

# Introductory Report to the Congress

## Theme, Topics and Papers

### Introduction to the Congress by the General Rapporteur



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ISOCARP's 50<sup>th</sup> International Planning Congress faces one of the most challenging and interesting planning themes: **“Urban Transformations - Cities and Water”**.

Water is everywhere. Water related issues are significant in planning of any type and scale. All cities around the world were built along waterways, or along a coast of an ocean, sea or lake. The multifaceted relationships between urban planning and water has structured and influenced the development of metropolitan areas, cities, towns, rural areas, villages, and even neighborhoods throughout history and will always do so. The congress opens the opportunity to touch all aspects of urbanity and the inherent relationships between the urban planning and water issues, from all angles, in all disciplines, and various scales.

Leading professionals from the private, public and academic sectors from about 50 countries, over all continents, will meet in Gdynia, between 23-26<sup>th</sup> of September 2014 to present, listen, and discuss. The participants include urban planners, environmentalists, sociologists, infrastructure planners, economists, river restoration planners and managers, decision makers, researchers and other professionals. Five keynote speakers and 125 speakers at the parallel sessions will present and discuss plans, projects, case studies, researches, evaluations, theories and methodologies. These will blend across different topics and will demonstrate how comprehensive, complex and fascinating planning is as a bridge between theory and practice. The selected papers proof again how interventions involve multilevel, collaborative, cross-border and trans-disciplinary approaches.

The papers demonstrate how global, wide, comprehensive and acute the relationships between cities and water are, both in areas which are blessed with sustainable water resources, and in areas which suffer from severe water shortage or floods. The broad picture, drawn by the individuals during the conference, will hopefully provide the participants with awareness, knowledge, knowhow, tools, sensitivity, and passion to face these challenges in their daily professional life.

This year's congress offers 2 plenary sessions with 5 keynote speakers who will present their views regarding the main congress theme. These include Minister Olgierd Dziekonski from Poland, who will give an overview on planning in Poland in the light of the congress theme; Professor Francesco Bandarin from France/Italy will talk about the Historic Urban Landscape: managing historical urban layering and their relationships with water; Professor Meera Mehta from India will talk about Urban planning and water and sanitation services in low and middle income countries; Professor Alex Krieger

from the USA will talk about Transformations Along Urban Waterfronts; and Mr. Pawel Orłowski, will give his view on the Water and City issue in Poland.

As part of the diverse congress program, a "Planning Waterfront Marathon" will take place on the 24<sup>th</sup> of September morning plenary session. Following a call for nominations, 9 waterfront projects, from 8 countries, over 4 continents, were selected to participate. Each project will be presented in 10 minutes. The best project/s will be selected by a jury, and the best presentation by the audience. Out of the record number of 302 submitted abstracts, 144 were chosen, in a totally blind process, for the submission of papers, and presentation at the 6 parallel sessions. The papers were rated by the congress team, according to 5 criteria: Problem definition & planning approach; methodology; relation to congress themes; applicability to other projects/regions; and findings, outcomes and lessons. About 125 papers, from 35 countries, over all continents, will be presented at the congress. 47 of the papers went through a peer-review process. Out of them 41 papers received the status of peer-reviewed papers, following an extensive process of remarks and corrections, according to the anonymous peer review process. The papers will be presented in 6 concurrent tracks, having each 4 sessions, on the 24<sup>th</sup> and 25<sup>th</sup> of September.

The sessions will be hosted by co-chairs from an outstanding international congress team of 12 members representing 12 countries. The co-chairs have chosen, during the evaluation process, the best abstract of each track, as a "Track Keynote". Its author will present at the beginning of one of the sessions. In addition we have 2 invited Track Keynotes, from Singapore, and AIVP (the Worldwide Network of Port Cities). The sessions will provide an opportunity to hear enlightening case studies and to engage colleagues. We have built in time for discussion and hopefully this will spur dialogue between speakers and congress participants. This is the exciting part about ISOCARP congresses, learning from each other.

The 6 concurrent sessions are divided into 6 "open margins" tracks, with some overlaps between them, due the interdisciplinary nature of planning:

- **Urban Design, Landscape and Livable Cities.**  
Co-Chairs: Hongyag Wang from China and Guy Perry from Poland / Hong Kong
- **Social Aspects, Collaborations and Governance.**  
Co-Chairs: Olusola Olufemi from Canada, and Gabriel Pascariu from Romania.
- **Economic, Leisure and Tourism Aspects.**  
Co-Chairs: Lorraine Gonzales from United States, and Alexander Antonov from Russia.
- **Water Management.**  
Co-Chairs: Zeynep Gunay from Turkey, and Marcela Villa Luna from Peru.
- **Environment, Ecosystem and Climate Change.**  
Co-Chairs: Brigitte Schmelzer from Germany, and Nageeb Elhoweris from Sudan.
- **Ports, Transportation and Infrastructures.**  
Co-Chairs: Martina Juvara from the UK, and Abdelwehab Alwehab from Iraq.

Introductory reports for the 6 tracks are provided by the congress team members. Each report presents the topics and main questions of the track, and each of the 4 sessions, and elaborates the most interesting points in the authors' papers.

On behalf of the congress team, welcome to the 50<sup>th</sup> ISOCARP congress.

