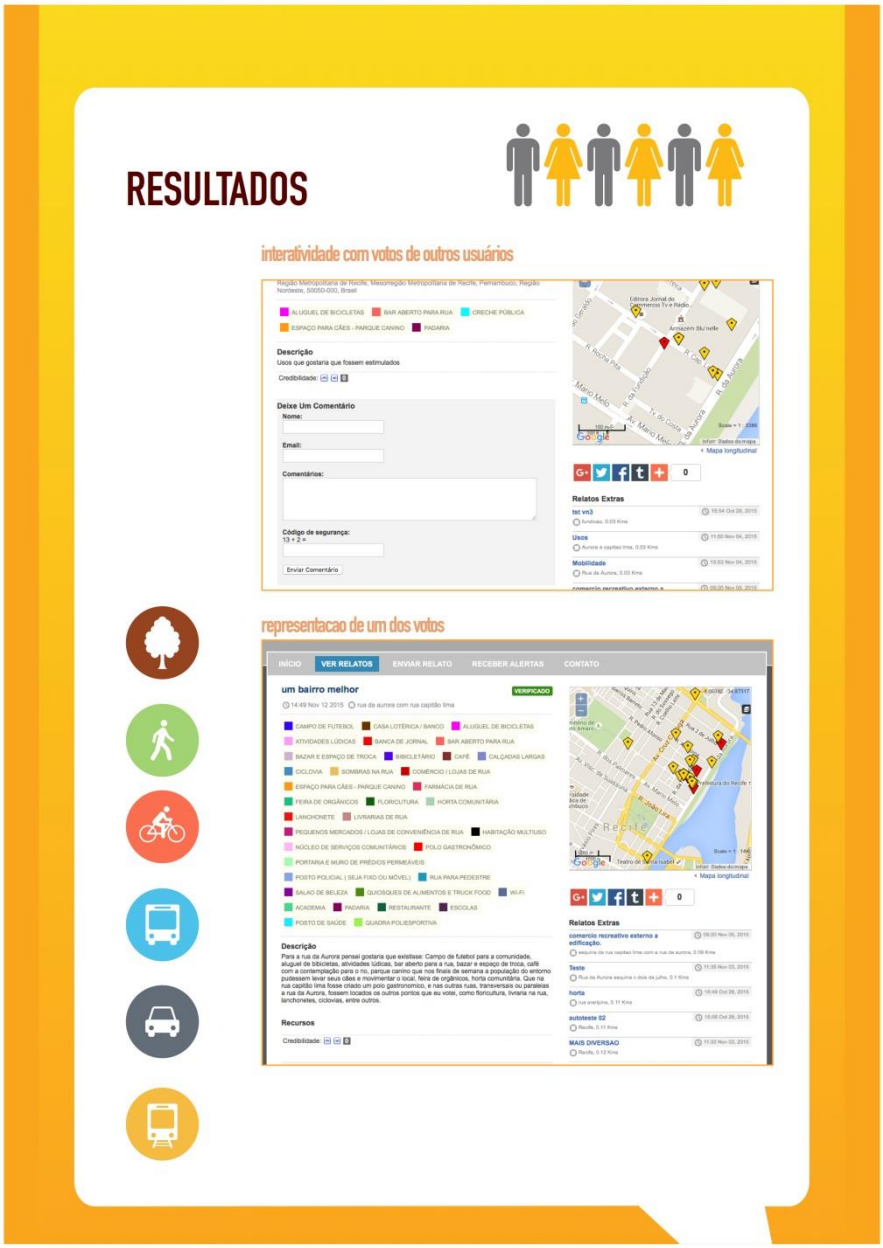
FONTE: Produzido pela autora, 2015.

FIGURA 2: Exemplos de usos adaptados do método IPS, disponibilizados para escolha no site



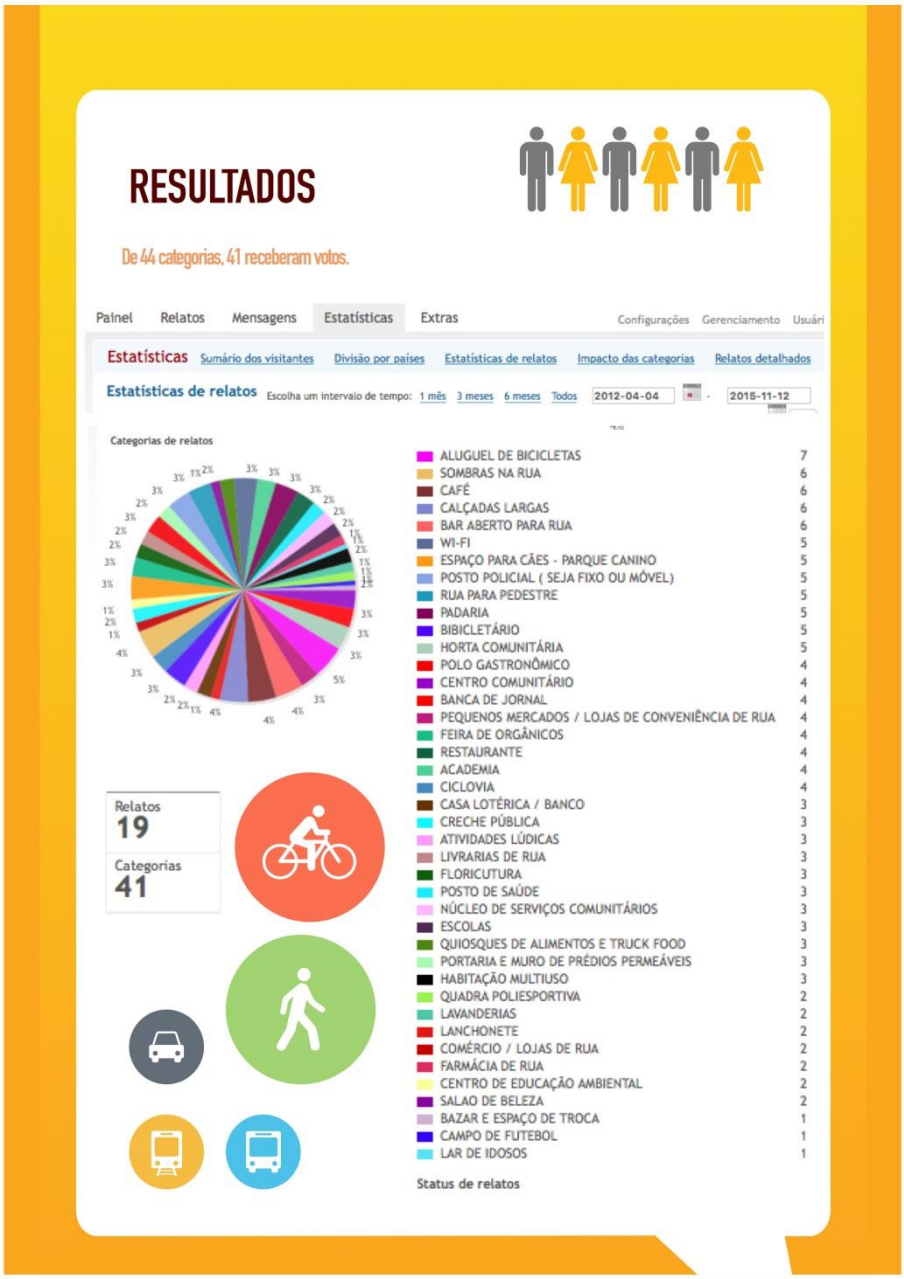
FONTE: Produzido pela autora, 2015.

