

Editorial

## Waterfront Areas as Hotspots of Sustainable and Creative Development of Cities

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This special issue of *Sustainability* is devoted to a very important sustainability topic, viz. cities and waterfront infrastructure. The presence of—and access to—water has been a critical factor in the long history of settlement patterns of humankind. Water is not only a necessary consumption good for survival, but has also an important production potential in an economic sense.

The grandfather of modern economics, Adam Smith, referred already to seashores and riverbanks as poles of economic wealth, as their openness allowed them to establish trade relationships with the rest of the world. In the course of time, ports have developed as major logistic magnets inducing trade and transport connections all over the world. Consequently, many port areas laid the foundation for a rise in welfare, not only for the direct areas concerned, but also for the hinterlands connected with these areas and for all other places served by these ports. Port areas were always hotspots of economic activity.

In the past decades, many port areas have gone through a phase of decline, as they became outdated or were replaced by modern facilities elsewhere. This has left many cities with large harbor front areas that were dilapidated and showed clear signs of environmental decay and even poverty. Such brownfields have increasingly become a source of policy concern and have stimulated the emergence of various land use initiatives in order to exploit the hitherto unused economic, social, logistic, cultural and environmental opportunities of such areas. As a result, many cities have in the past years developed new policy mechanisms for upgrading their port brownfields through harbor front and seafront development (e.g., the London Dockyards, the Kop van Zuid in Rotterdam, Cape Town, New York, Yokohama, Singapore, Helsinki, *etc.*). The two keywords in this drastic land use conversion are: sustainable development and creative sector stimulation.

Nowadays, port areas can constitute the entry point and core place for sustainable development for the entire urban system. To understand and exploit this potential, it will be necessary to design an analytical framework which would link the new opportunities provided by traditional port areas to creative and sustainable urban development. From that perspective, there is a need to develop fit-for-purpose, dedicated policy tools and initiatives, on the basis of general planning principles for harbor front and sea front development. This task would have to be undertaken against the background of the challenge to improve the socio-economic and ecological resilience of a port area—in relation to the city system—and to activate many initiatives that would convert historico-cultural urban port landscapes into sustainable and creative hotspots, starting from re-using, recovering and regenerating such places. This would also call for a new analytical apparatus in which integrated assessment of novel initiatives would have to be ensured in order to balance also conflicts between interests and values of a multiplicity of stakeholders. A simultaneous improvement of policy goals associated with port development—such as job creation, foreign direct investment, creative sector development, environmentally-benign mobility, and sustainable land use—would thus be a major task for a modern city.

Clearly, cities are not only engines of economic progress, but they are also the places where cultural heritage is prominently present. This also holds for port cities, which house a wealth of remnants from the past: warehouses, silos, wharfs, lighthouses, industrial archaeology, and so forth. It seems therefore plausible to seek the anchor points of urban rehabilitation of port areas in their undervalued land use related to past activities from the past. The general condition is that cities should be able to develop highly innovative strategic approaches of planning, conservation and management that really integrate harbor development into urban development. Indeed, organizational and economic innovation is key to improve the resilience of a city/port system, and thus the overall sustainability.

Port cities have always played a critical role as strategic logistic hubs for both local economic prosperity and global trade development in an internationally connected transport system. Nowadays, many port areas have often a dilapidated architecture and are subject to serious environmental decay. Port areas have unfortunately over the past decades often shown a transition into ugly brownfields, with meager perspectives for a bright socio-economic future. Nevertheless, port areas—and port cities—may offer a great potential for urban revitalization and new dynamics in logistically connected cities. There is increasingly a great need for fit-for-purpose dedicated policy tools and initiatives—on the basis of focused sustainability planning principles for harbor front (and river front) development—in order to improve the socio-economic and ecological resilience of port cities and to activate novel governance initiatives that convert historic-cultural urban port landscapes into sustainable and booming hotspots. A novel analytical apparatus—covering the three revitalization stages of re-using, recovering and regenerating port areas—may be needed to balance conflicts between interests and values of a multiplicity of stakeholders. Simultaneous improvement of policy goals associated with port development—such as job creation, foreign direct investment, creative sector development, environmentally-benign mobility and sustainable land use—will most likely be a major task of a modern port city.

