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Towards a Circular Regenerative Urban Model

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EDITORIAL

Luigi Fusco Girard

The outcome of the United Nations Conference in Istanbul in 1996 was the *Habitat Agenda*, a global action plan for the sustainable development of human settlements.
In 2001, a plenary assembly was held at the United Nations in order to verify its effectiveness and implementation status all over the world.
Then, in 2002, the *Habitat Agenda* was published also in Italian by the Department of Architectural and Environmental Heritage Conservation in the book entitled *Habitat Agenda/Agenda Habitat. Verso la sostenibilità urbana e territoriale*, describing some experiences concretely realized.
Today the *Habitat Agenda* needs to be updated because it could not predict the extraordinary changes occurred over the latest 20 years.
Increasingly, the wealth of a country/region is represented by the wealth produced in its cities. However, cities are also major generators of entropy: they are the most significant source of pollution/environmental degradation, climate destabilization, etc., that adversely affect the health and the economic conditions, too. It represents a source of significant waste of resources and dissipation of wealth: an economic damage that, in the current conditions of crisis, is not affordable.
The starting point of the new urban regeneration strategies is the intertwine with the environmental strategies and with the regeneration of local economy ones.
On one hand, the above calls the search for a more efficient, effective and sustainable new organizational strategies, making it possible to minimize waste throughout the production cycle and consumption. The increased efficiency/effectiveness/productivity in the use of natural resources, achievable with the reuse, recycling and regenerating (i.e. circularization through virtuous and symbiotic processes of economic and ecological exchanges) reduces/minimizes emissions of pollutants and greenhouse gases (with health benefits of ecosystem and people) and, at the same time, it is a source of economic benefits arising from the cost reduction of waste and of resources and modernization of the production system.
On the other hand, the above calls for a new national policy for the city (i.e. for local development) much more vigorous than the existing ones: in cities we build the future of societies. Cities should become the most important partners of the activities of the central government. The local (economic, urban, infrastructure, energy, environmental and health) planning becomes therefore a fundamental tool for the promotion of the development of the entire country.
The implementation of the "regenerative model" toward a human sustainable development requires new approaches and new tools. Urban planning should contribute to local economy, being much more based on an ecological dimension and sustained by social (third sector) economy.
Symbiosis between industries, between industrial and port areas, between port areas/industrial system and city, between the city and the territory can provide high environmental and economic benefits.

To manage them, new decision-making support systems and evaluation tools are required.
Cities may take on a care role in launching a smart sustainable development model, starting from local cultural resources for the activation of the creative processes of a circular economy through a synergistic approach, combining the economic, logistic and industrial activities, with the cultural heritage regeneration and the creativity of its inhabitants.
This issue of Journal BDC, starting from the synthesis of the final document of the Sixth Word Urban Forum (see Joe Ravetz, Luigi Fusco Girard and Lisa Bornstein, "Draft synthesis of the final document of the Meeting 'Port Cities as Hotspots of Creative and Sustainable Local Development'", *BDC*, 2012, vol. 12, no. 1, pp. 67-69), provides many theoretical and practical contributes about the implementation in urban development strategies based on the circular principles.
The paper of Luigi Fusco Girard is about the role of planning in enhancing the quality of the city landscape by the implementation of circular processes through symbiosis and synergies in the space/territory, also with the aim to offer some perspectives for the new Urban Agenda development.
Tsuyoshi Fujita, Satoshi Ohnishi, Dong Liang and Minoru Fujii propose a paper about the symbiosis between industries in a more general framework of eco-industrial development, assessing the experiences of Japanese cities.
Iben Vadstrup Holm is interested in the urban design symbiosis. She applies the circular principle in architecture (the hybrid architecture) linking technologies with living resources and social exchanges in an original proposal.
Christian Ost is interested in rehabilitation of historical districts in emerging countries, also in implementing the Historic Urban Landscape (HUL) perspective.
Anna Pereira Roders provides a reflection on HUL, reviewing its implementation to address cities towards a sustainable urbanization.
Christer Gustafsson and Thomas Polesie analyze the returns of the circuits of investments in heritage conservation.
The topic of urban landscape is once again taken up by other authors: Alfredo Franciosa (in the perspective of its evaluation), Paolo Franco Biancamano, Serena Viola and Maria Rita Pinto (in the perspective of development), and Anna Onesti (with a specific case study).
Emil Malizia and Massimo Clemente papers face some specific aspects of urban regeneration: the production of places and waterfronts.
Rosa Anna Genovese discusses the rules for implementing the integrated conservation of cultural heritage in the 21st century cities.

CREATIVE CITIES: THE CHALLENGE OF "HUMANIZATION" IN THE CITY DEVELOPMENT

Luigi Fusco Girard

Abstract

Small cities can offer interesting practices of urbanization at the human scale, in achieving benefits for a more balanced regional order and also for the regeneration of "central" cities, i.e. big cities. High quality of landscape enhances city attractiveness and thus development perspectives. This quality depends on the density of circular and synergistic processes, i.e. on their capacity to multiply the flow of benefits. In the examined experiences, the "piazza" becomes the catalyst for communication, relationships, exchange of ideas and not only for marketing goods: the place of regeneration of all forms of energies and thus places for humanization. It is here that the quality of the complex landscape is maximized. The regenerative model development, that starts from the new circular metabolism and economic processes, should be extended to the whole city-region, modifying land and space use. The "piazza" characterized by a rich complex landscape as engine of social, symbiotic and economic exchanges, should be multiplied in the city: every urban building should become a little "piazza". In this paper some elements that should be included in the new Urban Agenda in order to implement the human scale of urbanization are proposed.

Keywords: circular economy, symbiosis, synergies

LE CITTÀ CREATIVE: LA SFIDA DELL'"UMANIZZAZIONE" NELLO SVILUPPO DELLA CITTÀ

Sommario

Le città piccole possono offrire delle interessanti pratiche di urbanizzazione a scala umana, per ottenere benefici a favore di un assetto regionale equilibrato ed anche della rigenerazione delle città "centrali", cioè le grandi città. Un'elevata qualità del paesaggio accresce l'attrattività di una città e quindi le sue prospettive di sviluppo, qualità che dipende dalla densità dei processi circolari e sinergici, cioè dalla loro capacità di moltiplicare il flusso dei benefici. Nelle esperienze esaminate, la "piazza" diventa il catalizzatore della comunicazione, delle relazioni, dello scambio di idee e non soltanto di beni di mercato: il luogo della rigenerazione di tutte le forme di energia e pertanto il luogo dell'umanizzazione. È qui che viene massimizzata la qualità del paesaggio complesso. Lo sviluppo del modello rigenerativo, che parte da nuovi processi economici e dal metabolismo circolare, dovrebbe essere esteso all'intera città-regione, modificando così l'uso del suolo e dello spazio. La "piazza", caratterizzata da un paesaggio ricco e complesso, quale motore di scambio sociale e di scambi simbiotici ed economici, dovrebbe essere moltiplicata all'interno della città: ogni edificio urbano dovrebbe diventare una piccola "piazza". In questo articolo vengono proposti alcuni elementi che andrebbero inclusi nella nuova Agenda Urbana per realizzare un'urbanizzazione a scala umana.

Parole chiave: economia circolare, simbiosi, sinergie

1. Introduction

We are in the century of cities. This is the time to think urban (UN-Habitat, 2013). Today, more and more, cities and especially large cities are to be considered as the engine of the regional and national development. Their barycentric role in the new theory of economic development is recognized: the globalized economy is heavily centered on the cities. Not only much of the economic wealth is produced here, but also global economy new dynamics of the is decided in cities.

At the same time, cities are geographical areas where the maximum ecological and social entropy is produced. They are black holes where the greatest amount of energy is consumed, with all the negative effects on the environment in terms of air pollution and greenhouse gases.

Moreover, divisions and social fragmentation tend to multiply in cities. The growing number of "informal" neighborhoods, as a concrete indicator of growing social poverty, is determining a new and more and more degraded urban landscape.

In the last *Rio + 20 Conference* a specific paragraph was dedicated to the role of integrated planning for urban regeneration (UN, 2012b).

The UN Habitat World Urban Forum in Medellin – on the topic *Cities for life* – has been organized on the general objective to «further advance of outcomes of Rio+20 UN Conference on Sustainable development» (UN, 2012a), toward a more "human" and sustainable development model for cities: in order to promote the «transition of city's social and political landscape from violence to peace and hope».

In which way city governance can implement wealth conservation, production and redistribution to reduce growing inequalities? Which tools for measuring results in order to «create a feedback loop for continuous improvements?» (UN-Habitat, 2013).

The notions of identity, belonging, public good, common goods, commons, social capital, social economy, proximity economy are frequently evoked in the general framework of the Meeting. Clearly, the percentage of people living in slums is a good indicator of existing and growing inequalities (Tab. 1).

With a demographic increase rate between 4.5% and 8.5% (Tab. 2) which kind of sustainable urbanization is possible to implement? The general outcome of this un-balanced growth is represented by the increase of social fragmentation (generating reduction of social cohesion, conflicts, etc.) and hampering poverty, together with the loss of identity and sense of belonging. Public spaces, cultural tangible and intangible heritage, natural ecosystems are more and more consumed and destroyed. The social and ecological resilience of urban systems of both the areas of people's emigration and the establishment of new concentration of population is putting more and more strain.

Rio + 20 recommends developed countries to support Africa's development (§§ 183-184). The reason is that Africa is today in the midst of a major transition (UN-Habitat, 2013), with new opportunities and new challenges. It is – after Asia – the second most populated world region: the population will pass from 1 billion in 2010 to 2 billion in 2040, to 3 billion in 2070. In which way it is possible to implement a «well planned sustainable and integrated planning» (UN, 2012a, § 134)?

«Holistic approaches to urban development are required [...] for urban regeneration [...] and for conservation of the natural and cultural heritage [...], the revitalization of historic districts and rehabilitation of city centres» (UN, 2012a).

Which specific holistic approaches can be proposed?

Tab. 1 - Percentage of population living in slums in Africa (2009)

Country	Percentage
Benin	69,8%
Central African Republic	95,9%
Chad	89,3%
Ethiopia	76,4%
Madacascar	76,2%
Malawi	68,9%
Mozambique	80,5%
Niger	81,7%
Somalia	73,6%

Source: UN-Habitat (2012)

Tab. 2 - City population growth rate

City	Growth rate 2005-2010	Growth rate 2010-2015
Abuja	8,33	5,01
Lilongwe	5,35	5,01
Limbe	4,99	5,06
Luanda	6,01	4,62
Mbuji-Mayi	4,48	4,22
Onaggadougou	7,25	6,52

Source: UN-Habitat (2012)

The big challenge for making life for inhabitants less in-human, especially in cities under new urbanization processes, requires new researches. There are no formulas or recipes to be applied mechanically. We recognize more and more that we need a new paradigm in urban development. The model of "regenerative city" (Girardet, 2010) is often evoked. It implies the capability to "regenerate relations" between inhabitants, between inhabitants and ecological system, between inhabitants and economic system.
This model of "regenerative city" starts from the regeneration of public spaces considered as spaces of economic specific attractivity, but also as common goods.
The ecosystems health – and thus the health and (physical, psychological, cultural/spiritual) well-being of the population – depends on the quality of vital existing commons.