FIGURA 3: Categorias escolhidas por um usuário no crowdmap..



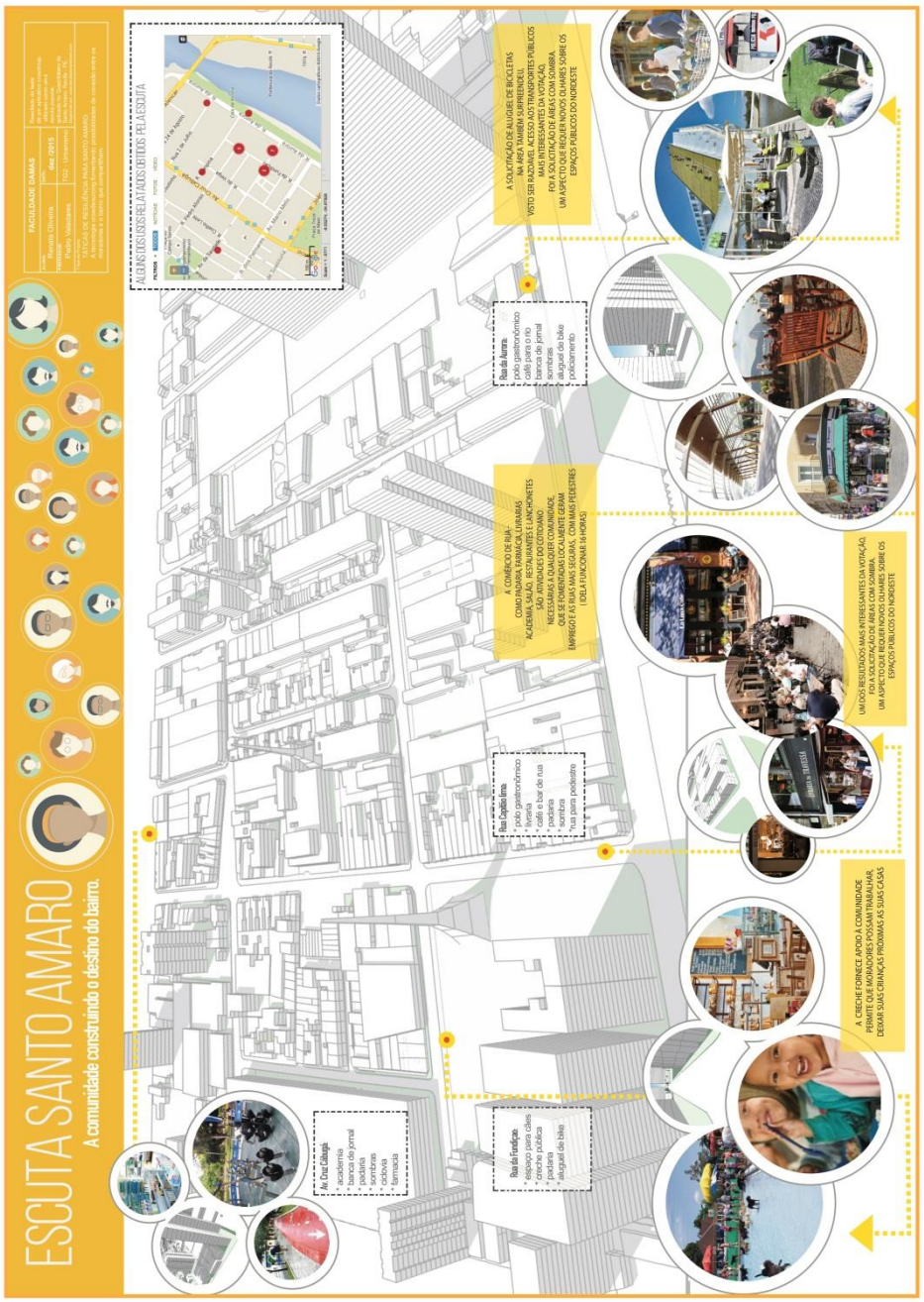
FONTE: Produzido pela autora, 2015.

FIGURA 4: Resultado, das 44 categorias , 41 receberam votos.



FONTE: Produzido pela autora, 2015.

FIGURA 5: Mapa consensual final dos votos.



FONTE: Produzido pela autora, 2015.