Clearly, cities, in general, are not only engines of economic progress, but they are also the places where cultural heritage is prominently present. This also holds for port cities, which house a wealth of remains from the past: warehouses, waterfront landscapes, historical atmosphere, shipyards,

lighthouses, industrial architecture, and so forth. Many port landscapes with an impressive industrial architecture are even recognized as UNESCO sites. Here, the conflict between conservation of historic-cultural values and technological economic interests may be severe. Creativity and flexibility are then required to manage conflicts between private and public interests, past and future, new and old values, *etc.*

It seems plausible to seek the anchor points of a promising urban rehabilitation/revitalization policy for port areas in their undervalued land use related to past activities. And therefore, a general departure point for urban renewal policy is that cities should be able to develop highly innovative strategic approaches in planning, design, conservation and management that really integrate harbor areas into a comprehensive development of the entire city. Indeed, organizational and techno-economic innovation and creativity are key to improve the resilience of a city/port system and thus—in a broader setting—the overall sustainability of urban agglomerations.

Modern port areas may thus constitute not only the land-water entry point for people and goods, but may also act as core places for sustainable development for an integrated urban system. To understand and exploit this potential, it will be necessary to design an analytical assessment framework that links the new opportunities provided by traditional port areas to creative and sustainable urban development.

Good policy practices can be found in various port areas, while good experiences also exist in the conservation of cultural heritage and historic port landscape areas. They should be carefully assessed in their capacity to combine and balance intangible values and economic values. The main focus of this special issue of “*Sustainability*” is on the barriers and opportunities of broadly based historic waterfront development projects in various cities. Therefore, the aim of this special issue is to bring together a collection of original and operational contributions that address:

- appropriate indicators and research tools for mapping out the performance of new port area/city development initiatives;
- necessary and/or desirable conditions for the design of the creative sector and sustainable developments in port areas/cities;
- learning modes based on good practices or experiences in various parts of the world.
- governance principles that would reconcile the different objectives and initiatives of a multiplicity of distinct stakeholders;

The 12 contributions collected in this special issue provide a sound mix of general studies on sustainable and creative regeneration of port areas, and operational case studies that provide general lessons. The various studies in this issue offer operational contributions on the role of port areas as key drivers of sustainable and creative regeneration processes in the entire urban system, with special attention for principles, strategies and practices of urban revitalization.

This special issue is subdivided into two parts. The first part (Part A) comprises six studies which aim to present and discuss mainly conceptual and methodological approaches to the assessment of waterfront areas in cities from a broad socio-economic and historico-cultural perspective. The second part (Part B) focuses the attention on six applied case studies in which a variety of modern evaluation tools are employed or developed for an appraisal of sustainable development alternatives of waterfront areas. We will now successively summarize the key points in each individual contribution.

In the first paper in Part A, Luigi Fusco Girard argues that smart sustainable regeneration of port areas/cities may be created on the basis of three principles: the *synergistic* principle (between different actors/systems, in particular the socio-cultural and economic system), the *creativity* principle and the *circularization* principle. The so-called Historic Urban Landscape (HUL) approach takes for granted that a transition toward a smart city development model is based on appropriate local culture resources (and not only on technological innovations): the eco-town/eco-city strategy is culture-led. It stimulates places as spatial “loci” for implementing synergies and circularization processes. Without proper evaluation tools and a widespread “evaluation culture”, the risks inherent in implementing a HUL approach may be considerable.

In the second contribution, Iva Mrak addresses the shifting perspective from the contemplative view to the dynamic-evolutionary view of heritage and the main characteristics of the resulting multi-criteria decision-aid tools for the evaluation of heritage. With the integration of conservation in planning processes and with the advent of proper procedures for public participation, there is a need for decision-aid tools that can help increase rationality and transparency in decision-making processes related to planning. By respecting the contemporary view of heritage and urban landscape, one may create tools capable of accounting for spatial complexity and the extant cultural, social, historic and economic relations. In her study, a specific tool was designed and proposed that can be used for the analysis, diagnosis, evaluation and monitoring of historic-cultural heritage, for identifying opportunities, for defining strategies for heritage management processes, and for the creation and evaluation of development and management scenarios.