2. Toward a new Urban Agenda to face the humanistic challenge

Habitat Agenda was the set of rules and suggestions and tools to promote a sustainable local development. But it was proposed when two-thirds of world population was still living in rural areas (UN-Habitat, 2013).
It recognizes the importance of health as the pre-condition for sustainability (§§ 128-143). Also the right to job, to housing, to good environment, to development (emphasized in §§

7, 22, 26) are still extremely topical.
It recognizes the fundamental role of evaluation (§§ 51, 52, 65, 66, 70, 91, 136, 137, 138) to improve governance. And this is certainly still relevant today.
But *Habitat Agenda* should be integrated and reshaped in order to face the challenge of humanization of growing and rapid urbanization.
It does not recognize the important role of resilience of urban system (that is not only linked to vulnerability) (§§ 43, 170) and the key importance of creativity/innovation to implement sustainability (§§ 18, 45, 76). The role of social/solidarity economy (or the civil economy) is totally ignored. Also the key role of private companies is undervalued. The importance of financial tools is only very briefly included. Also the role of the ecological base of urban economy is practically ignored.
The same observation can be proposed regarding the role of culture in urban strategies, that is not adequately stressed.
Habitat Agenda is based on the culture of human rights, but – for example – the right to cultural heritage covers only three paragraphs (152, 153, 154). Culture should be considered more in depth in planning for the human scale of city development, because it determines the successes or the failure of all public policies. The notion of landscape is included only in few paragraphs (30, 43, 152, 153, 154).
The experience of many small cities that have improved their economic conditions investing in the urban landscape of some specific sites, where the value of the landscape itself is particularly high (the squares/places), could be offered to integrate some items of existing *Habitat Agenda*.
This model is in part implemented in some small cities in Europe. It can become a possible perspective that could be offered to some African and Asian cities for their urbanization, avoiding the mistakes of many western cities and to implement the human dimension of sustainable development, through its intelligent interpretation and adaptation. African and Asian cities should creatively identify their own development trajectories, based on their specific identities.

3. How to carry out the model of "regenerative city"
Urban landscape is considered as a key component of city commons. It is here proposed toward an holistic approach for planning and development. The quality of landscape has been interpreted as the engine of a new economic dynamic: indeed, as the most important endogenous resource, which replaces the chimney of the development model based on industrialization (Fusco Girard, 2014).
In other words, the perspective of landscape is here introduced, as the holistic perspective able to integrate many different specialized knowledge, centered on the human being in all his relationships. Landscape is interpreted here as a catalyst of development, insofar it is a consequence of implementing and multiplying the circular virtuous processes, and then synergies and symbiosis.
The circular processes are those that mimic the organization of natural systems, which are able to self-reproduce themselves during the time, as a virtuous spiral. They provide high environmental and economic benefits.
The circularization of processes is here enlarged and transferred from the specific sector of waste management to other sectors and to the comprehensive organization of the city: its economy, its social system, its governance. The ancient city of Shiban (in Yemen) is a well

known example of city circular organization that links the physical asset with agricultural activities with socio-economic ones (Laureano, 1995).
Existing cities are organized on the base of abundant availability of oil. Their metabolism is linear. This organization has shaped not only the landscape but also the behavior itself of inhabitants: their way of life and their culture.
A more compact and effective circular organization is now required, limiting the urban sprawl, through reusing, recycling and regenerating resources (land, physical assets, energy, water, etc.).
To sustain this new comprehensive organization bottom up, we need also a new cultural city base, founded on relational thinking of inhabitants (Fusco Girard, 2013). To the extent these processes are multiplying and also relate to the way of thinking of inhabitants towards a "relational" perspective, and thus to the "cultural regeneration" (i.e., to their way of life) this model becomes instrumental to achieve the paradigm of the "humanization" of urban development.
The thesis of the paper is that the general principles to implement the human dimension of urbanization are circularization of processes, symbiosis and creative synergies. They modify and improve the existing urban landscape. More in general, they allow to face the challenge of the new human paradigm, inspired by the wisdom of nature: from principles of natural ecosystems organization, they become also the general principles of the new city economic system, of the social system and of governance for the human city of 21st century. The urban square/place becomes the space in which to catalyze new circular virtuous processes.
The empirical evidence (based on some good practices discussed in the following paragraph) shows that the above is feasible. Many small cities are offering some interesting practices for their regeneration but also interesting perspectives for the regeneration of the larger cities: some key element to implement this paradigm of humanization of the urbanized world can be found in the experiences of some small cities.
The paper shows that a creative stimulus for the revitalization and for the humanization of "central cities" can arrive from geographical "peripheries", if suitable conditions (approaches, tools, etc.) are developed. In fact, some resources, that are scarce in larger cities, are retraced here: there is often a vitality, a particular humanity, due to still existing forms of micro-communities and networks of personal face to face relationships. But above all there is a particular culture, a different way of thinking than unsustainable "disposable" current urban culture, that makes easier the challenge of circularization and synergies. Often, these are the networks of interpersonal relationships because everyone is perceived as a "person", related to other "people", whom communicates, interacts and acts with. In small cities there is still a connection between people, local institutions and their representatives, made up of personal trust relationships. This is a good pre-condition, because the model of "urban regeneration" requires cooperative/collaborative behaviors between the various components to be put into practice.
Public goods and public spaces, as common goods, are key component for regeneration.
Examining the experiences of small cities under this perspective, positive and limits are identified. A "strategy of places" ("piazzas", where the values of landscape are very high) is proposed in the last paragraphs of the paper: the regeneration of square/piazza that imitates the circular functioning of nature ecosystems, for regenerating all forms of energies and humanization itself.

The new perspective opened for urban planning and design is discussed: for example, how Living Labs can stimulate new synergies and circular processes, but through new evaluation tools.
Significant indicators need for assessing the outcomes of the new integrated planning, able to capture qualitative and not only quantitative impacts. The search for new indicators is a key problem to implement holistic planning considering qualitative performances and outcomes, and not only quantitative ones. A good example is the indicators of public spaces that is often proposed in percentages of urban land, as if the vitality of places could be assessed only in these quantitative terms.

4. A key local resource: the complex urban landscape

Cities of small size, where a considerable proportion of people lives, are trying to implement innovative approaches for their development, founded on synergistic use of all forms of capital existing at local level.
Here we want to draw attention to the transformation of small town, i.e. towns not exceeding the 50,000 inhabitants threshold (Cittaslow International, 2013; Fusco Girard, 2014). Nearly 66% of the Italian population (ISTAT, 2011) lives in these towns; and nearly 77% of French population (INSEE, 2011); nearly 60.5% of German population (Statistisches Bundesamt, 2008); nearly 83% of Swiss inhabitants (Swiss Federal Statistical Office, 2014). These towns are characterized by specific disadvantages, but also by a potential competitive advantage against the big cities (Kuntzman, 2010).
Small towns reacted to impacts of globalization trying to develop innovative forms of urban economy, directly related to different existing resources. That is, they are trying to exploit forms of local economy strongly territorialized, linked to "places": to history/culture and nature. For example, they have often promoted processes of food production at "0 km", in order to ensure the supply by reducing transport of goods, with all the consequent positive environmental impacts. They have tried to take advantage of renewable forms of energy available locally to feed themselves (and not just themselves). They are rationalizing the waste cycle through initial virtuous circularization processes of natural resources, developing micro-intervention projects, micro-business and micro-enterprises, and stimulating local entrepreneurship. In short, they are trying to make resistance to the process of homogenization, standardization, erosion and consequent degradation of urban landscape (often resulting in the reproduction of "vicious" circuits), producing a series of creative initiatives which have their starting point in valorizing specific identity elements and then differences. They have focused their actions on soft variables, starting with the quality of landscape to regenerate employment, not having effective internal workings of the labor market.
If it is assumed the category of landscape, and it is interpreted as the result of a complex dynamic and adaptive system, in which the center are the "relationships" (between different subjects and between communities, between communities and ecosystem; between economic and ecological components, etc.), it is possible to say that many small towns have implemented innovative actions to "regenerate" their local landscape. They have regenerated relationships in the ecological, man-made, cultural, social, economic and human landscape, with the result of improving overall resilience of the landscape itself.
The challenge is to create landscapes that are organized as living processes: landscapes of circular relationships, synergies and dynamic symbiosis that "tell" and in turn promote new

connections, relations of reciprocity and interdependence. In this complex and multi-dimensional perspective, the landscape becomes the first element to reconstruct "attractiveness", and thus work and development (Fusco Girard, 2014).
The "complex urban landscape" consists of combinations and interaction amongst six landscapes: natural, man-made, man-made/cultural, financial, social, human landscape. The specific character of a city, its particular identity (its attractiveness) derives from the particular intensity and reciprocal combinations of these landscapes (Fusco Girard, 2014): natural landscape, infrastructure man-made landscape, cultural man-made landscape, social landscape, human landscape, financial landscape.
External forces such as climate change, processes of urbanization/migration, ageing of population, economic globalization, etc., are shaping a new urban landscape. They are putting a strain onto with their (often not provided) impacts on the various landscapes, and on the equilibria of urban system.
The institutional capital, which governs access to various forms of capital (through rules, regulations, laws, etc.) and which regulates interdependencies between the different landscapes and conservation/transformation initiatives, "shapes" reactions from within city: practical initiatives for conservation, maintenance, redevelopment, management and re-creation of the overall urban landscape and within each type of landscape.
A city expresses its resilience through these actions. Negative impacts, arising from these external forces, can be so reduced, amortized and metabolized, reproducing prosperity.
Many and different landscape (or various "landscapes") evaluation processes, and landscape changes, are needed to support the choices of what, where, how, when, by whom, with whom, to do for restoring, conserving, managing the landscape, especially if it is assumed the systemic perspective of complex urban landscape (Fusco Girard, 2013).
Landscape is not only visual/perceptual, or artifact-cultural, but it is a complex landscape. It should be not only preserved, but also "regenerated" through appropriate transformations.

5. The experiences of some small cities

The perspective of landscape offers an integrated, holistic and systemic approach centered on the human dimension, for analyzing urban transformations. It was also noted that actions that are intended to modify, enhance, re-build landscape are useful to improve resilience. The concept of resilience is linked to dynamics of system changes and to identification of critical thresholds beyond which, springing up new processes and circuits of readjustment, there is less capability to preserve original organizational structure.
Many of the innovative activities carried out by small towns relate to the promotion of the urban landscape development. Indeed, often the key to success in many cities has been linked to the preservation and enhancement of the urban landscape as an entry point to reduce processes of degradation and loss of identity/attractiveness.
Starting from the observation that a poor and degraded landscape determines a loss of systemic (touristic-accommodating, economic, social/cultural, etc.) attractiveness and an economic loss, the quality of landscape has been considered as an economic engine for urban regeneration, in turn capable of delivering a number of benefits.
In fact, the visual quality of landscape is an important factor (Smit, 2011), but often not enough to linger people and activities, and to attract others, for the resulting positive externalities (Scott, 2013).
A conservation capacity of existing activities and an attractive ability to new activities

(especially innovative ones) is linked to a quality landscape if there is first of all a social quality landscape, formed by dense networks of trust and personal relationships (Hwang and Horowitt, 2012).
The quality of complex urban landscape contributes to productivity of economic activities especially of the most innovative, and not only of the touristic ones. It also determines the perception of well-being, and in turn it increases productivity of work itself, contributing to local economy and employment.
There is a relationship that can be empirically assessed between "quality" of urban landscape and choice of location of economic activity, in particular of economic more creative activities. It could be built a formal relationship between quality and quantity of landscape and its ability to attract, that shows how much and in which way and to what extent the quality of landscape is a "force" that guides/affects the development of activities, especially the cultural, high tech/professional ones.
In a survey aimed at "creative" entrepreneurs, 40% of respondents said that landscape has influenced their choice of location (Smit, 2011).
Landscape made up of space, streets, architecture, historical/cultural heritage, etc., is the fundamental element of identity/specificity that is ability to make a difference with other areas, through elements of uniqueness/integrity/authenticity.
This landscape can become a catalyst for productive activities, especially creative/innovative ones if a careful governance is carried out, involving all forms of landscape. In this perspective, also preservation/valorization management of the landscape becomes a tool for the reconstruction of collective memory and therefore the social/cultural resilience of a community.
Networks of small towns interested in the promotion of endogenous development are multiplying worldwide: the Transition Town Network, the International Cittaslow Networks, Networks of "Virtuous City" in Italy, etc. (Boschini, 2005; RuR, 2012; Hopkins, 2008). In Italy approximately 39.5 million people – up from about 59.5 million in total – live in these towns with less than 50,000 inhabitants (Tab. 3).
The advantages of small towns are many: a more accessible real estate market both for residence and business functions and tertiary; an immediate accessibility to natural capital/ecosystem; ease communication between different entities, given that they are less numerous, which means more bottom-up participatory opportunities, and in a much easier construction of consensus in the development of a shared strategic long-term vision; a sense of "human scale" of settlement itself that determines the perception of high quality of life and safety (Kunztman, 2010). Many small towns are introducing a number of innovations, based on the identification and valorization of specific competitive advantages that they can offer, building on them targeted development strategies.
Development strategies are designed to balance disadvantages of small towns, mainly due to the reduced supply of employment opportunities; lack of specialized, mainly cultural services; lack of financial resources from the national level (not being able to access to the national/international institutional networks); shortage of skilled labor.
Small towns that, enjoying easy access to central areas/metro, are able to compensate the absence of specialized services and employment opportunities, typical of big cities, have been particular successful.
The success has characterized especially those strategies that have managed to integrate their efforts to produce natural and built landscape with the quality of the social, human and

man-made landscape (Fusco Girard, 2014). In this way they have regenerated a demand and then a positive trend.