FIGURA 6 : Página do site que ensinava sobre o projeto e o passo a passo.

FONTE: Produzido pela autora, 2015.

REFERÊNCIAS

ALVES, Paulo Reynaldo Maya. Valores do Recife: valor do solo na evolução da cidade. Recife: Lucy Alves Artes Gráficas, 2009.

BEZERRA, Eutalita. “Desenvolvimento para quem?”. Entrevista com Luiz Amorim. Folha de Pernambuco, Recife, 2013. Disponível em: <http://www.ufpe.br/>. Acesso em 05 mar. 2015.

BRABHAM, Daren. “Moving the crowd at threadless: information, communication & society”. Disponível em: http://www.tandfonline.com/doi/abs/10.1080/13691181003624090. Acessado em maio de 2015.

BRASIL – Presidência da República. Casa Civil. Site institucional. Estatuto das Cidades. Brasília: Governo Federal, 2011. Disponível em: <http://www.planalto.gov.br/>. Acesso em: 15 mai. 2015.

CAMPOS, Ester Lima de. “Agilidade e auto organização: pensando a resiliência no ambiente coorporativo”. In: CAMPOS, Luciana (org). Resiliência & habilidades sociais: reflexões acerca de suas articulações e seus desdobramentos na escola e na vida. Curitiba: Editora Appris, 2014.

CERTEAU, Michel de. A invenção do cotidiano – Vol. 1: artes de fazer. Petrópolis: Vozes, 2014.

CITY, By the City, For The. Projeto de escuta em Nova York. Disponível em: http://www.spontaneousinterventions.org/project/by-the-cityfor-the-city. Acessado em: 10 abril de 2015.

COLLIER, Marcus J.; NEDOVIC-BUDIC, Zorica; et al. “Transitioning to resilience and sustainability in urban communities”. S.l.: s.r., 2013. Disponível em: <http://www.academia.edu/8327291/>.

FARR, Douglas. Urbanismo sustentável: desenho urbano com a natureza. São Paulo: Bookman, 2013.

GOLDSTEIN, Evan Bruce; WESSELLS, Anne Taufen; LEJANO, Raul & BUTLER, William. “Narrating resilience: transforming Urban System through collaborative storytelling”. Urban Study Journal, Glasgow, 2013. Disponível em: <http://usj.sagepub.com/>. Acesso em: 20 abr. 2015.

HARVEY, David. “A liberdade da Cidade”. In: MARICATO, Ermínia (org.). Cidades rebeldes: Passe Livre e as manifestações que tomaram conta das ruas do Brasil. São Paulo: Boitempo, 2013.

_____. Condição pós-moderna. São Paulo: Edições Loyola, 2014.

HOWE, Jeff. O poder das multidões. Rio de Janeiro: Elsevier, 2009.

JACOBS, Jane. Morte e vida das grandes cidades. 3. ed. São Paulo: Martins Fontes, 2011.

LANDRY, Charles. Origens e futuros da cidade criativa. São Paulo: Editora SESI-SP, 2013.

LESS, Loretta; SLATER, Tom & WYLY, Elvin. Gentrification. Nova York: Taylor & Francis, 2008.

LIMEIRA, Juliana & MONTEIRO, Circe. “Revitalização, habitação e gentrificação”. In: LACERDA, Norma & ZANCHET, Sílvio Mendes (orgs.). Plano de gestão da conservação urbana: conceitos e métodos. Recife: CECI, 2012, p. 262-268.

MACEDO, Adilson Costa. “A carta do novo urbanismo norte-americano”. Integração, São Paulo, vol. 48, 2007, p. 11-21.

MAIA, Flávia Neves. “CrowdUrbanismo: catalisadores de cidades criativas na Pós-Modernidade”. In: XV ENCONTRO ANAPUR– Enanpur – Desenvolvimento, planejamento e Governança. Anais. Disponível em: <http://issuu.com/>. Acesso em: 25 fev. 2015.

MIT – Massachusetts Institute of Technology. SENSEable City Laboratory. Site institucional. Disponível em: <http://senseable.mit.edu/>. Acesso em: 25 fev. 2015.

NEGRI, Antonio. Cinco lições sobre império. Rio de Janeiro: D P&A, 2003.

O'REILLY, Tim. Web 2.0 compact definition: trying again. Disponível em: <http://radar.oreilly.com/2006/12/web-20-compact-definition-tryi.html>. Acesso em: 30 abr. 2015.

QUINTO JR, Luiz de Pinedo & PEREIRA, Elson. Planejamento urbano no Brasil: conceitos, diálogos e práticas. Chapecó: Argos Editora Universitária, 2008.

RECIFE – Prefeitura da Cidade do Recife. Site institucional. Características da população do Bairro de Santo Amaro. Recife: PCR, s.d. a. Disponível em: <http://www2.recife.pe.gov.br/>. Acesso em: 15 fev. 2015.

RECIFE – Porto Digital do Recife. Cartilha do Porto Digital: aspectos da Lei Municipal nº. 17.762/2011. Recife: Porto Digital, s.d. b. Disponível em: <http://www2.portodigital.org/>. Acesso em: 08 fev. 2015.

_____. ColabPE (aplicativo colaborativo). Recife: Porto Digital, 2015. Disponível em: <http://www.colab.re/home>. Acesso em: 20 mai. 2015.

RECIFE – Instituto Pelópidas Silveira. Plano de mobilidade urbana: Santo Amaro. Recife: IPS, 2011. Disponível em: <http://www.recife.pe.gov.br/>. Acesso em: 15 dez. 2014.

SÃO PAULO – Prefeitura Municipal de São Paulo. Secretaria de Gestão. Site institucional. Plano diretor de São Paulo. São Paulo: PMSP, 2014. Disponível em: <http://gestaourbana.prefeitura.sp.gov.br/>. Acesso em: 30 nov. 2014.

SOMEKH, Nadia. "Introdução". In: ARCHER, François. Os novos princípios do urbanismo. São Paulo: Editora Romano Guerra, 2010.