**Amos Brandeis, August 2014**

## Introductory Report Track 1

### Urban Design, Landscape and Livable Cities



**Co-Chairs:**  
**Hongyang Wang**, China  
**Guy Perry**, Poland

Track 1 deals with the basic arena of city and regional planners: spatial planning, design and landscape shaping under this year's theme 'city and water'. Our record clearly demonstrates how significant and widely relevant this year's theme is. We will have 22 presentations from 16 countries (!) and they are selected from nearly 70 submissions. They will bring us updated water-related development and intervention world-wide, indicating how fashionable water & water related development is for public administrators and developers. Although all acknowledging the vitality of water in city, our speakers will critically examine the current movement, from its explicit positive and suspicious effects, to the fundamental impact on social behavior, cultural identity and natural ecology; from practical planning and design tips, to general methods and theory; and from the present to the historical lessons and future foresight. Our track will show, the **multiple objectives, current progress in both theory and practice** as well as wisdom drawn from **history**, all suggest that policy-makers, developers and planners critically review their current policies and objectives to create more **humane** and **resilient** cities. Along this line of exploration, our track is organized into four sessions:

#### **Session 1.1: Water in Cities: the 'Eye' for Building and Regenerating Viability and Identity of Cities**

What is the current global situation of waterfront development or regeneration? Is there any trap with the current practice of water-related development and design, e.g. are mega-projects a good way?

Study and comparison of numerous cases from Singapore, West Africa, Chile, Portugal, Germany and Slovakia bring an overview of global waterfront urban and regional practice and mega-projects. Apart from the implication of the significance of water-related urban transformation, one will firstly observe how diversified the typologies of waterfront projects could be: development or brownfield regeneration; site, city or metropolitan scale; greenway, leisure but active beach, public cultural center or dense CBD; organic to continue the local social and cultural fabric, or radically Dubai-like modern fashion. However, no matter what typology a project belongs to, all studies conclude to carefully understand the complexity of water-related intervention. The role of the water is not just for the site, but also for the city and region, and hence the design has to carefully consider the impact at multiple scales. Waterfront project seems to exhibit more obvious interrelations of elements that determine its space. These elements include the natural ecologies, the infrastructural system, the built environment, the open spaces and the new urban extensions. Also different stakeholders have different interests and tastes on waterfront projects. As water is like 'eye' of a city and region, which looks at everybody and vice versa, success of water-related projects is determined by its integration of diversified interests and goals. By contrast, there is evidence that mega-projects may tend to ignore some of the complexity of water-related development, such as the balance between public and private space, local cultural identity and modern functional demand, mixed use and mono function, and radical change and gradual evolution.

### **Session 1.2: How does the Water Shape the City and Region?**

Re-approaching the rationale, mechanism and technology that water creates, integrates and promotes a city and region. What can we learn from historical wisdom of water treatment in habitats, cities and regions? What are the new explanations of the mechanism that water shapes a city and region?

Empirical studies on cases in China, Serbia, Italy, Poland and Brasil help to illuminate the rationale how the water shapes the physical and socio-economic morphology of cities by integrating various natures (such as flowing, dynamic and uncertain) and functions (such as drinking, transportation, sewer, defense, anchor of public space, stimulus of enlightenment, home of landmark architectures and hence eminent figures). This traces back to ancient time, when integration of several basic functions relating to water created harmonious Southern Yangtze small town image in China. And in Italy, the accumulation and harmonious integration of functions along the history created the glorious memory of the landmark Redefossi canal in Milan. However, when the basic and multiple functions and their integration are blindly seen, brutal treatment upon water and relevant space would happen. Today, image of globalization (power of capital, instant change and mass production are part of it) is a key driving force behind much water-related development and intervention, which has already produced many and is producing more controversial results. Remedy of debatable projects often include rediscovering and reconnecting (repositioning) the water into its vital functional networks, like what is happening in Warsaw, Poland.

### **Session 1.3: Organic Holistic Planning and Design of City and Water**

How to integrate multiple objectives into water-related planning and design?

This session tries to collect some project or planning samples integrating multiple objectives. It will start with another Keynote of Track One, which based on investigation of some most famous European waterfront projects (including the Marseille waterfront development, the London Docklands and the Thames riverfronts, and the uncovering of the Manzanares river in Madrid), tries to establish a neutral framework to evaluate the integrity of water-related development and planning (from whose standpoint, in whose interest, to whose benefit, with what short-term effects and long-term effects etc.). Then four river related plans/designs or concepts from Poland, Kenya, China and Russia will be presented, all of which try to integrate many values or assets, including creating a 'green-blue corridor' capable of creating settlement and employment opportunities for nearby informal sector poors.

### **Session 1.4: Building a Resilient Water-integrated City and Region?**

Direction for future water-integrated planning and design Holistic integrative water related planning brings back the classic debate on comprehensive planning (rational planning). And the comprehensiveness is still growing. Technically, could and how could planning and design accommodate such comprehensiveness?

The debate on comprehensive planning insists that it is impossible to clearly plan in advance the multiple objectives and interactions of various elements. On the one hand, this session will demonstrate more functions and objectives that water and water related space could have, such as water's phenomenological or atmospherically evocative (rather than concrete) function. It will also discuss technologies measuring and integrating these functions and objectives in planning and design, such as the water and wind simulation, which tries to concretize some elements of Chinese ancient wisdom *FENGSHUI* (wind and water). On the other hand, the six papers in the session also imply a technical solution to accommodate the increasing complexity of water related development and its planning, namely resilient planning/design. That is, the planning and design would not deal with

everything but focus on *accurately* identifying and settling the limited but vital objectives for any specific project. For example, the Netherlands' practice to create its delta is a project around solving the key contradiction of flooding and agriculture. And today, its Delta Envisioning Support System (DENVIS) is focusing on bringing people together (making communication and consensus-building happen). The White Nile Sugar Project of Sudan focuses on integration of local agriculture and industry. Such efforts are to build resilient structures for space, where the key pillars against disasters are set and other elements will adjust themselves in response to individual needs and changes. As a whole, a reboundable viable system is created. Of course, such a system should be built not just on a city but also on a regional basis.