Tab. 3 - The sample of cities belonging to the network of Slow Cities

Slow city	Country	Resident population 2011
Amalfi	Italy	5,162
Bazzano	Italy	6,691
Caiazzo	Italy	5,652
Castel San Pietro Terme	Italy	20,447
Castiglione del Lago	Italy	15,412
Cerreto Sannita	Italy	4,065
Chiavenna	Italy	7,306
Cisternino	Italy	11,714
Città della Pieve	Italy	7,772
Città Sant'Angelo	Italy	14,404
Fontanellato	Italy	6,956
Francavilla al Mare	Italy	23,785
Giffoni Valle Piana	Italy	12,024
Giuliano Teatino	Italy	1,259
Hersbruck	Germany	12,229
Mendrisio	Switzerland	14,213
Montefalco	Italy	5,676
Nordlingen	Germany	19,051
Orvieto	Italy	21,018
Penne	Italy	12,686
Positano	Italy	3,860
Ribera	Italy	19,279
Santarcangelo di Romagna	Italy	20,820
Teglio	Italy	4,656
Tirano	Italy	9,093
Todi	Italy	16,900
Torgiano	Italy	6,509
Trani	Italy	55,826
Valmondois	France	1,228
Wirsberg	Germany	1,907
Total		**367,600**

Source: Cittaslow International (2013)

Their strategy can be ascribed to the re-generation of a complex landscape to stimulate/regenerate a demand and then the economic profitability for investments.
To generate employment, avoiding that local economy will become increasingly dependent on public transfers, they are trying to intervene reducing the conventional energy

consumption and thus pollutant emissions. Innovative activities tend to concentrate in the natural landscape and in particular in the following areas: agricultural/food production; water; energy; local products; recycling of waste; more efficient use of local natural resources.
Often, they have stimulated the promotion of micro-enterprises, as well as networks of micro and small enterprises, mostly small family activities, connected by circuits of new synergies and circularized economies. This system of urban economic organization makes local economy much more linked to the specific territory and promotes, on the other side, the companies which are better hinged in the territory and are themselves more resilient (the "circular companies"). For example, in the food industry, consumption of imported goods from abroad and sold in large supermarkets and out-lets corresponds to a loss of wealth that is transferred from local economy to other areas each year, with an evident consumption of energy and a greenhouse gases production.
The third sector (and in general social landscape) helped to play a role of increasing support to meet the demand for social services, also coming from an ageing population.
In the field of energy efficiency of buildings (built capital) and renewable energy (Aeolian, solar, biomass, geothermal), the network of micro and small enterprises has produced new jobs and new profits.
Recycling/regeneration of waste has been successful when more cities were connected in network, strengthening their relations of complementarity/synergy. The availability of suitable space to locate the processes of composting is easier in small towns. But it must then proceed to complete the chain of activities of recycling/regeneration.
In this way, the conservation of complex landscape becomes integrated with economic development, in the sense that natural, man-made, social landscape contributes to development and this, in its turn, improves landscape itself.

6. Toward the human scale of development: the cities of the Cittaslow network

Looking at a sample of small towns belonging to the international network of Cittaslow, it has been possible to detect a particular concrete implementation of the above Tab. 3. The sample is approximately 1/3 of the Italian slow cities. It was compared with a similar size sample of Germany, Switzerland and France. For each city we proceeded to carry out inspections, through targeted interviews, comparing the degree of match of supply by local institutions with the demand of people, traders, etc. The on-site interviews with mayors, auditors, technicians, traders entrepreneurs and residents have included: identity of the city, its unique creativity, fundamentals "attractors" of demand and results of public actions taken, state of urban and planning tools, trend of real estate market, etc. In other words, it has built up a picture of historic urban landscape (in terms of infrastructural artifact, cultural, commercial, ecological, social, human landscape) and actions for the conservation and improvement of the same.
The cities that have been really successful have been those who have developed a creative process of governance, starting from measurement of specific comparative advantages, based on a particular identity (Tab. 4), which are subsequently integrated in a multidimensional /multisectoral process.
The beauty of the local landscape interpreted as a natural and man-made system, which is a common element in many slow cities (Chiavenna, Teglio, Mendrisio, Castiglione del Lago, Città della Pieve, Sant'Angelo, etc.), has often been the entry point of various local

development policies. This "beauty" has been the subject of careful preservation and enhancement strategies, both directly and indirectly.

Tab. 4 - The specific identity of the cities sample

Slow city	Identity of the cities
Amalfi	Historic Maritime City, UNESCO heritage
Bazzano	City of Multi-ethnic Integration and Music
Caiazzo	City of Wellbeing and Good Food
Castel San Pietro Terme	City of Spa - City of National Observatory of Honey
Castiglione del Lago	City of Beautiful Natural and Built Landscape
Cerreto Sannita	City of Art and Ceramic
Chiavenna	City of "Crotti"
Cisternino	City of Music
Città della Pieve	City of Art
Città Sant'Angelo	City of "Maestri"
Fontanellato	City of Fairs
Francavilla al Mare	City of "Cenacolo cultural"
Giffoni Valle Piana	City of Festival of Kid Cinema
Giuliano Teatino	City of Home Composting
Hersbruck	City of Health
Mendrisio	City of Energy
Montefalco	City of "Sagrantino"
Nordlingen	Industrial City (fast) and Slow City (and of circular walls and of circular walls)
Orvieto	City of the Dome
Penne	City of International Tailoring
Positano	City of Summer Fashion for Women and International Tourism
Ribera	City of Higher Education in Art and Music - City of Oranges
Santarcangelo di Romagna	City of Wine and Art
Teglio	City of Accademy of Pizzoccheri
Tirano	City of the Red Train of Bernina
Todi	City of the Festival
Torgiano	City of Wine
Trani	City of Romani Architecture and Trani Stone
Valmondois	City of Nature
Wirsberg	City of Healthy Air

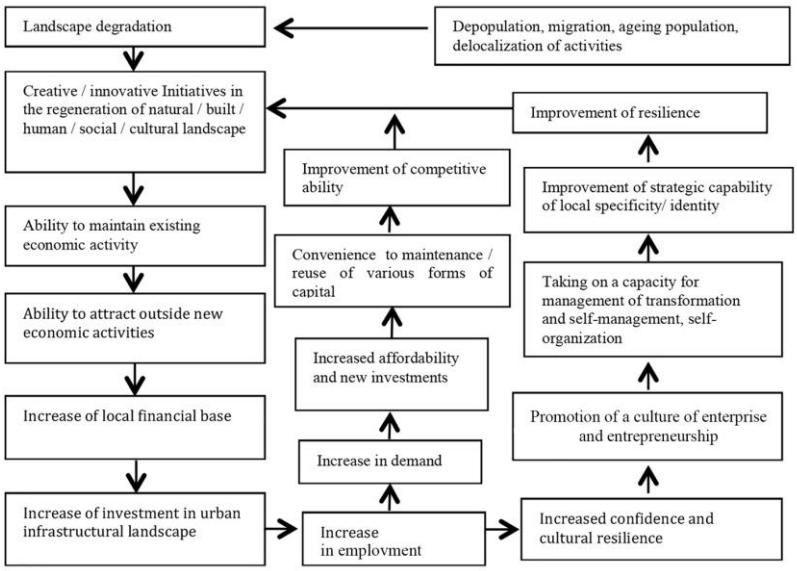
The beauty of the local landscape interpreted as a natural and man-made system, which is a common element in many slow cities (Chiavenna, Teglio, Mendrisio, Castiglione del Lago, Città della Pieve, Sant'Angelo, etc.), has often been the entry point of various local development policies. This "beauty" has been the subject of careful preservation and enhancement strategies, both directly and indirectly.

Creativity has been interpreted as fundamental "ingredient" to "make and exalt the difference" and thus to promote sustainable development (Baycan and Fusco Girard, 2013): to stimulate the promotion of "synergies" and "circular processes" capable of triggering virtuous spirals (likely self-sustaining over time, as in Giuliano Teatino, Penne, etc.), where synergies can be in: ecological system, social system, cultural system, economic system, urban system, system of governance. This perspective may cover many cities simultaneously. The centre/heart of the concept of synergy is represented by the systemic-relational approach: each element exists in a relationship of interdependence with other elements. Among these elements/components positive, circular or spiral or negative relations/spirals, relations can intervene. Therefore "synergies" express ability to connect, i.e. to relate, and then to integrate different elements/components together: people, institutions, forms of capital, different forces/energies, ideas, production of new creative/innovative solutions and then added value (not just in economic terms).
Synergies can refer to a single city, or to city and countryside, or to network of different cities. In general, when enabled, synergies generate: processes of communication, collaboration, cooperation, co-development, co-production that stimulate circular economy.

7. Toward the circularization of economic processes

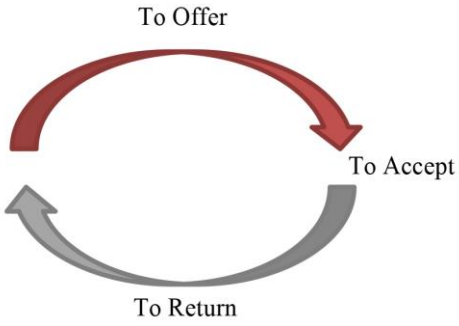
The focus of small cities strategy has been to promote initiatives aimed at increasing local resilience through virtuous circles able to interrupt and redirect existing "vicious" circuits, to cope with the impact of globalized economy and ongoing economic crisis (Fig. 1).
The attention to promote forms of "relational economy", an economy that is "circularized" because it "closes" the circuits, transforming the "chains" in a virtuous spiral, joins together some of these concrete experiences.
An example of "integrated" economy anchored in the ecology is the one that mimics natural symbiotic processes: for example, it proposes processing of waste or by-products in new resources and wealth, reducing emissions of pollutants and greenhouse; and promotes recycling and regeneration of materials/energy/water (Fujita, 2012). It is also the economy that considers benefits not only for an entrepreneur who invests, but also to other subjects that are involved by external effects.