SOUZA, Marcelo Lopes de & RODRIGUES, Glauco Bruce. Planejamento urbano e ativismos sociais. São Paulo: Editora da UNESP, 2004.

SPONTANEOUS Interventions. By the City, For the City. (Projeto de escuta em Nova York). Disponível em: <http://www.spontaneousinterventions.org/project/by-the-city-for-the-city/>. Acesso em: 10 abr. 2015.

USHAHIDI. Site da plataforma crowdmap. Disponível em: <http://www.ushahidi.com/>. Acesso em: 15 jul. 2014.

VITÓRIA de Santo Antão – Câmara Municipal de Vitória de Santo Antão. Site institucional. Ouvidoria cidadã (aplicativo). Vitória de Santo Antão: Câmara Municipal, 2015. Disponível em: <http://camaradavitoria.pe.gov.br/app/>. Acesso em: 15 mai. 2015.

WANDELER, Koen De. Social Resilience and Urban Growth Exploring Urban ' Strategies ' and ' Tactics ' in Bangkok and Colombo. Bélgica, 2014. Disponínel em: http://www.academia.edu/11329029/Social_Resilience_and_Urban_Growth_Exploring_Urban_Strategies_and_Tactics_in_Bangkok_and_Colombo.

WHYTE, William H. The Social Life of Small Urban Space. Nova York (1980)

Lusophone 02

Multilevel governance experiences for sustainable urban and environmental development

Chair: Nuno Marques da Costa, Universidade de Lisboa, Portugal

Scientific Committee: Glaucio José Marafon, Universidade do Estado do Rio de Janeiro, Brasil
Helsio Azevedo, Universidade Eduardo Mondlane, Moçambique
Margarida Pereira, Universidade Nova de Lisboa, Portugal
Neli Aparecida Mello, Universidade de Sao Paulo, Brasil
Teresa Alves, Universidade de Lisboa

In Portuguese-speaking countries, planning systems are young, both in spatial planning instruments for different scales and in governance structures.

Besides that, new problems of aging, scarcity in providing health and education services, unsustainable mobility, and housing pressures all demand new approaches and a multilevel planning system. This track is dedicated to the discussion of innovations and experiences in addressing these issues.

- How are environmental and sustainable urban development paradigms placed in multilevel and integrated spatial planning approaches?
- What are the challenges for governance multilevel?

O DESAFIO DA PARTICIPAÇÃO NA CONSTRUÇÃO DA NOSSA CIDADE: UMA ESCOLA DE PLANEJAMENTO URBANO POPULAR

Session L2.1 | May 31 | 11:00 – 12:30

Débora Cavalcanti; Regina Dulce Lins
Faculdade de Arquitetura e Urbanismo da Universidade Federal de Alagoas, BRASIL
debora_cavalcanti@hotmail.com e reginalins.br@gmail.com

RESUMO: Em um contexto de grandes mudanças sociais e políticas, a participação dos cidadãos na decisão sobre as políticas públicas deve ser repensada, incluindo aqui aquelas com impactos sobre os espaços habitados. Os últimos anos têm presenciado um afastamento cada vez maior do cidadão do planejamento e gestão do seu território, e a incapacidade dos gestores públicos de desenharem ações que atendam às necessidades e situações vividas pela população. O projeto de uma escola popular de formação cidadã em Alagoas, discutido neste artigo, surge da necessidade de capacitar a população para o planejamento e gestão urbano-ambiental do Estado. Apresenta-se inicialmente uma breve síntese da prática da participação popular no Brasil e em Alagoas, seguido da análise da experiência 'Escola de Planejamento Urbano e Pesquisa Popular' da ONG CEARAH Periferia (Fortaleza/CE). Para finalizar apresentam-se os pressupostos de uma escola que buscará se contrapor ao analfabetismo urbanístico e ambiental da população em geral.

PALAVRAS-CHAVE: participação popular; governança; pobreza urbana; segregação urbana.

INTRODUÇÃO

Os últimos acontecimentos políticos no Brasil, demonstrador de uma dificuldade no convívio democrático de posições políticas antagônicas, enfatizam a urgência em redimensionar e relançar no cenário político a participação popular. A participação tão discutida e definida nos anos 1990 como essencial para a construção de uma sociedade mais igualitária e que respondesse às necessidades da população, entrou nos últimos anos em uma fase de institucionalização em que perdeu seus aspectos de espontaneidade e representatividade. A democracia cada vez mais representativa e menos direta afastou a população do cotidiano das decisões, deixando na mão de representantes, muito pouco representativos dos interesses autênticos da população, o presente e o futuro das comunidades.

Neste contexto deve-se resgatar o conceito de cidadania bem materializado por Dallari (1998):

> *'A cidadania expressa um conjunto de direitos que dá à pessoa a possibilidade de participar ativamente da vida e do governo de seu povo. Quem não tem cidadania está marginalizado ou excluído da vida social e da tomada de decisões, ficando numa posição de inferioridade dentro do grupo social". (DALLARI, 1998. p.14)*

A população de maneira geral não participa das decisões do governo e em termos mais relacionados com a vida urbana, a situação é preocupante. As pessoas sofrem de um analfabetismo urbanístico, desconhecem seus direitos e deveres como moradores de uma cidade. Há vários exemplos desta ignorância das regras mínimas de convivência comunitária. Fiscais de prefeituras que atuam na área das posturas e das edificações sofrem para fazer entender os moradores das necessidades de afastamento e de silêncio obrigatório, por exemplo. O fato de alguém possuir um pedaço de terra é compreendido como um 'salvo-conduto' no sentido de fazer o que quiser dentro daquele espaço, mesmo que prejudique o vizinho. Esta compreensão errônea tem trazido prejuízos para a qualidade de vida nas cidades. O analfabetismo urbanístico e ambiental são portanto elementos impeditivos de uma participação mais qualificada da população no planejamento e na gestão das cidades. Além disso há um défice participativo difícil de ser ultrapassado quando não há vontade política para isso. Poucos partidos políticos abraçam a causa da participação e assim a população fica cada vez mais distante da cidadania plena. O modelo de planejamento e gestão urbana em voga no Brasil é pouco permeável à participação, pois, com raras exceções, não territorializa os problemas, apenas trabalha temas que ao não serem vistos do ponto de vista do território, acaba sendo tratado de forma reducionista. O Plano Diretor como instrumento urbanístico básico de qualquer cidade, geralmente é superficial e como trata as questões de forma muito geral acaba não se materializando para as pessoas que vivem seus problemas em um território bem definido.