The next article, written by Stella Kostopoulou, addresses the role of revitalized historic urban waterfronts as a potential creative milieu attracting creative tourists. She argues that waterfront redevelopment raises issues concerning an extensive range of urban planning and management perspectives, extending from land use to economic, environmental, cultural and tourism factors. She first reviews the ways in which the relationship between waterfronts and urban functions of port-cities has evolved over time and provides next an examination of historic waterfronts’ redevelopment as a creative milieu for hosting creative industries. The concentration of creative industries, cultural organizations and venues, and recreational facilities in urban spaces is assumed to generate a dynamic urban culture attracting a new wave of “creative tourists”, who prefer to visit lively creative spaces based not only on heritage, but also on contemporary culture. Her analysis focuses on how historic waterfronts can act as a creative milieu based on port-cities’ *genius loci* as cosmopolitan places of intercultural communication, offering a new approach to urban cultural tourism.

The paper by Pedro Monteiro, Teresa de Noronha and Paulo Neto points out some main characteristics and critical factors for success that can substantiate the strategy for a novel framework for maritime clusters. The authors conduct a benchmark analysis in order to distinguish the most relevant aspects in these types of clusters, by referring to the following countries: Spain (Basque Country), Germany (Schleswig-Holstein), the Netherlands and Norway. The differentiation factors involve agglomeration economies and endogenous conditions derived from geographic proximity essential for lowering transactions costs, and strengthening the leverage of public/private cooperation through centers of maritime excellence, while at the same time providing an adequate local environment that favors positive interactions between the different maritime industries and actors. The

main results arising from this article are presented through a reconceptualization of Porter's Diamond framework for diagnosing the competitiveness of maritime clusters.

Next, Joe Ravetz positions port cities in a changing global urban system. Changes occur from restructuring of trade, logistics and ship-building, bringing economic dependency, social exclusion and cultural destruction. Meanwhile, there are new opportunities in heritage tourism, cultural industries and ecological restorations, but these often bring negative impacts. The author then addresses the question of how port cities can steer from negative to positive development paths and outcomes. It sets out a way of working with inter-connected economic, social, political and technological factors—a “*synergistic*” approach to mapping of problems and design of policy responses. Looking at three contrasting examples of port cities—Liverpool, Dubai and Mauritius—he compares the complex dynamics of growth and decline, in order to understand the inter-connected factors of successful regeneration and sustainable prosperity—not as linear “policy fixes”, but more like synergistic processes of learning, innovation and capacity building. These processes call for new models for creative innovation in social and community enterprise: cultural heritage both old and new; new social finance and investment; sociological restoration with participative governance, *etc.*

Guillaume Dreyfuss, Maria Mifsud and Tom Van Malderen examine next the architectural practice of port area regeneration in Malta. This paper explores, through the lens of architectural practices, design processes and architectural proposals generated from experiences in the Valletta harbors.

The dynamics to accommodate stakeholder engagement and planning policy is also discussed, while ensuring design quality and the perpetuation of the creative process inherent to the city. Finally, the paper introduces also future experiments and studies of the practice on the wider Valletta district, putting into perspective the benefits of theoretical research combined with formal and aesthetic explorations of the harbor region. For regeneration to be successful it must inscribe itself in this process, driven by a deep understanding of the local environment. This paper concludes the methodological orientation of this special issue. The next set of papers (in Part B) is devoted to applied case studies.

The first paper in Part B of this special issue, authored by Karima Kourtit and Peter Nijkamp focuses the attention on the redevelopment strategies of an old shipyard area in the Amsterdam harbor area. This area, named the NDSM area, has a rich socio-economic and logistic history, but is nowadays a largely dilapidated brown-field area. Nevertheless, it has a great development potential. The paper offers a wealth of new assessment methods to evaluate future development alternatives of the area, using an interactive (participating) approach with various stakeholders. A novel element is the use of visual decision support tools—base on future images and photographs—in order to elicit preferences of stakeholders on various aspects of these future alternatives. This interactive approach helps to transform the current area into a new creative hotspot.