In all, Track One will demonstrate that water related urban development has a unique transformative potential to create more humane, culturally relevant and ecologically harmonious cities.

## Introductory Report Track 2

### Social Aspects, Collaboration and Governance



#### Co-Chairs:

**Olusola Olufemi**, Canada

**Gabriel Pascariu**, Romania

*“The problem facing mankind is not a lack of fresh water, but a lack of efficient regimes for using water that is available” (Robert Ambroggi). Perhaps when the rivers run dry...what humanity needs is “a new water ethos that cherishes water and respects the river” (Fred Pearce, 2006).*

Water as a connection or divider between cities or regions; water related collaborations at the national or local levels; cross-border cooperation, existence of formal and informal networks across territorial water or river limits, point to the significance and sacredness of water among different social cultures and environmental facets. Authors from 17 countries, from 5 continents present case studies covering 7 European, 6 African, 3 American and 3 Asian countries. There is a large number of cases coming from some of the largest countries in the world such as China (5), Brazil (3), Nigeria (2) India (1) and USA (1) responding in various ways to the above topics proposed. The 24 presentations are scheduled in 4 two hours sessions having specific topics and briefly described below.

#### **Session 2.1: Water Demand, Availability, Utilization, Scarcity**

How has water been a divider or connector in various social communities in respect to access, use and rights in the framework of different geographic, cultural, institutional, environmental, social or economic contexts?

The case studies from Brazil, Ethiopia, Kenya, Nigeria and Serbia refer to the issue of problematic access to drinking water resources of less favoured social groups within the framework of legal, institutional, geographical or cultural conditions. The authors suggest various possible solutions to improving living conditions and access to water through organisational measures, increased cooperation or better use of new technologies and water courses integration through means of efficient planning and creative urban design.

Water scarcity threatens women’s food provisioning work (production, procurement, preparation, processing and distribution) in Nigeria. The paper suggests various measures to meet women’s practical and strategic water needs. The river for the people case of Da Pedras River’s revitalization in Rio de Janeiro addresses the critical relationship between the Rio das Pedras slum and the river using an urban design approach. In Kenya, the new constitution demands the right to safe water and sanitation for all. The author examines a social approach to increasing access to safe drinking water. In Belgrade, the Sava Amphitheatre is a central part of the city which remained unsolved from centuries, located on the Sava River. The paper provides an overview of the various attempts to transform and organize a core area of the city with political, cultural, social and functional implications. The formal and informal land contests around major water bodies in Ethiopia are an emerging changing pattern of urbanisation and habitation in this longstanding highland country. This paper provides historical and contemporary contexts while suggesting responses through appropriate hydro-social organization. The case of Vila Acaba Mundo, is about a slum located in the city of Belo Horizonte, Brazil, which has a

history of 60 year occupation and of intense social mobilization around land tenure and housing regularization. The paper examines possibilities of water and environmental protection.

### **Session 2.2: Water Strategies and Planning Policies**

How could planning policies and integrated strategic approaches improve the multiple uses of water as a social, economic, energetic or urban image resource?

The case studies for this session from Belgium, China, Germany, Mexico, and Romania presents a variety of situations related to planning policies and strategies from flood risk management to more efficient multi-use of water as a complex social, economic and energetic resource. Papers discuss the need for integrated territorial approaches and long term visions and strategies combined with improved regulatory frameworks, multi-level and multi-scale cooperation and enforced planning policies in all issues related to management of water resources.

Beijing faces a complex water conflict and crisis. This paper, using mathematical and spatial statistics results, examines the influence of water planning on water conditions. The author proposes in the end feasible strategy for water planning in the Chinese capital. The authors of the paper on "The Future Commons 2070..." focus on the case of the Belgian part of the North Sea and the development of major projects related to coastal defence, energy supply, harbour extensions and argues about the need for a global long term vision. The case study of Yangzi Waterfront commercial district in Wuhan, China, analyzes the key elements of multi-department coordination, cooperation, collaboration and power balance regulation in order to achieve rational utilization of spatial, land and water resources in waterfront urban design. The Mexico case study aims at uncovering the factors responsible for the inability to transit from political discourse to actual practice in risk management especially, flood and risk mitigation. The paper identifies some of the main weaknesses of public policies and regulatory framework in the field. The overarching questions of governance settings and rural-urban linkages are tackled in the joint research on Sustainable Land Management in Germany adopting the trans-scalar and trans-sectorial perspective within an interdisciplinary approach. The paper from Romania discusses how a more efficient management of water resources can accelerate intra-regional and trans-regional cohesion. The author argues that a place-based approach, promoting integrated territorial management of water resources requires a complex management of their relationship with the land and associated resources.

### **Session 2.3: Waterfront Developments, Investments, Big Projects**

What kind of water related planning tools and processes, institutional capacities, collaborations and governance practices exist?

The session includes presentations from China, Qatar, Nigeria and Poland, covering various aspects related to waterfront developments and other big projects related to water in general. The scale of problems goes from very large ones generated by gigantic infrastructures to smaller local interventions at city level, touching social, economic or cultural implications as well as spatial and functional ones. One particular analysis is focusing on the social and behavioural transformations due to rapid urbanisation along coastal areas of Western Africa.