Fig. 1 - Virtuous circles to reduce the urban decline



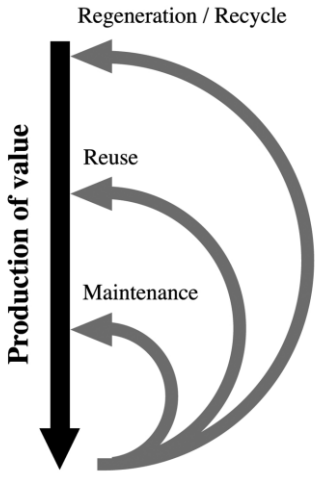
The solidarity/social economics, which transforms investments into profits by re-investing to better meet the social demand, is a form of circular/relational economy as well as the economy of cooperation, of social exchange are forms of market that enhance reciprocity, being based on a virtuous circle: to provide/receive and to donate/return (Fig. 2). They change the traditional "financial/economic landscape" and open up new and richer perspectives of "human economy" (Hart *et al.*, 2010).

Fig. 2 - The circuit of reciprocity



A similar circuit should characterize the investments in welfare activities: a new social complex value should be generated, thus transforming the linear process into a circular one. Maintenance, reuse, rehabilitation, restoration, recycling and regeneration of materials and energy are enhanced in circularized economy.

Fig. 3 - The circuit of creation and re-creation of value

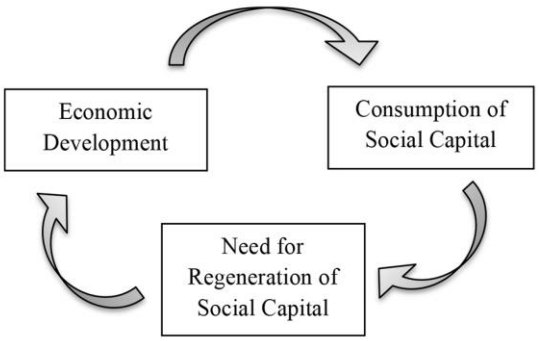


In turn, this circularization has contributed to support maintenance activities of different forms of capital, reuse and regeneration as further circularization in the circuit of value creation (Fig. 3). New processes of value creation are triggered with the symbiosis between industrial activities, between cities and production activities, between cities and countryside; leading to new wealth and new jobs (Fujita, 2012).
The economy of cultural heritage requires the capacity to attract (visitors/tourists), but also an ability to "export" goods and services outside of the areas of use (Fig. 4).

Fig. 4 - Circularization in the tourist economy

These circular processes, that contribute to the promotion of resilience and thus to the sustainability of the "landscape system", have particular implementation if there is a strong social landscape.
In fact, a frequent entry point is the promotion of local traditions through festivals, religious events, sports, fairs, exhibitions, etc., by which a community rebuilds its cultural memory, reinforcing bonds of co-belonging, reciprocity, and identity. In this way the social capital is rebuilt, i.e. the social landscape, which is an essential element for economic development and to create strategies based on synergy and symbiosis (Fig. 5).

Fig. 5 - The role of social capital in circular production process



8. Different landscapes and public spaces: the conditions for success

A common key element in all practices refers to the valorization of public spaces: squares and "places". Public spaces, squares, gardens, plazas and open spaces, monumental sites are central elements of the "historic urban landscape", that small towns have certainly improved. Here the comprehensive value of landscape is maximized.

"Places" represent the spirit of a city. In urban "places" a particular urban economic vitality, social vitality, energy, attractiveness, that are potential generators of synergies, is expressed.

A special "place" is the "square", which has been in the history the multi-dimensional and multi-functional geographical area where multiple interactions and interdependencies are concentrated. It is the space where urban landscape reaches the highest levels of quality. It expresses concretely the way in which it was interpreted the relationship between private interests and public interests.

The "squares", and in general, the "places" are contexts in the urban space where it has been possible to enhance synergies. The "square" is indeed a metaphor for the circularization of urban processes (Franklin *et al.*, 2013).

In these "places" economic, social, symbolic, cultural exchange occurs, and then the processes of urban circularization can be multiplied; here not only goods and services for money, but also ideas, experiences, knowledge, confidence, emotions, etc., are exchanged.

The "piazza" is a "place" where the opportunities can become more intense than anywhere: where continually knowledge and also ideas are combined and re-combined, and that can regenerate economic, social, cultural life of a city, in a spiral that tends to self-sustaining over time. The result is evaluable in terms of livability, trust, openness, welfare, community building, the promotion of a culture of sustainability and, more generally, the creation of a stimulating environment.

It is possible to analyze the experiences made by small towns (Knox and Mayer, 2013) through the perspective offered from the Historic Urban Landscape (HUL) (Bandarin and van Oers, 2012).

The Historic Urban Landscape adopts a systemic approach that recognizes, for example, that people are in relationship with each other, and in turn they interdepend with physical layout/space, according to certain rules/standards; houses are in relation to workplaces, and also in connection with system of public services and welfare; various productive, urban, residential, ecological functions are interdependent.

The Historic Urban Landscape, especially when it is characterized by a high aesthetic quality, was considered the great "catalyst" in many of these experiences: from Castiglione del Lago, to Teglio, Mendrisio, etc. In this landscape of outstanding beauty, specific activities and creative actions aimed at enhancing the particular identity of the different cities have been included: the Academy of Pizzocchero in Teglio, the Bernina Express in Tirano, the great Golf Course in Castel San Pietro Terme, the international Tailoring industry in Penne, the film Festival in Giffoni Valle Piana, etc.

Their membership of the Cittaslow network led to a particular attention to valuing, creating synergy and complement these initiatives in the course of daily life, often linking them to "green" redevelopment of building heritage, local agri-food production, artistic/cultural production and more generally to production of "places" (starting with squares).

What can small cities, and that is "cities of peripheries" can "teach" to cities of a larger size, or to metropolitan cities?

In the light of the foregoing, it can be concluded that small cities, and in particular, the slow cities seem to be able to propose a new model of development to metropolitan cities for their regeneration: they are able to show that the new paradigm of "humanization" of urban development and the process of urbanization is operationally feasible, starting from the regeneration of complex urban landscape of their places.

If small cities are connected in an efficient network between them, they are able to promote a more balanced regional asset, reducing demographic pressures on big cities, with the dual result of an internal and external quality landscape. They are also able to provide useful knowledge for the regeneration of central cities/metropolitan areas, promoting a new relationship between "center" and "periphery".

The overall message for "central" cities, which comes from "peripheries", is represented by a city characterized by a decentralized structure, composed of many "small towns" (i.e. districts), organized around a network of "attracting places", dynamic in their adaptive/evolutionary components, and as far as possible also capable of self-regeneration, self-regulation, self-management thanks to an efficient "neural system" of mutual and continuous connection (similar to what occurs in living organisms) that connects "centre" to other centers and to "periphery" introducing new energies.

Practically, the above mentioned cities have been able to transform negative spirals in circular virtuous processes, thus promoting forms of self-regeneration. In this respect, they can offer a perspective to promote the model of "regenerative cities": not only for themselves but also for bigger cities towards the new paradigm of humanization.

To summarize the reasons for their success, we can propose the following concluding remarks:

1. the success of the innovative actions is linked to systemic "bottom-up" and not "top-down" approach;
2. positive results depend on the capability to implement rational synergies: within the city, between city and countryside, between cities and cities. A special synergy refers to the ones between small cities (Città della Pieve, Castiglione del Lago, Orvieto, Montefalco, Torgiano, etc.); between small cities and large cities (Valmondois, Hersbruck, Nordlingen, etc.), also in reference to the rent of holiday homes (in small cities by residents of large cities);
3. success is connected to the capability to circularize some urban processes: from reuse, recycling and regeneration of water/natural resources/energy, to bio-architecture, green industry, etc.;
4. the success depends on activation of a local economy not only based on ecology, but also on social exchange: solidarity economy, the third sector economy, the human economy: the economy of proximity relations. It grows mainly in small business, in renewable energy, in community/welfare services, in reuse/recovery building, in sustainable tourism, in some agricultural productions, in the ethical finance. This solidarity economy is linked to territory;
5. the effectiveness of actions is linked to the production of places, capable of promoting relations of co-belonging (between people and the physical space), shared identity, and sense of community;
6. the success is linked to the promotion of investment in basic urban culture, that is, in the training/education system: in the networks of schools and vocational training. This system changes the way of thinking and makes more resilient and creative every

inhabitant.

It should be noted that policies of conservation/enhancement of landscape must go beyond a certain fragmentation of efforts, to have real success in the medium-long term. For example, separate collection is necessary to start with new projects in which water, plastic, glass, paper, metals recycling, etc., becomes a concrete condition to produce profits.

A more decisive experiment in reconstruction of local economy is needed, which is based on technological innovations (especially in energy field), and then on the circularized economy: on the symbiosis industry-city.

Slow cities have implemented interesting experiences. But it should also be noted that the slow culture, which emphasizes slowness as a condition not only for good life but also as a way to track the actions on the basis of critical reflection, in many experiences was not metabolized by inhabitants. It has not found a firm rooting in the lifestyle and culture of residents, without which there will not be a real taking care of landscape and an effective regeneration. Finally, development policies based on aesthetic quality of landscape, to be successful, must be integrated with social and human landscape, in view of the already mentioned "complex landscape": in this way, they can stimulate the work market and then regenerate the economy.

The experience of small cities and slow cities, however, has helped the spread of culture of commons (landscape, biodiversity, soil fertility, cultural/artistic heritage, etc.). Around some specific common good such as the landscape was regenerated a community; together with a regeneration of supply and demand of specific jobs. A good social landscape, rich of social loops, is the best ecology for stimulating creativity and innovation (Hwang and Horowitt, 2012). It is more or less widespread acknowledgement that if urban economy does not change in the direction of circularization, there is no possibility of improving conditions of inhabitants. Processes of circular economy and multiple synergies are all based on the culture of creativity, which leads to increased urban resilience, with emphasis on "shorts" circuits between production and consumption: from local food to local energy, local resources etc.

9. Learned lessons: "places" and "squares" as a catalyst for regenerative processes

The square represents the multidimensional space in which all forms of landscape intertwine and are maximized: the context in which it is possible to regenerate new (economic, ecological, social, cultural, symbolic, spiritual) values. In fact, the square becomes the centre of the strategies for the "regenerative city": it is the multifunctional space where there is a continuous flow of (natural, energy, economic, cultural, social, symbolic) resources that are exchanged through market and not-market processes.

Architectural/artistic/cultural heritage is concentrated here: square itself becomes a "monument" of the city.

Therefore, investment in reuse, recovery, rehabilitation, restoration, regeneration, i.e. in circularization process and for the activation of a new urban metabolism and new symbiosis, are also concentrated here. The concept of symbiosis, which arises from industrial ecology as a collaborative relationship between two or more subjects, in which waste product of a subject becomes productive input to another entity, with mutual benefits/advantages, can be extended to urban processes and in particular to some places such as squares, are not just economic "attractors", but they have a multifunctional role (Ayres and Ayres, 2002).

The "piazza" was the place not only of economic exchange of goods and/or services, but also of a social exchange and of cultural, symbolic and religious/spiritual exchanges (Kourtit, 2013). Place and "piazza" express space where human need to relate to other people, to come together with others, is satisfied. In the square/piazza the prospect of "relational men", which enters into a relationship with others, is realized. It is the space of "I" and "We", where it is possible to break the increasing solitude.

The meaning of small cities and slow cities insistence in the celebration of the rites/local festivals should not only be interpreted as the extension of tourist season, but especially as a tool in the construction of a social landscape, i.e. a social ecology of a "we-ness": of a "We" linked with an "I". Landscape becomes the medium for the cultural memory. It has the purpose of keeping cultural memory of a community over time, to avoid that past disappears compared to present (Adorno, 1960). It aims to build resistance to the "absolutism of the instant" and to maintain/restore (through memory) connective structure that creates confidence, bonds of community.