A next study, by Iva Mrak, discusses tools for identifying opportunities and evaluation strategies for the port area of the city of Rijeka in Croatia. The paper outlines the characteristics and offers an application of the decision-aid tool created for analysis, diagnosis and evaluation of development opportunities for this port city. The study pays also attention to the (re)connection of the city with its region, as well as with urban renewal, creative and productive activities, necessary support institutions, contemporary sustainable economic approaches and infrastructure. This approach is illustrated for the

incubator plan for Rijeka, once an important port and industrial city with a long history. The technological modifications in the functioning of the port and the re-orientation of industrial production in the proximity make the case study exemplary of the problems faced in contemporary port cities. The paper presents tools for analysis and for evaluation, including indicators for the sustainability of the city concerned.

Environmental management in relation to local regeneration in Valencia is the subject of the next study, by Filomena Borriello. Urban renovation projects, which have led to the conversion of port areas through a new vision of waterfronts as elements of the potential development of the urban system in its entirety, have spread since the early 1950s. Nowadays, some port cities are able to trigger mechanisms which are able to amplify and to extend over time their generated positive impacts. These impacts also produce a system of relations in the context of the hinterland, attracted also by broader policies of economic, social and cultural development. In Valencia, over the last 50 years, a progressive spread of the urbanized area to the coastal zone, simultaneously with a process of renovation of the port area, has taken place, accompanied by new architectures and equipped with efficient infrastructures and restoration operations of its historic buildings. Nonetheless, the environmental conditions near the port area are not well suited to a favorable quality of life, because of environmental and social degradation. This study offers a new method of integrating the port planning with an environmental accounting system.

The next contribution, by Antonia Gravagnuolo and Maria Rosaria Angrisano, is about the assessment of urban attractiveness of port cities in Southern Italy, in particular the study area of Torre Annunziata. The aim of this paper is to assess the strength and weakness factors of post-industrial cities located in the Gulf of Naples in order to explore the most effective regeneration strategies towards a sustainable development of the urban coastline. This paper focuses on the city of Torre Annunziata, and in particular on its industrial port area and waterfront. A sustainable development may be possible through the redesign and new functionalization of the waterfront and port area, by improving the resilience and creativity in order to integrate economic growth, ecological preservation and social opportunities. This study stimulates a participative approach to the regeneration of the urban waterfront, enhancing the creative potential of the city and developing a new image for the waterfront as a core area for future economic, environmental and cultural development. A comparison between the waterfronts of Torre Annunziata and other cities is also carried out in order to assess what are the most effective choices for the future of Torre Annunziata.

The aim of the next paper by Maria Di Palma and Fortuna De Rosa, is to highlight some perspectives for a sustainable regeneration process in the city of Naples, by exploring the direction of future policies for the city. The proposed approach is based on the above-mentioned Historic Urban Landscape concept which—being structurally integrated/systemic—is based on the relationship between the historic center of the city and its waterfront. The starting point is formed by a study of the experiences of urban transformation in various European port cities in order to develop a comparative analysis of case studies, through the synthesis of the most significant aspects of each port city, and to highlight the relationship between a planning phenomenon (and its context to be understood) and the critical success factors to be identified. In this way one may transfer the knowledge gained from good practices into the processes of regeneration of the city of Naples. Naples, for its stratified urban fabric

with its rich tangible and intangible cultural values and for its particular nodal position in the Mediterranean basin, lends itself to an original approach to urban regeneration of port cities.

Finally, Maria Rita Pinto and Elvira Nicolini investigate the role of the port city of Palermo in the context of the emerging Euro-Mediterranean vision and strategy. The geo-strategic position of the Italian peninsula can be regarded as a promising logistic platform at the center of the maritime trade in the Mediterranean area. The port poles, meant as hubs, are able to attract investments and create economic growth and territorial development through new operative models of urban usage and management. In this sense, the current strategic plan on “Palermo Capital of the Euro-Mediterranean area” imagines the whole city, and not just its harbor, as a “gate city”, a sustainable and cosmopolitan city in the view of a recentralization of the Mediterranean area. Their study tests an evaluation method in support of urban planning, which increases the active role of stakeholders in terms of participation and access to the decision-making process of urban renewal strategies for Palermo as part of the Euro-Mediterranean area.

We may conclude that historical port areas may cause some short-term burden on a city’s rehabilitation strategy, but at the same time they offer unprecedented sustainable and creative development opportunities for modern cities in transition. The contributions in this special issue aim to offer refreshing conceptual, methodological and applied policy perspectives on the future role of historical port areas and port cities.

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