The paper on waterfront revitalization discusses how the innovative concept of "territorial capital" reflects the transformation in urban. The research study analyzes selected waterfronts' revitalization strategies and their outcomes, along with the urban spatial policies and their recognized practice on elaborating patterns of design for waterfronts within the context of post-socialist cities in Poland. Evolution and development of the relationship between rivers and urban space in the Chinese ancient capital city Luoyang is examined along its long history following the successive changes of the rivers'

functions. In recent years the recreational function of the water has been significantly enhanced. The case of Three Gorges Dam - the largest hydro-technical infrastructure project in China and probably in the world – has generated huge problems of relocation of people and environmental reconstruction. The paper discusses the river culture and its spatial patterns of history, from the time-space-humanity perspective. Using case studies from a few "immigrant towns" built over the last 20 years. Pearl Island in Doha, is the biggest sea-reclaimed urban project in Qatar, inspired by the "Dubaisation" trend in the Gulf Region. The paper analyses the politics and processes of mega water developments in the Arab Gulf region touching on socio-economic impacts and challenging the sustainability issues. African case studies, covering 8 big coastal cities from Nigeria, Sierra Leone and Senegal are examined in the paper from the perspective of rapid urban expansion and resulting evolution of new coastal urban lifestyles and their wider social negative implications for fisher folks, wetland farmers, indigenous people, women and youth. Suzhou creek is an important river in Shanghai city, which has undergone renovation over the last decade and has now a renewed image far from the previous disparaged one of "black and stink". This paper explores by means of social research tools, the usage of the rehabilitated waterfront public space of the Suzhou creek.

#### **Session 2.4: Water, Governance and Participation**

Are formal and informal networks reshaping the communities' relationship to water and the decision-making process?

Case studies from USA, Brazil, Tanzania, France, Portugal and China indicates concrete projects or experiences, showing similar concerns or approaches to the issues of community involvement, participatory processes and decision-making in relation to rehabilitation and urban integration of waterfronts or to improved access to clear water. Success stories, best practices about participation and governance, the role and value of water in the reshaping urban life or territorial identities and image and long term visions are discussed. Notable is the desirable actions, interventions, outcomes and necessary changes in governmental policies through innovative approaches.

"Voices to Vision" process aims at intensive community education and engagement in regards to the development of the San Francisco Bay waterfront in Albany, California, USA. The paper illustrates how "Voices to Vision" not only prepared the community for new challenge, but also guided the city through an incremental educational process leading to a strong, clear community vision. The municipality of Queimados, in the Rio de Janeiro metropolitan area, in Brazil, is a social-environmentally vulnerable region with an incomplete water system and no public sewerage system. This paper investigates through a fieldwork approach, the informal solutions and new alternative system, suggesting the need for socio-technical innovations. The case study of Dar es Salaam, Tanzania draws upon multiple scales from community level initiatives to city wide planning in assessing the current and future urban planning visions for socio-environmental justice. The paper explores the contrasting reality of informal settlements against the official planning discourse embracing future visions of "smart cities" and "eco-cities" as "solutions" to perceived "urban problems". The paper about the French political project of "Reims 2020" examines the participatory experiences that define the urban space, raising the awareness of the inhabitants about the water resources of their city and its surroundings and giving birth to a new sort of urban planning for this French city and its environment. In the Lisbon, Portugal paper "where land and water meet, people join together and (re) create", the author seeks to design an approach that induces positive spatial and social change among local communities in the context of minimum resources by taking advantage of the human and social capital. The Calcutta, India case study examines the politics of planning and reclaiming the river during postindustrial restructuring. The paper brings out the complexities of brownfield urban regeneration in a globalizing city like Calcutta.



Track 2 papers give an insight into social aspects, lifestyles of people with and around water and water bodies, collaboration, multi-level governance and accommodating multiple uses of water. Water can be and has been transformed through planning, creative designs, revitalization efforts and spatial patterning processes to accommodate various multiple uses and functions. Most water transformations have been influenced by politics, informal mechanisms, participatory processes, resilience and social endurance that have challenged environmental justice and the incremental education process.

## Introductory Report Track 3 Economic, Leisure and Tourism Aspects



### Co-Chairs:

**Alexander Antonov**, Russia

**Lorraine Gonzales**, United States

*"You could write the story of man's growth in terms of his epic concerns with water."*

- Bernard Frank -paths; urban parks; etc.

This session explores the evolution of planning principles in relationship to waterfront development; specifically, the "urban transformations" of cities and water. In the past, the environmental component of a community has not been perceived as an equal to economic development; instead it has functioned as a secondary or lesser priority. Past industrial uses have dominated waterfronts. In the world today the concept of global warming and realization that our environment is an equally significant component to define a community's livability on both an economic development and human interaction level environmental issues are dominate.

A collection of twenty four authors from various countries have presented papers to address the issues, goals, complications, and methodologies used to address the historical and environmental preservation, and redevelopment transformation to reclaim, revitalize, protect, and celebrate the urban waterfronts to achieve successful economic developments.

### Session 3.1: Economic and Leisure

*"There has been a lot said about the sacredness of our land which is our body; and the values of our culture which is our soul; but water is the blood of our tribes, and if its life-giving flow is stopped, or it is polluted, all else will die and the many thousands of years of our communal existence will come to an end."*

- Frank Tenorio, 1978

This session addresses economic development as it pertains to leisure. Six papers are presented by authors from Sweden, Portugal, Poland, China, United Kingdom and Russia. These papers explore the concept of blue/green/biophilia development as a means to enhance the human experience, perception, and economic development in respect to health and well-being, a valued environmental resource, job opportunities, tourism, and open space. Each of these elements are essential in defining a community.