Este artigo portanto busca refletir sobre as possibilidades da participação na construção da cidade visando um planejamento urbano integrado e sustentável. Neste sentido apresenta algumas referências das práticas da participação no Brasil e em Alagoas, chegando a analisar brevemente a experiência da Escola de Planejamento Urbano e Pesquisa Popular que foi pioneira no sentido de preparar a participação popular no planejamento e gestão urbana dentro de um visão integrada e sustentável. Como conclusão apontam-se algumas possibilidades de cenários para uma escola popular de formação cidadã em Maceió, Alagoas.

A PRÁTICA DA PARTICIPAÇÃO POPULAR NO BRASIL E EM ALAGOAS

A democracia foi se aprimorando como conceito e hoje é considerada como um ganho civilizatório, apesar dos grandes problemas que ainda existem na relação entre os poderes, nas questões eleitorais e no controle das ações governamentais. A essência da soberania popular vai se esvaindo diante do cotidiano das famílias que sofrem diretamente dificuldades ligadas às decisões governamentais e para as quais são dificilmente consultadas. Estas situações remetem à discussão sobre a democracia representativa e a democracia participativa. A participação democrática no Brasil adquiriu um marco legal fundamental com a Constituição de 1988 que instituiu instrumentos e espaços importantes de participação popular na gestão das políticas publicas e em especial deste ente importante chamado cidade. É bom recordar que não foi obra da boa vontade e espírito democrático dos constituintes, senão resultado de lutas e pressões das organizações sociais que ansiavam contar com essa nova possibilidade que se apresentava, de viver e de construir uma cidade mais democrática e mais adequada às necessidades da maioria da população. A luta por esses espaços de participação tem uma relação muito estreita com a luta pela reforma urbana, ou seja, uma reforma onde a resolução dos problemas passava pela gestão coletiva da cidade em seus diferentes aspectos. Planejar a cidade não poderia ser privilégio de poucos 'iluminados' e assim excluir aos quem vivem nela e querem viver melhor. Desta forma, se constituíram os chamados espaços de concertação (harmonizar, conciliar, pactuar, ajustar, combinar) e não apenas de consulta. Estes espaços são os diferentes conselhos paritários (sociedade civil e governo) junto a outros instrumentos que objetivam uma maior proximidade da administração pública com o cidadão, tais como audiências públicas, plebiscitos, referendos, leis de iniciativa popular, representações nos tribunais de contas, pedidos de informações, ações junto à justiça, etc. Apesar desta atual variedade de formas de participação popular previstas nas leis, nada se modifica se não se leva em conta alguns elementos: vontade política de promover a democracia reforçando e não manipulando a sociedade civil; a implantação de uma cultura participativa desde criança e o desenvolvimento de uma ética no manejo dos bens e assuntos públicos.

A discussão sobre a democracia representativa e participativa leva à discussão da atual crise de representatividade pelo que passam as estruturas políticas atuais. Os partidos políticos e a própria maneira em que realizam as eleições, com pouca visão territorial e projetos tão distantes do cotidiano dos cidadãos, converte em banal o ato de votar e de constituir representatividade política. Os representantes são eleitos, mas na maior parte dos casos, a base política não é a população mas sim os grupos econômicos que financiaram sua campanha, para quem esses representantes trabalharão, garantindo-se assim o financiamento das próximas eleições. Para reverter essa situação e buscar uma cidadania plena, a democracia participativa pode ser uma possibilidade catalisadora de alcançar o estado democrático de direito.

No entanto, a utilização dos conselhos paritários como espaço de participação tem sido um falhanço no Brasil. Os conselhos só funcionam quando há uma obrigatoriedade vinculada a liberação de recursos, o que é extremamente lamentável. Só quando a lei e o orçamento obrigam é que se participa. Então a participação popular deve ser esquecida? O sonho de uma sociedade mais democrática morreu? Na realidade e em essência se vive a democracia em movimento, que vai e vem, mas que sempre avança um pouco mais em direção ao sonho de uma sociedade mais justa e mais responsável pelos mais pobres. Não se pode esquecer o passado das nações latino-americanas que hoje vivem seu período de juventude democrática, que por mais de 500 anos passaram por várias fases: de colônias, reinos, repúblicas, passando por revoluções e que até pouco tempo atrás eram ditaduras.

Estas reflexões prévias pretendem traçar um estado da situação diante da possibilidade de capacitar para a democracia e em que condições. É possível ensinar como se faz democracia a não ser exercitando-a, testando-a, passando por verdadeiras provas de fogo, errando e acertando, construindo coletivamente essas relações e espaços de poder? Ainda que no nordeste brasileiro, estes fatos sucedem-se na mesma

frequência que no resto do país, eles acontecem de forma mais lenta em alguns aspectos. Apesar de que se convive a um mesmo tempo, na região, com situações políticas diferentes tais como governos mais modernos baseados em um empresariado industrial e os tradicionais baseados nos grandes latifúndios e na produção agroindustrial, a democracia nordestina tem sofrido avanços e retrocessos em seu processo de consolidação. Um dos graves problemas da região em relação a sua democratização está relacionado com o baixo índice de escolaridade, de informação e de educação política mantido por anos e hoje ainda mais quando se observa como a educação é mal tratada. Como um país tao rico pode negar educação aos seus cidadãos? Que futuro pode ter essa democracia?