This celebration and actualization of memory, which should mean building resistance to the structural amnesia of present (which standardizes all aspects into one-dimension of the "here and now" of the economy) (Marcuse, 1964) is realized in public spaces (such as squares and places).

Here small cities proceeded to re- build the cultural resilience of the community.

Squares and places are certainly spaces of the economy of experience (Pine and Gilmore, 1999). In squares processes of self-organization, self-management or co-management of certain common goods (theaters, libraries, unused cultural religious heritage or public spaces etc.) has been also stimulated, thus making them sites of regeneration of mutual relationships and responsibility.

Many actors are localized/concentrated here: public institutions, economic institutions, public services of welfare, producers of private services and goods, property owners, lending/financial institutions, cultural/scientific institutions, museums/art organizations, social/community institutions, educational/training/educational institutions, subjects of professional world. Each one of them has its specific objectives to be achieved. New bridges should be created to transform these particular interests into a general one, through mutual/reciprocal relationships.

The concentration of synergies between different actors creates a "field of attractive force" towards outside the square, attracting talents and creative activities: it can regenerate a demand to the extent that new opportunities materialize here. This spatial concentration generating flow of ideas, new combinations of ideas/knowledge, production of innovations, makes easier interactions, cooperation between actors, which could lead to new processes of value creation (Franklin *et al.*, 2013). In fact, there is nothing new in all this. In urban history, square was the space where demand and supply of labor met.

But today, square/piazza can become the engine of new processes of urban metabolism: of circular or spiral processes. The case of raw materials coming from maintenance and rehabilitation of existing heritage for the construction of new roads et/infrastructures is a first example. A second example of symbiosis that can be localized in the square concerns waste management. Square as place of concentration of activities and consumption (restaurants, bars, hotels, offices, etc.), is also a strong producer of waste.

The management of waste, in the perspective indicated by the functioning of natural ecosystems, should refer to circularization, typical of symbiosis.

In square it is possible also that processes of cultural symbiosis occur. Some by-products from scientific activities can become inputs for new productive processes, oriented toward the market for satisfying specific needs.
The piazza can be regenerated through Living Lab approach, as tool for open innovation (Thomke and von Hippel, 2002; Chesbrough, 2003; Porter, 2003; Van der Walt *et al.*, 2009). In this perspective, the piazza can become the space for concretely implementing the Triple Helix model (Etzkowitz, 2008; Kourtit, 2013), for regenerating local economy, through the implementation of circular subsidiarity principle.
Another aspect of the circularization of processes refers to governance, and in particular to the process to improve choices that involve different subjects. These choices relate to innovative initiatives to conserve, manage, and transform "complex urban landscape". Which actions? Where to implement them? Whom with? Whom for? Which time priority? How to fund them? Which operational tools to support these choices?

10. The evaluation process to implement the circularization principle

The circular principle can be implemented through the evaluation process, assessing the productivity of actions in terms of produced outcomes and thus of re-generation of values, resources, opportunities, etc.
The evaluation serves not only to compose alternatives already "given", but above all to identify new and more creative design/planning solutions, in a circular/virtuous spiral (Fig. 6). Evaluations of different possible futures, understood as interpretations, anticipation of impacts, comparison are an essential tool not only to promote synergies in order to make organization of city more efficient and less dissipative: circularization processes reduce urban entropy. They are also necessary for the construction of creative public-private-social partnerships, without which, in the context of scarce public resources, to effectively provide for the development of different forms of urban landscape, and in particular the establishment of symbiosis in the actual space of "places", becomes difficult.
On one side, it is necessary that cities can be engaged in making more rigorous evaluation processes of proposed investments by private actors, considering all quantitative-qualitative impacts in short, medium and long time. An opportunity to develop monetary valuations (i.e., real estate impacts) refers to the "capture" of a percentage of real estate capital gains that are associated with redevelopment. It is essential to allow a financial circularization locally (Fusco Girard, 2014).
Projects for the re-use and re-generation of urban landscape (de-industrialized areas, contaminated sites, historic districts, etc.) should be able to raise resources through specific indirect instruments, capable to improve the local financial base (Fig. 7). They are classified in different ways (betterment capture, capture compensatory, tax increment financing, community infrastructures tax, impact fees, etc.), but they have this common goal. New specific tools are to be experimented to transfer a percentage of private benefits (coming from landscape change projects) to public institutions in a circular process. Such tools should involve the private sector to achieve the public interest in a contractual perspective in synergy with the social/civil sector. From these experimental projects, new rules and financial economic incentives are also deduced.
On the other side, the regeneration of places produces many not monetary impacts in the surrounding areas that should be assessed through a multidimensional approach. Economic Impact Assessment, Strategic Environmental Impact Assessment, Heritage Impact

Assessment, Landscape Impact Assessment, Health Impact Assessment, Social Impact Assessment, are examples of evaluation tools that should be integrated into a comprehensive approach. For example, the visual assessment proposed by Heritage Impacts Assessment (HIA) (ICOMOS, 2011) is not consistent with the multidimensional, systemic and complex landscape approach (Fusco Girard, 2014), if is not enriched also with an economic assessment of the landscape.

Fig. 6 - The circular/virtuous process of evaluation

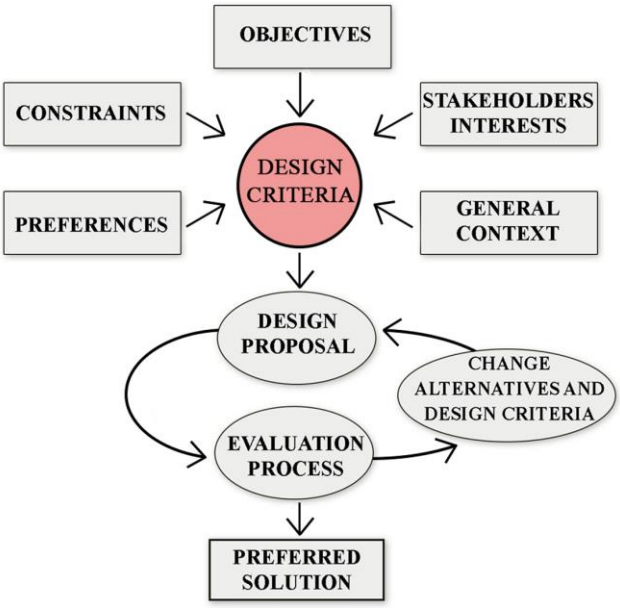
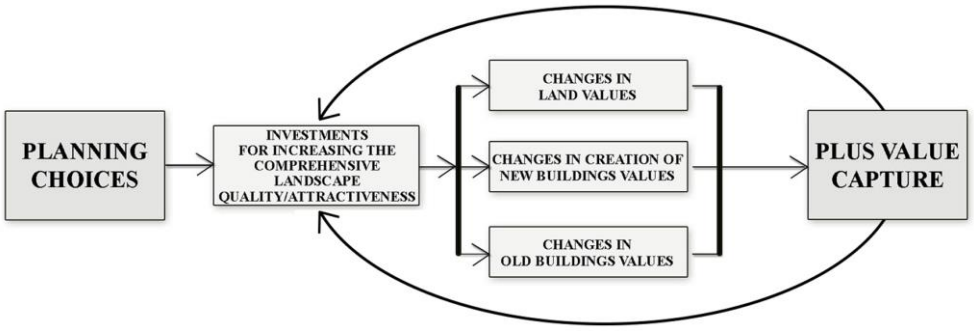


Fig 7 – Financial effects of urban landscape re-generation



The evaluation of synergies and symbiosis that may be proposed in social landscape improvement requires other evaluation approaches, based on participatory processes. The implementation of processes of Living Lab involves non-monetized impacts but rather qualitative ones. Living Lab is a tool for promoting innovations: through reciprocal learning, different actors are put in a new condition for identifying better solutions to react to their socio-economic needs.
Living Labs offer a real prospect for combining technical evaluations, proposed by expert knowledge, with participant evaluations, drawn from common knowledge, in order to carry out a community co-design of transformation of landscape. Living Labs are a tool that can contribute to a new governance, based on circular (bottom-up and top-down) processes.
With Living Labs it is possible to implement the "circular subsidiarity" principle of governance (Zamagni, 2013).
Here, the construction/reconstruction/management of different "landscapes" is traced to reference community, with its own specific values, needs and interests, through a progressive exercise of communication and critical insight.
In the Living Lab workshops we move from data collection to production of information, from this to production of knowledge and in particular to critical knowledge. It also seeks to broaden the horizon, moving from a short-term perspective to pay attention also to long term perspective, which is essential requirement for the development of strategic proposals. Living Labs can become laboratories of self-government and self-management, in which each participant should be transformed into an "artist of citizenship" (Fusco Girard, 2012), able to evaluate and combine/integrate creatively particular interests and general interests: utility, fairness and beauty. Living Lab processes should be able to transform natural/ecological values or artistic/cultural values in social/civil values: of mutual trust, co-existence, legality. These are essential resources of local landscape for the economic development. But above all, Living Labs are an effective way to develop creative actions about desirable urban future, based on social and relational base (Cerreta *et al.*, 2010). They are tools to implement the new metaphor of urban "piazza" (Kourtit, 2013) where ideas and knowledge are produced, where different interests are represented through a dialogue and where possible synergies are experimented to provide market oriented activities.
Through dialogic and evaluative processes activated in Living Labs it is possible to communicate/convince that "cooperation is advantageous" (also economically), and then conditions that are the real secret of all economic dynamics, trust, etc. are produced. In addition, from acquired critical awareness descends the condition of not remaining passive spectators, but of building creative initiatives of common interest, operationalizing the principle of circular subsidiarity concretely. The indicators for discussion, interpretation and evaluation in Living Labs should be grouped with reference to the different examined landscapes.

11. Conclusions: integrated planning for "well planned and developed cities"

Small cities can offer interesting practices about the human scale of urbanization, in achieving benefits for a more balanced regional asset and also for the regeneration of "central" cities, i.e. cities of large dimensions.
The learned lessons are that high quality of landscape enhances city attractiveness and thus development perspectives. This quality depends on the density of circular and synergistic processes, i.e. on their capacity to multiply the flow of benefits.

The regenerative model development, that starts from new circular metabolism and economic processes, should be extended to the whole city-region, thus modifying the land and space use. All circularization processes and synergies can be implemented in the space of the city/territory through integrated planning: planning is the institutional tool to transform the existing into the new city organization based on circularization, symbiosis and synergy principle. Planning reshapes the city landscape, improving the quality of the natural/built landscape, integrating ecological approaches with technological ones, toward the zero carbon /regenerative model.

Urban planning supports the new city comprehensive organization, founded on ecological, economic and social principles of regeneration, considering the city and the countryside together as a unique living system, subject to continuous fluxes of inputs and outputs to be included into a circular framework. It can increase the capacity of the system to absorb negative impacts, enlarging natural capital and biomass, and sustain the circularization processes of the urban economy, leading to the co-evolution of city and nature (McHarg, 1969, Soleri, 1969, 1971, 2006; Register, 2006). It should contribute to the change of urban economy, toward ecological economy sustained by social/civil economy (with a new balance between industrial economy, knowledge economy, ecological economy, social economy).

Certainly, agglomeration economies can be enhanced through planning, reducing costs, time and energy.

Creative urban design/planning improves the city wealth because it produces "places" and not only marketing man-made assets to multiply real estate value and business.