The papers examine tools of linear walkways, waterfront parks, connections to urban development and green growth, preservation of heritage, financial resources, tourism, social equality, spatial development, and political challenges in the various case studies. The authors reveal the challenges of lessons learned, political will, historic content, and methodologies used. They further address if the lessons and tools are interchangeable and applicable to future projects worldwide.

Approaches offered in the Session 1 papers are characterized by the high degree of complexity and provide policies, strategies, and methodologies that are transferable to urban waterfronts worldwide.

### **Session 3.2: Historic cases**

*"Water is the most basic of all resources. Civilizations grew or withered depending on its availability."*

- Dr. Nathan W. Snyder, Ralph M. Parsons Engineering

How can the historic evolution of a community be a benefit when redevelopment is necessary for the economic survival of that community?

This session addresses the historic evolution of small towns and thriving metropolis as they struggle with the challenges faced to preserve the historic culture, architecture, infrastructure, integrity, and environmental amenities, while faced with the challenges of pollution, poor water quality, brownfields, strict conservation policies, flood events, and a lack of political will.

The session represents examples of riverfront and blue network transformations through the Ages, historical riverfront landscapes, regeneration approaches, and implementation of 200-years old visionary projects. The authors provide various forms of methodologies to address the challenges faced, which include development of policies for urban transitions to adapt the Historic Towns Policy, development of management studies and data collection, monitoring systems, public outreach, education, renovation and preservation of structures.

### **Session 3.3: Economic Development**

*"Civilization has been a permanent dialogue between human beings and water."*

- Paolo Lugari (founder of the Gaviotas Community in Colombia) –

How to create successful and an attractive urban environment along waterfronts for the residents and employment based occupants in post-industrial areas?

This session features papers from Austria, China, Poland, and United States. The trends of society and economic development during the early centuries featured port communities with a focus on fishing and industrial uses. The transition of time along with the shift from manufacturing to a service oriented employment base has demanded redevelopment of the industrial waterfront. This shift has created a dynamic where the economic demand is now focused on urban development, open space, recreation and tourism. The authors address the benefits that cover the community's economic and public well-being. The authors address the need to establish various relationships between the local residents, interest parties, and political entities to help define the issues, values and goals and the need to develop a marketing strategy. A quantitative analysis is employed to determine redevelopment methods.

### **Session 3.4: Recreation and Tourism**

*"Water, that wonderful, flowing medium, the luck of the planet — which would serve humankind in so many ways, and which would give our planet a special character."*

- Daniel Boorstin, *The Discoverers* –

What strategies can be employed to successfully redevelop a post-industrial waterfront to accommodate recreation and tourism needs?

This session features papers from Portugal, Egypt, France, China, and Poland which describe the seaside cities of Lisbon, Agadir, Sanya, Qingdao, Gdansk and Glasgow. These papers address the complexity and issues involved to deindustrialize a waterfront by planning and converting a significant portion of waterfront to serve the urban recreation, leisure and tourism uses. The authors address various methodologies used to assess the economic feasibility of the projects and to understand the social and economic network patterns necessary to apply urban zones and design economic and social sustainable environments.

## Introductory Report Track 4 Water Management



### Co-Chairs:

**Zeynep Gunay, Turkey**

**Marcela Villa Luna, Peru**

The reckoning of water wars throughout centuries and the fast and severe day by day increase of urbanisation of water that causes more destruction of water ecosystems, pollution, natural disasters on flood prone urban sites led us to face the need to discuss water management along the history of human interrelation with water and the measures to manage sustainably water resources nowadays. The participants of the Water Management Track have presented a number of themes within a broad picture of opportunities and challenges, which we have structured so as to respond to four stimulating questions:

- What kind of lessons do our history teach us to cope with water management?
- How do governmental policies address the environmental and social challenges in the urbanization of water?
- What different planning proposals can achieve water-resilient cities?
- What kind of methodologies are available to deal with the complexity of water management?

In this 50<sup>th</sup> ISOCARP Congress, planners urge us to consider different ways of facing problems threatening water surfaces pointing the paradigm shift with new integrated frameworks rooted in the essence of planning being comprehensive, interdisciplinary and multidimensional. Track 4 presents 22 papers that explore and discuss these different aspects of water management over 16 countries (China, Poland, Italy, Germany, Netherlands, Serbia, Switzerland, Kazakhstan, India, Pakistan, Algeria, Nigeria, New Zealand, Singapore, Trinidad & Tobago and USA). There are four sessions focusing on “Water Management through Traditional Wisdom”, “Governmental Policies in Addressing the Urbanization of Water”, “Sustainable Planning for Water-Resilient Cities”, “Dealing with the Complexity: Models for Water Management”.

### **Session 4.1: Water Management through Traditional Wisdom**

Global climate warming and environmental changes generated by rapid urbanization have increasingly shown their lethal results in our cities. This has made clear the necessity of urgent action to cope with wise water management models particularly focusing on the balanced relationship between human and nature. The lessons learnt from historic and traditional settlement systems is therefore important not only to bridge with the past but also to build a better future. This session features papers from Eastern and European societies that discuss the water management models based on traditional and ancient wisdom such as medieval particular view or understanding of the world, and ancient religions with evidences from China, Italy, Turkic settlements and India. Flood mitigation, water system restoration, irrigation system proposals are explored to learn lessons for a shift from water struggle to water wise planning: learning from history.