Partindo da ideia da democracia em movimento, se deve portanto pensar na formação dos atores sociais urbanos que darão vida e movimento a essa democracia. Como já foi dito, a capacitação para a democracia se faz exercitando, errando e acertando. Nada mais eficaz que utilizar elementos concretos, da realidade cotidiana para aproximar os atores urbanos a algo tão abstrato como o planejamento e a gestão urbana. Neste sentido acredita-se que a experiência da Escola de Planejamento Urbano e Pesquisa Popular pode dar referências concretas para se pensar em um processo de capacitação que envolva democracia, território, projetos integrados e sustentáveis de melhorias da vida urbana.

A 'ESCOLA DE PLANEJAMENTO URBANO E PESQUISA POPULAR' DA ONG CEARAH PERIFERIA (FORTALEZA/CE)

No início da década de 1990, a necessidade de preencher a lacuna na participação dos movimentos sociais na definição e gestão das políticas públicas em Fortaleza em um contexto de emergência das lutas urbanas e de uma gestão progressista na Prefeitura (Maria Luiza Fontenelle – PT) foram motivos para que a recém-criada ONG CEARAH Periferia (Centro de Estudos, Articulação e Referência sobre Assentamentos Humanos - CP) buscasse estratégias de apoio aos movimentos sociais em sua luta por direitos, fincada na visão pedagógica de Paulo Freire e nos temas urbanos e da habitabilidade. Em parceria com o GRET , no contexto do projeto do GRET e da FPH (Fondation pour le Progrès de l`Homme), o CP desenvolve o projeto "Memórias de Nossas Lutas e dos Nossos Bairros", desenvolvido entre 1992 e 1993 que além do Curso de Pesquisadores Populares, apoiava "centros de estudos populares", que deveriam auxiliar os pesquisadores populares nas suas atividades além da implementação de um "fundo rotativo de edições populares" que possibilitaria a divulgação das experiências dos pesquisadores populares. Vale a pena destacar que o Curso de Pesquisadores Populares se iniciou no final dos anos 1980, em uma parceria entre GRET e o ESPLAR , que em uma perspectiva de pesquisa-ação haviam apostado em uma proposta de fortalecimento do movimento popular baseada na história de sua organização e de suas lutas. Surgiu daí o Curso de Pesquisadores Populares com o objetivo de resgatar as práticas dos grupos populares, incrementar a troca de experiências entre eles, promover a articulação de suas lutas e contribuir com a redefinição de suas estratégias. Esta capacitação se baseava em trabalhos de investigação e reflexão sobre sua realidade. O projeto se propunha portanto a "sistematizar uma metodologia de investigação com a efetiva participação popular, na perspectiva da pesquisa-ação" (ESPLAR, 1991). Em 1989 foi implantado o Curso atendendo um pequeno grupo de componentes dos movimentos populares de três bairros de Fortaleza, o que se considera como a 1ª Turma do que seria a futura Escola. O Curso tal como foi projetado ocorreu somente uma vez, já que o ESPLAR, com seu foco na problemática rural, transfere sua participação para o CEARAH Periferia assim que este é criado em 1991.

Esta junção de ideias, experiências e esperança de aproximar a população cada vez mais dos seus sonhos de vida e direitos recentemente garantidos na Constituição Federal de 1988, a chamada Constituição Cidadã, conduziu o CP na elaboração de um projeto mais amplo nos seus objetivos chamado Escola de Planejamento Urbano e Pesquisa Popular. A OXFAM Brasil apoiou o projeto da Escola desde sua criação em 1994, passando a conjugar seu apoio com o co-financiamento da União Europeia a partir de 1998, até o final do projeto em Junho de 2005. A EPUPP estabeleceu os seguintes objetivos i) proporcionar conhecimento sobre planejamento urbano a lideranças comunitárias; ii) apoiar a elaboração de planos e projetos de forma participativa para ampliar a capacidade propositiva e de negociação das organizações populares; iii) dar apoio à proposição de políticas públicas através da prática de pesquisa, diagnóstico e elaboração de projetos e planos no processo de negociação com o poder público; iv) capacitar as organizações comunitárias para o gerenciamento de projetos; v) resgatar e socializar a memória das lutas populares. O projeto se estendeu de 1994 a 2005, tendo atingido a impressionante marca de ação de capacitação envolvendo mais de 6.000 pessoas através de

capacitações em massa, curso de longo prazo, cursos de reciclagem, cursos de curta duração e cursos à distância.

A metodologia político-pedagógica da Escola baseava-se na chamada práxis continuada, onde o aluno mesmo após a conclusão do curso, continuaria exercitando sua formação teórica através do desenvolvimento de projetos para seu bairro. O ponto de partida da pedagogia implantada era a experiência dos alunos confrontada com o conhecimento sistematizado trazido pelos professores. O estabelecimento de uma relação horizontal, positiva e produtiva entre educador e educando promoveu de maneira acentuada a conexão entre conhecimento técnico-científico e o conhecimento popular. Na busca do empoderamento das lideranças populares pode-se afirmar que esta dialética foi um dos elementos mais inovadores da metodologia da EPUPP.

Em termos de seleção a EPUPP também inovou incorporando a realização de uma Capacitação em Massa que, ao mesmo tempo em que mobilizava as comunidades sobre temas da cidadania em eventos abertos ao grande público, tratava de escolher os alunos que estariam compondo as turmas da Escola. Os principais critérios de seleção eram o interesse pelas temáticas, a disponibilidade, o dinamismo e assiduidade, além de fatores como gênero, escolaridade, idade e relação da pessoa com as organizações de seu bairro.