Integrated urban planning, improving the city complex landscape, is able to increase the value of the different assets/capitals, and thus the city attractiveness and competitiveness. The lack of good planning can determine pollution, under-uses of resources, waste, and thus dis-investments. City planning and urban design should enhance, with priority, the public spaces as "places" of synergies, circularization and symbiosis, imitating circular organization of natural systems. City planning, which serves to recover efficiency in the use of resource "land", now should take charge of new aspects, according to a systemic approach, aimed at connecting flows of resources into virtuous loops. The flow of resources and energy exchanged in a city, and in its different locations, must be known for activating a new urban metabolism, based on circularization process, which entails ability to maintain/enhance different natural and man-made landscape and to activate new production processes: i.e. the regeneration of the complex urban landscape, for the regeneration of local economy. In the examined experiences, the "piazza" becomes the catalyst for communication, relationships, exchange of ideas, etc. (and not only for marketing goods) (Kourtit 2013; Nijkamp and Kourtit, 2013): the places of regeneration of all forms of energies and thus places for the humanization. Here the quality of the complex landscape is maximized. Design quality is more and more recognized in making the difference of places in the standardization of urban landscape and thus in the localization of new business investments. The city should be organized in a network of smart dynamic self sufficient places, characterized by rich complex landscapes, that reflect the complexity of their functioning. Each piazza should become a "social piazza", of mutual acknowledgment, where social bounds are generated and re-generated. These places ("piazzas") characterized by a rich complex, and also hybrid (because of dualities between private and public space) landscape as engine of social, symbiotic and economic exchanges, should be multiplied in

the city: every urban building should become a little "piazza" (Fusco Girard, 2014), where citizens offer specific services in exchanges for help and sharing, also through digital network.

New approaches and new tools are necessary. New indicators for new evaluation processes are required to operationalize new planning approaches. An Evaluation Office at all levels of government should be proposed. Living Lab processes represent an effective tool of new city planning. They are a platform capable of offering many innovative perspectives in the above-mentioned direction: places where new ideas are produced, compared and evaluated, useful to trigger new market processes; where common knowledge and expert knowledge are integrated and critical thinking is built, to implement smarter solutions. But they can become also places for symbiosis and cooperation: for transforming linear processes into circular ones and thus producing employment, wealth and wellbeing.

A barrier to implement regenerative and synergistic model is the current behavior of inhabitants. They should be convinced to strongly participate in the city change towards the "regenerative city" that needs the collective creativity/intelligence of all people.

The regenerative city requires new behaviors from its inhabitants, based on mutual trust that comes from a circular way of thinking of all city agents (in businesses, public administration, political actors, residents, etc.), opening the perspective to a strategic multidimensional vision, attentive to interdependences and connections, to cooperation and coordination of actions, incorporating as much as more future in every choices.

A new way of thinking means a new way of evaluating, based on relational rationality, that puts in relation all impacts and aspects in a critical perspective (Fusco Girard, 2012, 2013).

These are all elements, principles, approaches and tools that - starting from the key role of culture and nature in the city new organization - should be included in the new Urban Agenda to promote the human scale of urbanization.

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ECO-INDUSTRIAL DEVELOPMENT AS A CIRCULARIZATION POLICY FRAMEWORK TOWARD SUSTAINABLE INDUSTRIAL CITIES. LESSON AND SUGGESTIONS FROM THE ECO TOWN PROGRAM IN JAPAN

Tsuyoshi Fujita, Satoshi Ohnishi, Dong Liang, Minoru Fujii

Abstract

Eco-industrial development is widely considered as an effective policy and a business concept to realize sustainable circularization through collaborative networks among industries. Japanese government has accumulated practices as its national Eco Town Program in 26 cities since 1997. The operation of facilities and policy implementation have provided lessons and suggestions particularly for industrializing cities who desperately seek for the sustainable solutions achieving environment management and economic growth simultaneously. This paper aims to review the policy framework as well as accomplishments of the Eco Town Program and to provide lessons and suggestions for industrial cities' management. We reviewed and analyzed the experience of the Eco Town Program for a decade from viewpoints of the policy framework and circular situation; and provided general implications such as combination of recycle technologies and social system, symbiotic network among recycle entities and energy intensive industries as well as suitable locational planning.

Keywords: industrial symbiosis, eco-industrial development, spatial analysis

LO SVILUPPO ECO-INDUSTRIALE COME STRUTTURA DI UNA POLITICA DI CIRCOLARIZZAZIONE PER CITTÀ INDUSTRIALI SOSTENIBILI: LEZIONI E PROPOSTE DEL PROGRAMMA GIAPPONESE ECO TOWN

Sommario

Lo sviluppo eco-industriale è considerato in larga misura una politica efficace e un'idea di impresa per realizzare la circolarizzazione sostenibile attraverso reti di collaborazione tra le industrie. Dal 1997, il governo giapponese ha raccolto le esperienze di 26 città del Programma nazionale Eco Town. L'attuazione delle politiche e delle agevolazioni hanno rappresentato un buon esempio, in particolare per le città industriali che cercano disperatamente soluzioni sostenibili per perseguire contemporaneamente la gestione dell'ambiente e la crescita economica. Questo articolo vuole esaminare il quadro delle politiche, come anche i risultati raggiunti dal Programma Eco Town, per fornire indicazioni per la gestione delle città industriali. È stata esaminata l'esperienza del Programma Eco Town per dieci anni dal punto di vista delle politiche strutturali e della condizione di circolarità, ed evidenziate le implicazioni generali, quali la combinazione di tecnologie del riciclo e del sistema sociale, il network simbiotico tra il settore del riciclo e le industrie ad alta intensità di energia oltre ad un'adeguata pianificazione locale.

Parole chiave: simbiosi industriale, sviluppo eco-industriale, analisi spaziale

1. Introduction

To utilize waste/by-product within the region efficiently, Eco-Industrial Development (EID), according to the principles of industrial ecology, is considered as a promising system that "delivers sustainable development" in environmental, social, and economic dimensions at the urban and regional scale (Chiu and Geng, 2004). Substantial practices in the industrial district, city or region of EID in recent years were mainly practiced in the form of Industrial Symbiosis (IS) and eco-industrial parks worldwide, and in Japan, practices are known as the Eco Town Program (Chertow, 2007; Gibbs and Deutz, 2007; Park *et al.*, 2008; van Berkel *et al*., 2009a; Costa *et al.*, 2010; Shi *et al*.; 2010). These various practices for different terminology are considered as the innovative frontier of recycling and waste/by-product and energy exchanges among firms located near each other (Chertow, 2000).

The concept of EID has been gradually accepted by industries and governments in different geographical scales from industrial districts to cities and regions. Companies located in developed industrial districts and surrounding municipalities also start considering EID as a strategic tool (Laybourn and Lombardi, 2012), while allocation procedure in an effective and efficient way is still to be discussed (Gibbs and Deutz, 2007; Shi *et al.*, 2010; Behera *et al.*, 2012; Laybourn and Lombardi, 2012). On a company level, self-organizing of waste/by-product exchange among companies seems to be important, while designing and planning played an important role in developing a national practice. Japanese Eco Town Program were initially planned and supported by national and local governments as well as companies' attempts for self-organizing, was one of biggest drivers for effective EIDs.

This paper aims to review the policy frames as well as the accomplishments of the Eco Town Program and to provide lessons and suggestions for industrial cities' management. In Section 2, cities approved as Eco Towns were analyzed and the accomplishment of the projects were quantitatively analyzed in Section 3. The lessons and suggestions from the analysis were discussed in Section 4. Finally, this paper was concluded in Section 5.

2. Japanese Eco Towns as EID

Concepts, practices and researches of EID were reviewed and policy framework and social system concerning the Eco Town Program in Japan were described as one of a practice of EID.

EID and similar concepts have been proposed since 1970's, and several projects trying to implement these concepts have started their program after the discovery of Kalundborg. Accumulative knowledge for physical exchange of material/energy and water of these projects has been described and quantitatively analyzed as in Table 1.

Primary concepts were provided as "industrial ecosystem" by Cloud (1977) and Frosch and Gallopoulos (1989), and as "industrial metabolism" by Ayres (1989). These concepts systematized the results of law of thermodynamics, resulting in laying the base of life cycle thinking, material flow analysis and system analysis. After the earth summit was held in 1992 and sustainable development has become a key global strategy, policy makers had started to implement these concepts in their countries. It was Kalundborg that became a model of the existing practice. The initial government project, called Eco-Industrial Park project, in the United States, was set up in 1996. The Japanese Government has started its Eco Town Program since 1997 based on a concept of zero emission. Chertow (2000) published a review paper and pointed out that EID concepts of this period defined as

industrial symbiosis and «industrial symbiosis engages traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, energy, water, and/or by-products. The keys to industrial symbiosis are collaboration and the synergistic possibilities offered by geographic proximity» (p. 313). One of the most important points is that this definition emphasis on local condition and spatial analysis.

Table 1 – Theory, practice & projects, and research on EIDs

Years	Theory	Pactice & projects	Research
70's	• Industrial eco-system (Cloud, 1977)		
80's	• Industrial metabolism (Frosch and Gallopoulos, 1989)	• Kalundborg (1989~)	
90's	• Zero emission (Pauli, 1997) • Eco-industrial park (PCSD, 1996)	• Eco Industrial Park in Netherland (1994~) • Eco Industrial Park in the United States (1996~) • Eco Town in Japan (1997~)	• Ehrenfeld and Gertler (1997) for Kalundborg • Lowe (2001) for the United States
00's	• Industrial symbiosis (Chertow, 2000, 2007) • Eco industrial development (Côté, 2000) • Eco industrial network (Lowe, 2001)	• National industrial symbiosis project in U.K. (2000~) • Eco industrial park in China (2001~) • Regional synergy project in Australia (2003~)	• Heeres et al. (2004) for Netherland • Mirata (2004) for U.K. • Roberts (2004) for Australia
05's	• Urban symbiosis (Van Berckel et al., 2009a)		• *Chertow and Lombardi (2005) for Guayama, United States* • *Jacobsen (2006) for Kalundborg, Denmark* • Van Berckel et al. (2009a) for Japan • *Van Berckel et al. (2009b) for Kawasaki, Japan* • *Shi et al.(2010) for China*

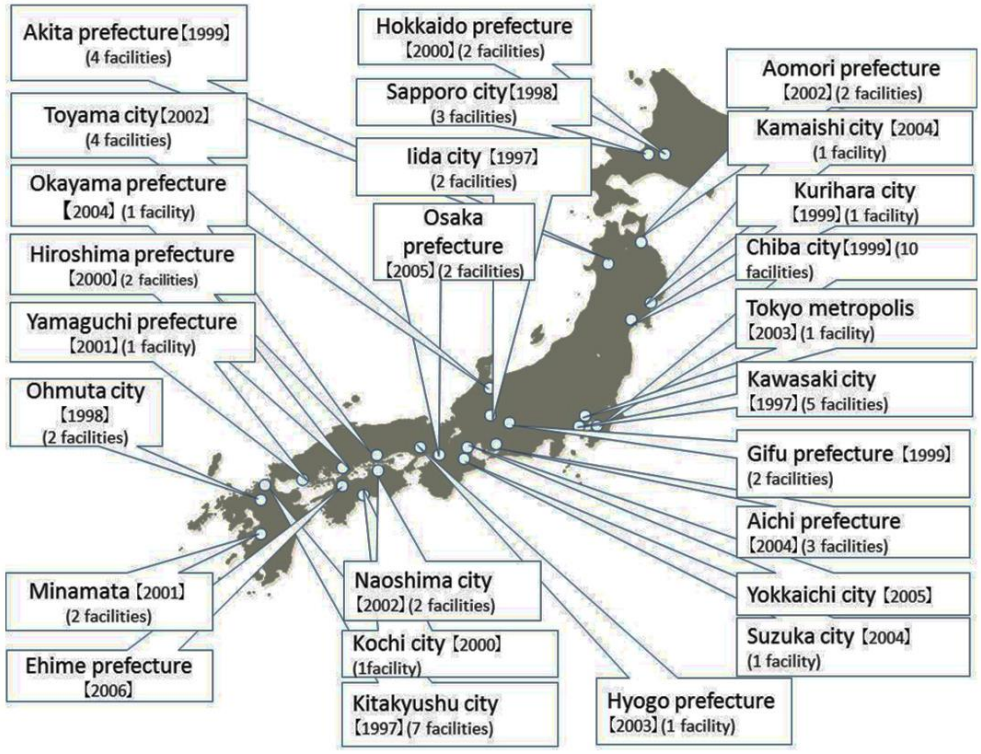
Note: The papers described in italics focused on quantitative analysis of economic and environmental benefits

Since middle 2000's, national projects such as Eco Industrial Park project in Netherlands, National industrial symbiosis program in the United Kingdom, and Eco Industrial Park project in China started. As the projects has moved ahead, detailed case studies including quantitative analysis on environmental and economic benefits can be found in the literature on Denmark (Kalundborg) (Jacobsen, 2006), the United Stated (Puerto Rico) (Chertow and Lombardi, 2005), Australia (Kwinana and Gladstone) (van Beers *et al*., 2007), Japan (Kawasaki) (van Berckel *et al.*, 2009b) and China (Guigang and Tianjin) (Shi *et al.*, 2010).