The session starts with a paper from China, which gives us an ancients’ traditional wisdom example to cope with disasters in ancient Dujiangyan irrigation region, explaining its basic philosophical essence and contemporary relevance. The next paper deals with the ancient Italian water system of the city of Milan inquiring the role of water system in the perspective of heritage and hydraulic system. The

paper from Kazakhstan gives a comprehensive picture of development of the Turkic culture on the realm of water, while the paper from India questions the role of water in stabilising cities as a way of emphasising the shift from commodity ownership of water towards a sense of community ownership.

#### **Session 4.2: Governmental Policies in Addressing the Urbanization of Water**

This session deals with the challenges facing urban water management and presents the implications of paradigm shift in policy-making including themes of sanitation systems, water supply exploring environmental, social and institutional challenges.

The three papers that deal with sanitation and water supply systems offer a scope from pricing scheme as a viable business model in a European sanitation system services in Germany to the availability of portable water and sanitation practices assessment addressed by national policies in Nigeria and the implications for household access to water supply in the Delta State, also in Nigeria. The role and practice of urbanization of water are questioned and evaluated through the governmental policies in the next two papers: waste water management in Pakistan and water transfers between urban and rural Indian regions is analysed (SES framework) by a USA participant. The paper from Trinidad and Tobago focuses on floods and examines the impact of recovery as a base of reforming the institutional and regulatory framework for disaster management planning.

#### **Session 4.3: Sustainable Planning for Water-Resilient Cities**

Sustainable development agenda addresses changes of emphasis in urban planning approaches and practices so as to link politics, urban and economic development, ecosystem and community needs. All papers in this session offer recent strategies, assessment framework and risk management.

The session starts with a paper from Singapore, which compares two different planning approaches and strategies of two world megalopolis: Singapore and New York City man-made and natural approaches to multi-functional water defense system acknowledging environmental, economic and social impacts considerations. The paper from Belgrade explores regeneration opportunities for neglected small urban streams, pollution and flooding by using decentralized open small-scale systems for storm water collection. A conflict case study is addressed by exploring an urban area revitalization and transportation improvement plan in USA. A paper from China deals with the assessment of water spatial planning framework efficiency through quantitative measurement of the dynamic changes of water-related space based on the case study of Wuhan. The last two papers of this session address water related risk management. The paper from Netherlands aims at understanding the impacts of rapid urban development on water-related urban challenges particularly in delta cities using the layer approach for integrated urban planning and flood management to optimize ecological, economic and socio-cultural values of water while mitigating flood risk in the urban context. Cross-border planning and water management including concerns on sustainable development, landscapes and agricultural land protection, ecological compensation and others is analysed in the Linth Plain case study in Switzerland.

#### **Session 4.4: Dealing with the Complexity: Models for Water Management**

In this session, the impact of urbanisation and urban transformation on water surfaces and methodological approaches in water management are explored. The session features papers from China, New Zealand, Poland and Algiers that discuss various methodologies and models for water management including impact assessment, bio-treatment and integrated catchment models, low impact studies and hydrology modelling in dealing with rainwater drainage, water supply or pluvial flooding.

Three theoretical papers on impact assessment are presented in first place: a conceptual hydrological model (multipoint inflow) for Beijing's Liangshui River catchment area, strategic environmental

assessment and cumulative environmental assessment linked to storm water engineering in Lucas Creek in Auckland, New Zealand and LID mode application for Chaihu Town case study, Zhongxiang city of Hubei Province, China. In this last paper, a planning strategy based in an ecological stormwater regulation system is put forward. Bio-water treatment: constructed wetlands and aquaponics development are the main guidelines for the next two papers. The paper from New Zealand explores the effectiveness of constructed wetland systems for mitigating water contamination in tropical climates, while water recycling in urban neighbourhood structures such as aquaponics, micro-hydro-power plants, bio-water-treatment or algae energy production is addressed in the paper from Poland. The analysis of domestic water consumption related to population growth and the means implemented to meet the needs of households to outline the limitations of the pursued supply-oriented policy are discussed in a case study from Algeria.

## Introductory Report Track 5 Environment, Ecosystem & Climate Change



**Co-Chairs:**  
**Nageeb Elhoweris, Sudan;**  
**Brigitte Schmelzer, Germany**

Human Well-being affords two strategies: first: save and use our resource system as a „common pool reserve“(OSTROM) and second: reduce and buffer global environmental impacts through effective measures. (Millennium Ecosystem Assessment).

Our topic covers under the main thematic of a water related context environmental strategies and planning tools to intensify sustainability and resilience in existing urban areas and in new developments. These projects afford a scientific, ecological base which is offered through academic research projects and best professionally proofed planning tools. Inter-disciplinary teams and the combination of “bottom –up” and “top-down” strategies including the public and stakeholders can guarantee implementation. The concept of resilience has been transferred from physics to social sciences via ecology, to ensure sustainability results in changing the perspectives of urban blue and green areas. This thematic is taken up through the wide range of studies and planning models which are presented by the papers of these four sessions about: Ecosystem Services, strategies for coastal urban areas, management of hydrological needs in cities and proposals to meet the effects of climate change.

### **Session 5.1 Ecosystem Services**

Which strategies and planning projects can help cities and regions to reach better sustainability for the benefits of a healthy and livable environment? Manifold strategies, projects and research on different planning levels, urban and near-nature landscapes will be discussed. The papers show high professionalism and remarkable projects for their main object sustainability and resilience.