O curso de longa duração da Escola apresentava o seguinte conteúdo e número de aulas: i) bloco Integração em 12 aulas com aula inaugural, socialização, perfil da cidade, relações de gênero, ética e cidadania e movimento sociais; ii) bloco Planejamento Urbano com 16 aulas onde se discutia planejamento urbano, aula de campo, escalas e mapas, conflitos urbanos, legislação, Estatuto da Cidade, Plano Diretor, orçamento público e economia globalizada; iii) bloco Pesquisa em 24 aulas onde se tratava de pesquisa social, etapas de pesquisa, técnicas de coleta, elaboração de questionário, educação popular e cultura, aula de campo, aplicação de questionário, técnicas de sistematização, análise de dados e apresentação do diagnóstico e finalmente iv) bloco Elaboração de Projeto em 8 aulas contendo oficina de elaboração de projeto, assistência aos projetos, apresentação dos projetos para avaliação

Este conteúdo enfatizava os conhecimentos do planejamento urbano e da pesquisa, plenamente adequado à missão da Escola, no entanto destinava relativamente pouco tempo para a elaboração do projeto, o que resultou em menos sucesso nos projetos efetivamente concluídos, 18% dos projetos elaborados por 64% dos alunos. Ressente-se da falta de conteúdos e horas de aula destinadas à gestão dos projetos.

Em termos gerais, as maiores virtudes da pedagogia descrita concentram-se no processo de seleção precedido de um vasto processo de mobilização comunitária; na alta qualidade técnica e pedagógica do curso, em que se explicita uma positiva relação entre saber técnico e saber popular, teoria e prática; na elaboração de diagnóstico e de projeto social feito pelos alunos que, desta forma, têm a oportunidade de renovarem suas práticas comunitárias e da oferta de cursos de reciclagem e de cursos de curta duração. No entanto, algumas limitações devem ser esclarecidas para ajudarem no desenho da Escola de Formação em Alagoas proposta na próxima seção deste artigo. Deve-se ter atenção ao risco de selecionar pessoas não envolvidas o suficiente no movimento comunitário, além de focar os cursos na pesquisa social e assim deixar em segundo plano o desenvolvimento institucional das organizações do movimento popular, um dos maiores problemas das associações em busca de sustentabilidade financeira. A proposta de Escola em Alagoas deve buscar apoios e recursos para garantir a realização dos projetos comunitários para que assim se cumpra efetivamente os objetivos de fortalecimento do movimento popular urbano.

Os objetivos descritos na primeira parte desta seção foram atingidos de maneira muito positiva segundo a avaliação realizada de maneira independente por consultoria contratada pela União Europeia. A EPUPP trouxe benefícios para as organizações comunitárias em vários âmbitos entre eles o desenvolvimento de uma consciência crítica da vida social e da capacidade de fazer pesquisa e de utilizá-la como instrumento de luta social. É notório também o expressivo número de ex-alun@s da Escola que assumiram postos de representação popular em processos participativos de gestão urbana, que se candidataram ao cargo de Vereador na Câmara Municipal, e foram escolhidos como delegados para diferentes processos de conferências de áreas sociais (municipais, estaduais e federais de Direitos humanos, de políticas públicas para as mulheres, de saúde, do direito à cidade), inclusive para o Conselho Municipal de Habitação de Fortaleza. A EPUPP contribuiu para a emergência de uma nova geração de lideranças e organizações

mais qualificadas, com visão da cidade e não apenas local. Pode-se assim, afirmar que, segundo a avaliação, o impacto da Escola esteve principalmente na formação continuada de um número muito expressivo de lideranças comunitárias, com foco em planejamento urbano e pesquisa participativa. A sinergia da Escola com o movimento social urbano gerou também impactos consideráveis, apesar de limitados, no fortalecimento das organizações comunitárias de Fortaleza. Por fim, todo este processo contribuiu de forma significativa para o encaminhamento de lutas e conquistas para as comunidades envolvidas.

A PROPOSTA DA ESCOLA POPULAR DE FORMAÇÃO CIDADÃ (EPFC) EM ALAGOAS

A experiência da EPUPP e a necessidade de fortalecer a participação comunitária no planejamento e gestão urbana de Alagoas, vem pavimentando a proposta de uma escola de formação cidadã voltada para o planejamento e a gestão urbana construída em articulação com a União de Movimentos de Moradia em Alagoas – UMM(AL).

Além dos aspectos do fortalecimento comunitário, da pesquisa social e do entendimento das questões urbanas, a taxa de analfabetismo da população alagoana e sua consequente pequena inserção no mercado de trabalho impõe outros objetivos de fundamental importância a esta escola popular de formação.

O projeto, portanto, deverá ser desenvolvido no Estado de Alagoas, região Nordeste do Brasil, com população de 3.120.922 habitantes (IBGE/Censo 2010). Dados do IBGE (2014) revelam que Alagoas tem o sétimo PIB entre os nove Estados do Nordeste e ocupa a vigésima posição do Brasil. Constata-se ainda, que nos últimos 12 anos registrou o menor crescimento do PIB (Produto Interno Bruto). Enquanto o Brasil cresceu 39,8%, Alagoas registrou crescimento de 31%, onde a diferença é ainda maior em relação ao Nordeste, que cresceu 44%. Quanto ao IDH (Índice de Desenvolvimento Humano), Alagoas apresenta o menor IDH do Brasil. O Estado é conhecido como um dos mais violentos para os jovens. Dados do IPEA (2012) identificam Alagoas como o Estado que possui a maior proporção de miseráveis do Brasil, ou seja, pessoas que sobrevivem com menos de ¼ de salário mínimo por mês: caracterizando 21,3% de pessoas extremamente pobres e 47,7% de pessoas na pobreza absoluta.