These literatures have accommodated a request to dematerialization and a low carbon society.

Recently, several new concepts based on the cases' analysis have been proposed in the literature. Authors, for example, set up the concept of "urban symbiosis" that facilities located in industrial complex would accept and utilize household waste from urban area close to the industrial area, though the review of the Eco Town Program in Japan (van Berkel *et al.*, 2009a). Several authors supported the idea that geographical scale of exchange among entities have been expanding from industrial district to urban area and region (Sterr and Ott, 2004; Lyons, 2007).

Fig. 1 – Distribution of 26 Eco Towns in Japan



Source: Fujita, 2006

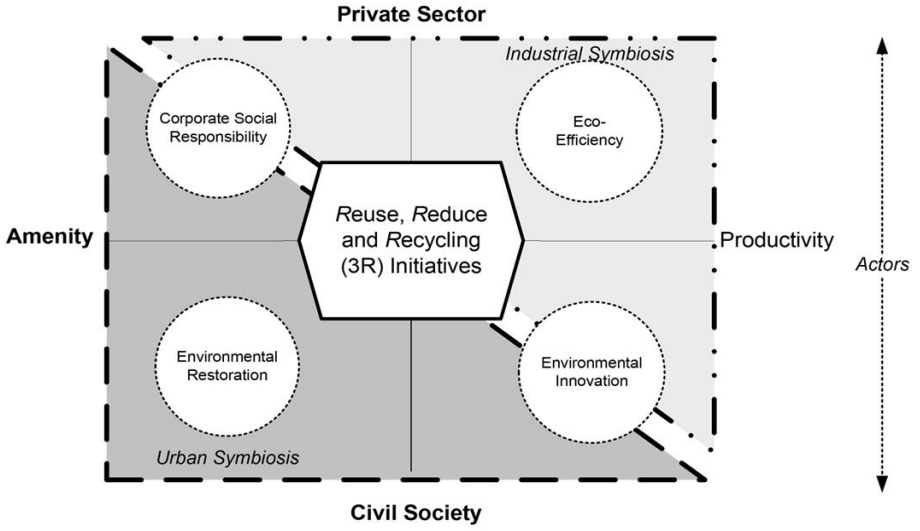
Note: Dates between black lenticular brackets are dates of formal approval of the Eco Town Program and dates between parentheses are number of subsidized facilities

The Eco Town Program in Japan was initiated in 1997. It adopted the concept of zero emission and aimed to address both new industry development and waste management issues in Japan (van Berkel *et al.*, 2009a, GEC, 2006). Totally 26 Eco Towns (Fig. 1) were designated jointly by Ministry of the Environment (MOEJ) (Department of Environment

under Ministry of Welfare as of 2001) and Ministry of Economy, Trade and Industry (METI) of Japan. Eco Town plans consisted of two parts: "software projects" (e.g., town planning, community recycling, and outreach activities) and "hardware projects" (i.e., innovative recycling facilities and associated infrastructure) (Fujita, 2006; van Berkel *et al.*, 2009a). Recycling processes were designed to be connected with industrial production by utilizing wastes as alternative materials or energy for Energy Intensive Industries (EIIs) such as iron/steel, cement, and chemical industries. From 1997 to 2006, in twenty six local governments of Eco Towns, 170 plants set up their operation, including 61 plants subsidized by the national government; 56 facilities were waste plastic recycling plants and 31 facilities were for waste food recycling plants. In addition, home appliance recycling plants, end-of-life vehicles recycling plants and waste metal refinery plants were also under operation (Fujita, 2006).

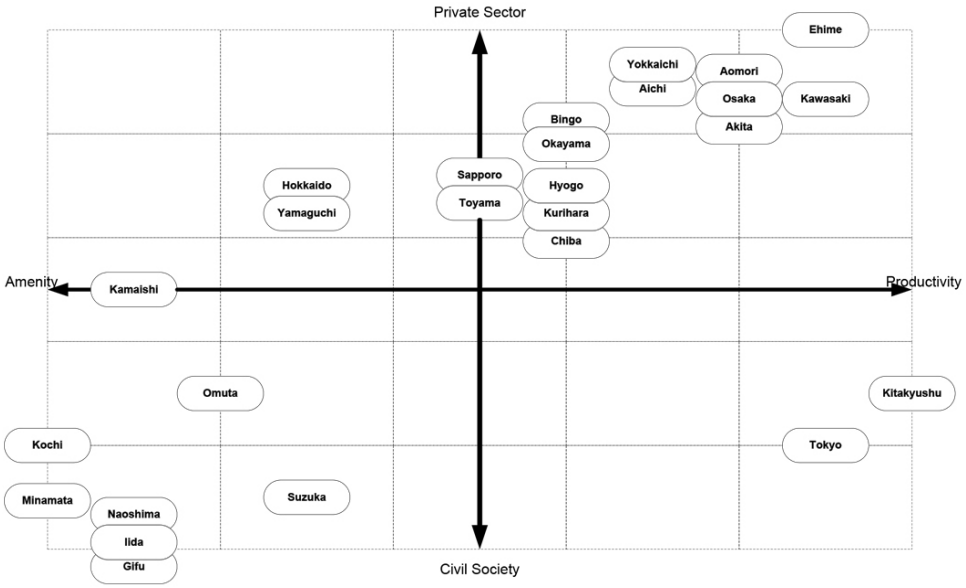
Authors proposed the categorization of Eco-Towns into five types based on their main motivations: namely waste management, development of recycling industry, industrial modernization, environmental remediation and town planning and community development (van Berkel *et al.*, 2009a). Fig. 2 shows dimension of Eco Towns consisting of four parts of eco-efficiency, corporate social responsibility, environmental restoration and environmental innovation. Using the pseudo-quantitative axes, 26 Eco Towns have been illustrated on the conceptual impact diagram of Fig. 3. The largest group is in the Eco-Efficiency quadrant (12 Eco-Towns), followed by the Environmental Restoration quadrant (7 Eco-Towns) and the Environmental Innovation Corporate Social Responsibility quadrants (2 Eco-Towns each). In 16 Eco-Towns, the private sector is a more important actor than civil society and that in total for 14 Eco-Towns productivity benefits are more important than amenity benefits.

Fig. 2 – Contribution of Eco Towns to sustainable industrial development



Source: van Berckel et al., 2009a

Fig. 3 – Qualitative characterization of 26 Eco Towns



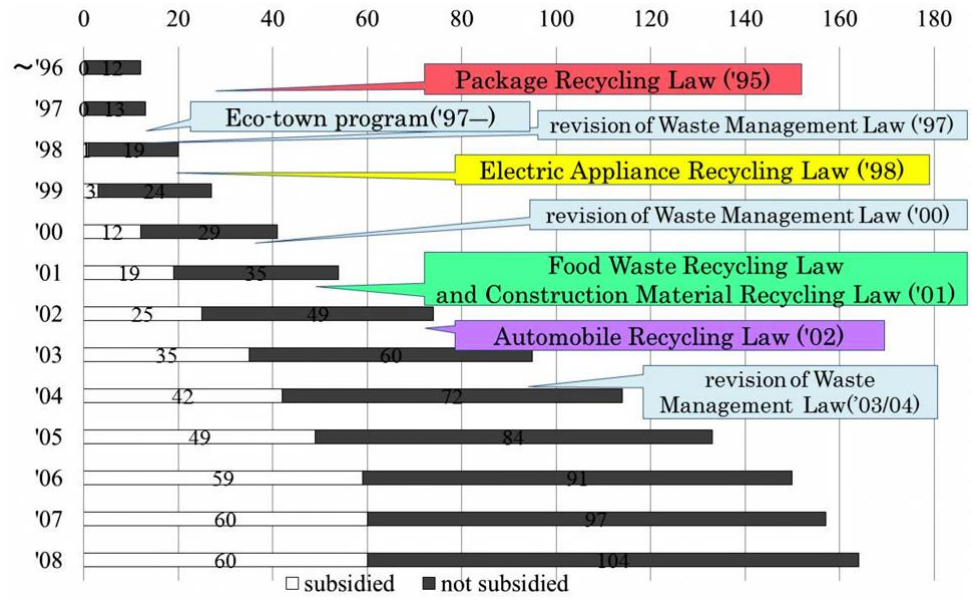
Source: van Berckel et al., 2009a

Fig. 4 shows relation between number of recycling facilities located in Eco Towns and the regal system of Japanese circularization policy. As the reasonable result, the more the laws enacted, the more facilities were starting their operation. The Japanese government reinforced the *Basic Laws for Establishing a Recycling Based Society* in 2000 as well as specific waste recycling laws such as waste plastic (1995), home appliance (1998), materials from construction work (2000) waste food (2000) and end-of-life vehicles (2002). This regal system became one of the most powerful pressures to make the recycling businesses into their practices.

Importance of appropriate social system in addition to the above legal system can be explained in detail by the plastic recycling system in Japan as an example. Technological development occurred in the industrial and research sectors, resulting in a significant increase in the number of patents from 1990 to 2000. This had been pressed by the situation that the Japanese society had faced an emergent issue which is a shortage of final disposal sites; there would be estimated no more disposal sites for household waste in 11.2 years from 1997, while that for industrial waste in 3.1 years from 1997. At the same time, Japanese economy especially EIIs struggled with the depression and needed to develop new technology and businesses. In 1993, the JFE group (formerly known as the NKK Corporation) proposed using the feedstock of the recycling system of plastics as a reductant to substitute coal for their furnace. Additionally, several small and medium companies funded by EIIs led the business in feedstock recycling by operating a test plant to produce a mixture of gasoline, kerosene and gas oil from waste plastic. These movements in niche promote design and implementation of the legal system and policy for recycling. In

particular, the Eco Town Program can guarantee implementation of a recycling plant via financial support for plant construction.

Fig. 4 – Number of recycling facilities located in Eco Towns



As one of the other pressures, the Japanese government tightened the regulation on illegal disposal especially by raising the penalty charge in 1991, 1997, 2000, and 2003. This resulted in increasing recycling and sound treatment of waste, as well as decreasing industrial waste. Municipalities also started to separate collection of plastic packaging and containers since 1999. This collection system was used in 1,030 municipalities in 2009. Moreover, waste separation by citizens increased the awareness of 3R (reduce, reuse and recycling) activity including NPOs' glass-roots activity, resulting that high quality waste plastic could be collected. As the result of all these efforts, the recycling rate of waste plastic improved by more than 30% (in 2009, except for incineration generation). Systematic and comprehensive scheme of regal and regulation system as well as activity promotion for stakeholders is significant to realize the circulation of waste and by/product. Those social systems for circularization provided the appropriate platform for recycling business in the Eco Town Program.