The Urban Planning Institute of **Belgrade** offers an elaborate strategy for the riverine urban landscape at the confluence of Danube and Save of European identity “the natural core of the city”. An innovative methodology with the involvement of multi-disciplinary experts and an open public and institutional discussion process was the base for the multifaceted ideas and scenarios.

Ecosystem Services a renowned strategy shows the connectedness of all ecological parameters over time and spatial scales which can made operational for cities development: presented via several remarkable projects of **Stockholm** the Swedish town at the Baltic Sea.

A project on the Northeast Coast of **Taiwans** National Scenic Area proposes a conflict diminishing land use model through a critical research. It is a good example of an adaptive approach to solve a land use conflict which resolved between nature conservation and further urban development.

A Norwegian team presents remarkable visions of sustainability and resilience for the future of **Mexico City** to regain former water qualities and reduce natural hazards. Lake Tecoco Ecological Park an immense area of 14.500 hectares also meeting social and recreational needs for the population. The recovery of Rio Piedad which was channeled for the Viaducto expressway as an “urban surgery” for bringing back and implement open space qualities. Although the Tecoco Park has been started in parts by 2012 but the two visionary projects are threatened through the competition with individual traffic.

Two building standards of **Switzerland** are perfectly presented; they are an assessment tool for sustainability in development projects: the “2000-Watt Sites “and the “Standard for Sustainable Construction “ The real estate development profits from this standardized tools through strategic positions of a sustainable portfolio

### **Session 5.2 Waterfront Cities**

Cities along sea shores or riparian zones of waterways have a special advantage with their image relevant location. How can they gain back their often neglected water connected areas for ecology and recreation under the additional threat of Climate Change?

The Restoration of Urban Scenic Fringe Areas in a Water Town in **China** is necessary to preserve the urban scenic beauty of the landscape which shall lead also to the improvement of the urban environment quality. Once again the question is how to coordinate the contradictions between city and landscapes in order to make environmental necessities a driving force rather than a burden of city development.

The Eko Atlantic Shoreline Protection and Reclamation Project of **Nigeria** shows how it affects the rate of beach retrogression on the Lagos coastline. The study suggests mitigation tools as a re-vitalization planning strategy to preserve, manage and protect the Lagos coastline. The aim to avoid future erosion of the beaches and diminish the surge has been failed so far. It is a good example how politically highly valued developments have ecological impacts in the wider adjacent areas which the investment promised to exclude.

"Spatial-Environmental Planning for Coasts and Maritime areas as a case of **Greece** in the Mediterranean context". In the era of climate change coastal cities and populations face serious threats. The paper aims at investigating policies and related planning instruments from United Nations and European Union launched during past decade and still in progress, in relation to an integrated policy for environmental protection and spatial planning of coastal and maritime areas in Greece.

The transformation in a waterfront community in the Mekong Delta, **Vietnam** refers to conflicts between urban planning and social practices to cope with flooding. Under threats from sea level rise, floods and water-related issues, understanding the complex ways that local residents can deal with water issues will become increasingly important. Future urban development may not be sustainable without a deep understanding of how the Deltaic people maintain their distinctive lifestyle. Furthermore, in a global context of expected increases in sea level, learning the practices of those living with floods in the Mekong Delta may help other people in the world to survive and adapt to unpredictable floods and new water environments.

The Analysis of the characteristics of San Du Ao’s raft settlements in Fujian, **China** discusses the Influence caused by the increasing serious economic, environmental and social problems including the decline of the regional fishery and the degeneration of water quality through the investigation on the spot and the analysis of typical cases; it also summarizes the layout features, elements and spatial characteristics of the traditional rafts in Sandu'ao. To achieve the ecological sustainable development of raft settlements, the paper puts forward a composite industrial mode which could integrate the fisheries and eco-cultural tourism together.

### **Session 5.3 City Water Systems**

City water systems have always been playing a significant role in maintaining the ecological balance from historical times to now. How can the re-naturation and re-integration of often neglected water courses bring back health and beauty to cities?



Deforestation in the Amazon Plain of **Peru** caused by political priority for external markets; poverty and population explosion sharpen the effects of Climate Change and fluvial dynamics. Since urban development neglects fluvial dynamics the authors present Environmental Models to sustainable urban development and a Land Use Plan for Disaster Protection.

The construction of greenway network based on ecological restoration of the old course of Yellow River in economically underdeveloped region of **China** aims at improvement of the ecological and landscape features. The evaluation standard for such a planning Project mostly is only its landscape beauty. This project aims to use a greenway corridor to also solve ecological problems.

Water Sensitive Urban Design and its Sustainable Management is a strategy urgently needed in **China**. In the Case of Wisdom Valley of the Suzhou Science and Technology Town the authors show this explicitly. To understand the wetlands hydrological cycles is necessary for disaster prevention. To retain the natural water resources is one aspect of Ecosystem Services as well as to have a refined rainwater management system. The authors present detailed mitigation measures: green roofs, permeable surfaces etc. and agriculture improvement

"Public Space Production as a Part of Urban Riverfront Development in Asmaya, **Turkey**. This paper focuses on the production of public space along shorelines as a "key issue" of a sustainable riverfront (re)development. To be able to achieve sustainability, a (re)development scheme should ensure "three key issues" by balancing them: healthy environment, an effective social usage and a vitalized local economy. The key point is "an organization" which be able to ensure the involvement of various actors at required phases to cooperate for taking part of the project.

#### **Session 5.4 Climate Change**

Since the awareness of the oncoming threats of Climate Change, scientific researchers and city administration engage in its topics. Climate Change is one of the problems of the 21st century. Its effects on cities will be severe as seen by the last report of the IPCC: Traditional planning models are inefficient to respond to it on the contrary some have largely contributed to the present crisis: rising temperatures in cities, floods, rising sea levels etc.