Com base nos direitos humanos esculpidos na Constituição Federal e, considerando a realidade social do Estado de Alagoas, frente a essa situação, urge que se disponibilizem meios de inserção social, econômica e cultural às populações vulneráveis e excluídas, garantindo a igualdade prevista na Carta Magna. Entretanto, para que se alcance a igualdade prevista em lei, se faz necessário um mover social e essa movimentação somente é possível através da parceria do poder público com a sociedade civil organizada. A Constituição Federal de 1988 estabeleceu a gestão democrática como paradigma e ela só se efetiva com a participação qualificada (vigilante e propositiva) da sociedade civil nas diversas instâncias de participação existentes. Os Conselhos, as audiências públicas e outros espaços de participação não são plenamente ocupados no Estado, o que constitui uma perda para a população mais vulnerável, que mesmo assim tem encontrado soluções criativas para suas dificuldades, na maioria das vezes, sem o apoio do poder público. Uma mudança cultural é necessária, tendo em vista que Alagoas, por seu atraso histórico, não tem a tradição da participação, do respeito pelas questões públicas e da preocupação solidária com os mais vulneráveis na sociedade. Para aumentar a participação a educação é fundamental e de maneira geral, há uma enorme carência na área da educação formal, profissionalizante e política em Alagoas. Esta carência atinge gravemente a população vulnerável que vê suas oportunidades de trabalho diminuídas e não tem como sair de um ciclo vicioso que a distancia, tanto do ponto de vista sócio-econômico quanto do ponto de vista espacial, do restante da sociedade. Esta exclusão social e espacial necessita ser combatida e é este o objetivo principal da proposta.

A UMM-AL por sua história se constitui em agente capaz de mobilizar as comunidades em torno de um projeto de formação e de oportunidades econômicas. O contexto atual de crise e a escassez de mão-de-obra qualificada exige intervenções na base do problema, na educação, mas também no acesso da população a oportunidades de trabalho. Além disso, a busca por sustentabilidade financeira é uma preocupação das organizações comunitárias e de suas lideranças.

A proposta da escola portanto propõe um programa de formação articulado a processos territorializados de desenvolvimento local, onde ao se planejar o bairro em uma visão de desenvolvimento sustentável, busque-se fortalecer as potencialidades e minimizar as fraquezas das comunidades atendidas. A escola também deverá atuar na formação de lideranças, incluindo temas a serem trabalhados para o

desenvolvimento institucional das organizações populares. Também atuará através da Capacitação em Massa como instrumento de seleção dos alunos mas sobretudo como forma de ampliar o debate sobre a cidade, os assentamentos precários e a participação popular.

Como a base da proposta é territorial, a escola estaria definindo uma estratégia de concentração territorial para viabilizar processos de desenvolvimento local e evitar dispersão de energia. O projeto se iniciaria portanto em um bairro específico de Maceió, atendendo critérios de sinergia e potencial de impacto. O objetivo geral da escola seria: beneficiar a população mais vulnerável com ações de informação, formação, profissionalização, assistência técnica, acesso a trabalho por meio de cooperativas e melhoria da qualidade de vida através da mobilização de recursos. Os objetivos específicos da escola seriam: i) criar um espaço popular de formação cidadã e profissionalizante; ii) capacitar profissionais na área da construção civil; iii) capacitar em cooperativismo e autogestão; iv) criar cooperativas de trabalho; v) criar um centro de documentação de políticas públicas, que funcione também como um espaço de inclusão digital para trabalhadores de baixa renda; vi) oferecer apoio de assistência técnica (arquitetura, engenharia, direito) às comunidades de baixa renda, contribuindo para diminuir o impacto da construção irregular e de risco; vii) fomentar o micro crédito produtivo e grupos de poupança, que possibilitem às famílias de baixa renda realizar projetos de reforma e ampliação de suas casas e desenvolver atividades produtivas que garantam o seu sustento.

Para o alcance desses objetivos, a escola adotaria a seguinte metodologia: escolha da área de trabalho, levantamento das informações sobre o bairro, realização de um censo da mão-de-obra disponível em termos de profissão e de formação. Depois em uma capacitação em massa sobre os problemas e potencialidades do bairro se faria a seleção dos alunos para em seguida implantar um centro de documentação, onde se dariam os cursos. Os cursos seriam: alfabetização baseado nas questões urbanas; planejamento urbano e pesquisa popular; desenvolvimento institucional; cooperativismo e autogestão; construção civil e outros cursos profissionalizantes (parcerias com SENAI e SENAC) e outras capacitações. A partir dos líderes formados se organizaria uma Cooperativa de Trabalho e se daria publicidade de suas atividades. Implantar-se-iam os grupos de poupança e serviço de assistência técnica que estaria dando suporte às atividades de construção civil executadas nas comunidades ou em trabalhos fora dela.

A ideia é, a partir de uma transformação da visão de bairro, do desenvolvimento de uma cultura democrática, da capacitação para o trabalho e para o planejamento e a gestão, se produzam ações que possam melhorar a qualidade de vida dos moradores dos diferentes bairros da cidade. A formação territorializada aproximaria o poder público e a população na busca de soluções para os problemas urbanos.

Este projeto em construção é uma contribuição para se pensar metodologias e procedimentos de capacitação que, ao se por em prática dentro de um ambiente de vontade política, se constitui em instrumentos, ferramentas vivas para a radicalização da democracia, e é neste sentido que se quer avançar.

REFERÊNCIAS

Armani, D. (2006) Lapidando Cristais - Relatório de avaliação da Escola de Planejamento Urbano e Pesquisa Popular do Cearah Periferia. D. Armani – Desenvolvimento e Cidadania, Recife.

Dallari, D. (1998) Direitos Humanos e Cidadania. São Paulo: Moderna.

Dallari, P; Neves, I; Marron, E e Silveira, M. (1996) Institucionalização da Participação Popular nos Municípios Brasileiros. São Paulo: IBAP.

Cavalcanti, D. (1996) Curso de Planejamento Urbano e Pesquisa Popular In Bonduki, N. Habitat: as práticas bem-sucedidas em habitação, meio ambiente e gestão urbana nas cidades brasileiras. São Paulo, Studio Nobel.

ESPLAR (1991). Estratégias e Práticas do Movimento Popular em Fortaleza para Ter Acesso à Moradia. Relatório Final. Documento Interno do ESPLAR, Fortaleza.

planejamento urbano (MIT, 2014).