**Italian** researchers developed a planning and assessment method for climate regulating services. Ecosystem services can improve natural cooling in metropolitan areas. The best configuration for Green Areas to reduce the urban heat island is a spatial distribution showing a green area dominant in size and other smaller areas having heterogeneous size, not so much dispersed and interspersed within the urban tissue.

In **Niger** State flood vulnerability has caused impending danger in Sabon-Gari Minna. The researchers present a map of the vulnerable areas and carried out spatial analysis of the flood prone areas and determined the number of buildings vulnerable to flooding. Their final proposed strategies suggest amelioration for future flood disaster and risk mitigation in the study area.

In **India** combating Urban Heat Island through spatial integration of land-uses and water bodies is a scientific and practical duty. The paper evaluates the temporal variation of surface temperature and air quality data over the change of water bodies and ecological reserves and its role to strengthen the effect of Urban Heat Island. It offers workable and implementable solutions to combat the adverse impact of climate change and preserve the well-being of the urban community.

**Chinese** researchers offer an Ecological Sensitivity Analysis for Shanghang County, Fujian Province. Based on an algorithm analysis they come to areas which are appropriate for construction and others which are prohibited to build on. Ecological analysis comes to a comprehensive Sensitivity Regionalization map.

## Introductory Report Track 6

### Ports, Transportation and Infrastructures



#### Co-Chairs:

**Martina Juvara, UK**

**Abdelwehab Alwehab, Iraq**

As the volume of international trade experiences tremendous increase, the pressure to develop infrastructure to support such increases becomes more urgent. Expansion of such facilities, particularly ports in close proximity to urban centers bring along new challenges where urban designers and planners, as well as policy makers must confront. Pressing Issues involve developing synergies to maximize interface between transportation infrastructure, Ports urban domain, waterfronts and regional hinterland. Twenty four papers contributed by scholars from 14 countries are included in this track. The Track is organized into four sessions where relevant case studies from around the globe will be presented.

#### **Session 6.1: Regional Planning and Economics of Ports**

This session features papers that present an analysis of the economic impact of ports, and the spatial factor which ameliorate such impact. The development and planning process of industrial zones along the Chinese Yangtze river delta are presented, with an emphasis on future directions, which incorporate high-speed rail, urbanization transformation, and international trade climate. The role of city and regional planners is discussed in a paper from Poland, which examines factors in determining optimal location for container terminals. Another paper from Germany looks at the main causes of seaports infrastructure deterioration, and the interaction of elements that led to such condition. Polish infrastructure planning practices along ports and waterfronts are highlighted in another paper, which discusses issues of transformation from shipyards to intensive industrial usage. A paper from China presents an analysis of the competition among port cities in the Bohai economic rim in light of industrial clusters, urban agglomerations and port spatial distribution.

#### **Session 6.2: The Sustainability and Quality of Life Aspect of Ports and Other Infrastructure**

Papers in this session address environmental and design issues related to waterfront utilization. Air, noise, and water pollution problems in Mediterranean ports are presented in a paper from Italy. The need to introduce new methodologies and technologies to develop ports in light of MESP (Management of environmental sustainability of ports) policies is put forward. Gdynia Urban waterfront regeneration and transformation into public space is discussed exposing opportunities and challenges. The analysis of the relationship between urban environment and quality of life along the Emscher River is presented in another paper. Economic challenges for waterfront planning in Turkey is addressed, where a number of questions raised on how to integrate ports with city, and the need to integrate ports into urban planning agenda.

#### **Session 6.3: The Relationship between the City, its Development and Transport Infrastructure**

Papers in this track present paradigms highlighting the strong linkages between ports, transportation infrastructure, economic and social prosperity of communities. A paper from China concludes that

ports have a huge economic boost on urban development. An analysis is carried out utilizing the relative concentration index analysis of five domestic ports. A paper from Switzerland emphasizes the need to forge partnerships among spatial planning professional, municipalities, and port administrators to promote integration of port with city hinterland based on the TOD model. A paper from France highlights the need to integrate ports with the wider community utilizing built up or intangible heritage features to establish a collective memory to attract tourists and visitors. Similarly, a case study from Turkey argues that proposed commercial developments along the Galata harbor district in Istanbul may endanger urban life, and cultural interaction. Waterfront under utilization of the left bank of the River Sava in Belgrade is addressed in a paper which proposes the need to develop new models of spatial development of waterfront that takes into consideration environmental awareness, green design, technological reinforcement, and utopian thinking.

#### **Session 6.4: Urban Regeneration of Waterfront Areas**

Papers in this session feature topics related to opportunities and challenges of transforming existing shipyards and port land into attractive public spaces. A paper from Kenya looks at suitable mixed land uses that will transform Dar Es Salaam port without compromising port functions, while concurrently maintain port integrating with regional plans. Another paper from Belgium argues the need for coordination to resolve the tension between the waterfront and port in Antwerp. The emphasis is to find a balance between economic and spatial logic. Another paper from Belgium sheds light on the Ghent old dockyards project, which will transform an abandoned Brownfield into a mixed-use vibrant waterfront promoting economic development, and visual landscape utilizing architectural heritage of dockyard. A case study from Gdynia regards public space as a base for waterfront development and transformation. A paper from China highlights challenges to planners on how to transform industrial dockyards, railway, and blank space along Haine River waterfront into attractive public areas.