MOEJ has started a budget for highly-development of Eco Towns since 2010 including Kawasaki (focusing on waste plastics and papers from industries), Kitakyushu (focusing on waste wire harness and plastic, and traceability system for domestic circulation), Akita (focusing on waste plastic from offices), Hokkaido (focusing on transportation of incineration ashes by trains) and Osaka (focusing on food waste carbonization). These attempts reveal several fruitful facts. For example, industries located in Kawasaki Eco

Town has a large potential amount to accept waste plastics and papers, which serve as fuel as RPF (Refused Plastic and Paper Fuel), however parts of waste plastic ends up simple incineration or a landfill although incineration examination of RPF from 10 facilities resulted that low carbon effects was estimated as 2.2-2.9 t-CO_2 reduction by utilizing 1 ton waste plastic depending on the calorie. These waste plastics are regarded as the unharnessed energy of wastes for procurers; therefor the carbon credit scheme named J-VER in Japan would be applicable which effects expansion of this project. J-VER stands for Japan Verified Emission Reduction which set up the offset credit scheme by MOEJ in 2008, for credits generated through the reduction/removal by sink of greenhouse gases carried out.

Accordingly, Japanese Government is establishing a new policy called the SMC blocks which «generated in a particular area or that are perishable will be circulated within an area, while those that require advanced treatment technology will be treated in wider areas» (Government of Japan, 2008, p. 12). For implementing this concept, MOEJ established a study committee for SMC blocks promotion, in which the chairman is a first author of this paper, to investigate the future direction and discuss a planning method of SMC blocks based on quantitative assessment. This committee provided a fundamental method of evaluation procedure consisted of database of emission distribution of recyclable wastes/by-products, future scenario design, configuring material and energy flow, input-output inventory of each technologies and estimation of several indicators such as GHG emission reduction, final disposal saving, raw material saving, cost, etc. In addition, MOEJ collaborated with the committee to produce a useful guideline on local recycling block planning for local municipalities (MOEJ, 2012).

These additional policies and planning method development have been based on the insights of quantitative analysis on the circularization in the cities approved as Eco Towns.

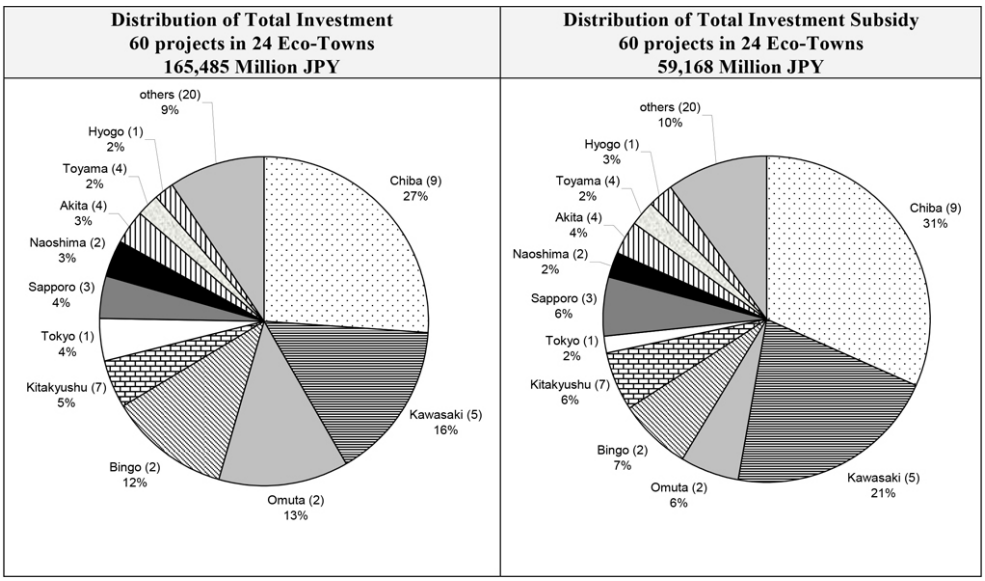
3. Quantitative analysis on Eco Towns Program in Japan

The economic and environmental effects of Eco-Towns were quantitatively analyzed such as the financial support and revenues, the environmental gains such as circularization ratio, material saving as well as low carbon effects. The spatial characteristics were also analyzed.

Authors investigated financial features of Japanese Eco Town Program based on the national survey of the program by METI for 61 projects in 25 Eco Towns (van Berkel *et al.*, 2009a). Total investment for 60 projects in 24 Eco Towns was 165,485 million JPY and total investment by subsidy for 60 projects in twenty four Eco Towns was 59,168 million JPY, which was 35.7 % of total investment (Fig. 5). In addition to initial investment, 1,460million JPY additional investment was existed such as spending on plants and equipment for “kaizen” or reinforcement. The Eco Town subsidy also had positive impacts to job creation, environmental education by site tours and communication with managers on recycling plants.

Authors also conducted intensive surveys, in collaboration with MOEJ, on operational condition and material flow and energy consumption of 170 operating recycling facilities in Eco Towns. A total of 90 valid responses were collected from recycling facilities. Among the total responses, 55% were valid, and among facilities that received subsidies, 64% of responses were valid.

Fig. 5 – Levels of subsidies and total investment by Eco Towns



Source: van Berckel et al., 2009a

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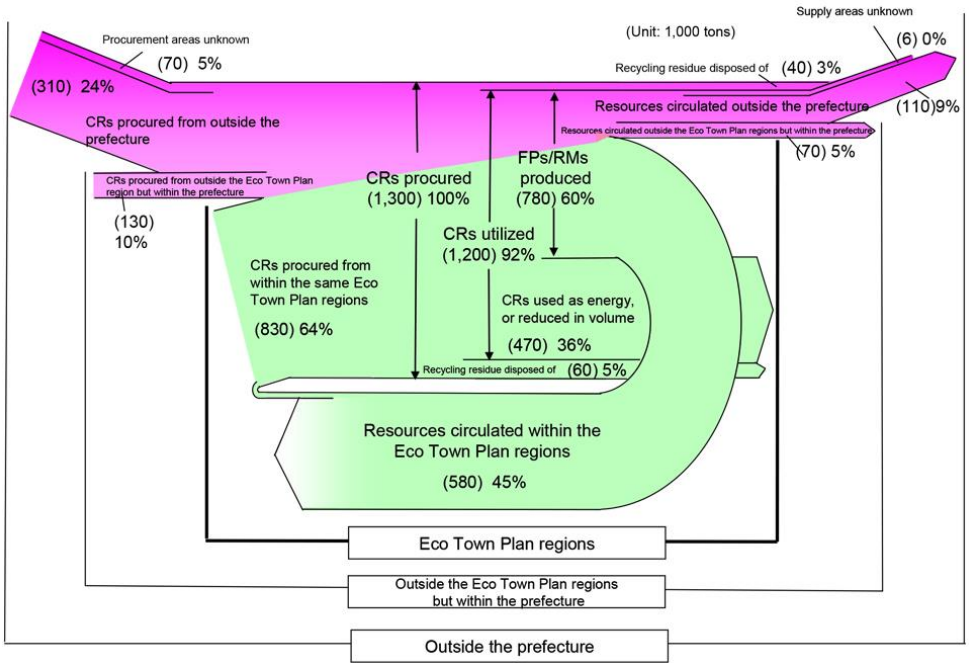
Fig. 6 shows the material flow of waste and recycled products in recycling facilities located in Eco Towns. Inputs to recycling plants are wastes or by-products for utilization and outputs from the plants are recycled products and residues. Direct Material Input (DMI) of waste or by-product was 1,030Mt/yr. DMI was consisted of two types, including waste or by-product from the same Eco Town region (830Mt/yr, 64%), from other regions (130Mt/yr, 10%) and the other input was unknown. Analytical results revealed that 45% of inputs utilized within the same Eco Town region as alternative materials and 36% of inputs as energy, etc. The circularization use ratio of by-product in all facilities located in Eco Towns was identified as much as 92% and intra-Eco-Town circulation ratio was 60%, which also provided the saving effects of virgin resources to be 900,000ton/yr and CO_2 reduction was estimated to be 480,000 ton-CO_2/yr.

Main recycling technologies of Eco Towns are called co-production, which is «waste material replaces primary fossil fuels and virgin mineral resources in industrial processes to conserve resources, to reduce emissions of GHGs and other environmental impacts, as well as to save landfill space and minimize associated pollution» (Mutz *et al.*, 2007, pp. 5-6). Authors pointed out that waste acceptation capacity was insufficient, waste utilization by co-production had higher efficiency, and resulted in production system with larger low carbon effects than incineration system with energy recovery (Fujii *et al.*, 2012).

Fig. 6 – Material flow of waste and recycled products in recycling facilities



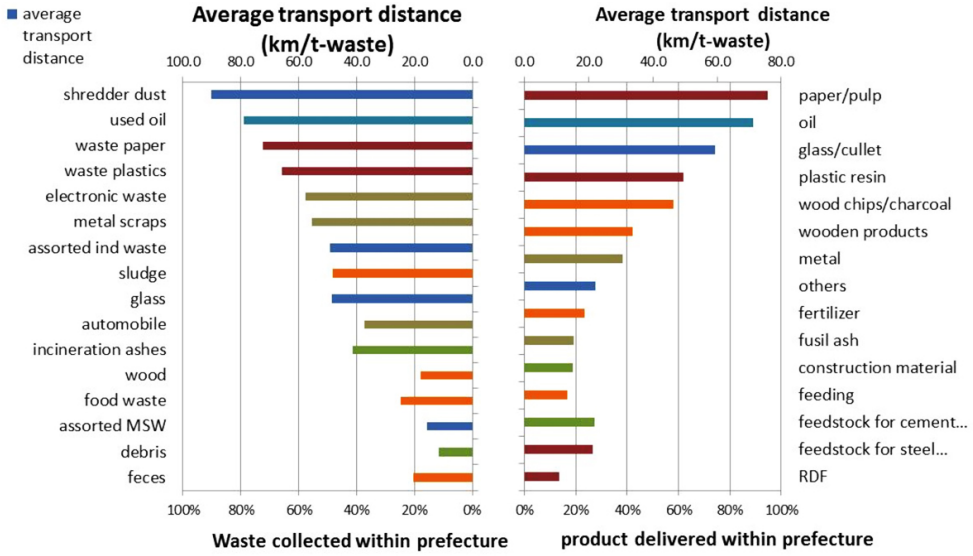
Source: MOEJ, 2009

Low carbon effects by policy simulation of industrial and urban symbiosis in collaboration with production system in EIIs were identified from life cycle perspective. Authors developed the evaluation methodology to identify the extensive co-processing effects for cement, iron/steel and non-ferrous industries (Hashimoto *et al.*, 2010) Low carbon effects for a cement company in Kawasaki Eco Town were simulated for taking industrial sludge and municipal waste plastics from Kawasaki city as the alternatives for the fossil fuel resources. The results showed larger amount of CO_2 reduction was expected by accepting municipal solid waste. Policy simulation also provided cost of the low carbon effects in Kawasaki Eco Town for its urban symbiosis scenario as 185$/t-$CO_2$ (Geng *et al.*, 2010). Their technology transfer effects to a Chinese city, Shenyang, was also identified although the cost would be an obstacle (Chen *et al.*, 2011).

Suitable circular scale, which defined as transportation distance of collected waste and procurement of product, were investigated for different by-products and wastes (Chen *et al.*, 2012). Fig. 7 shows that different types of waste had their own recycling distance considering the cost and the wastes' features. On the material procurement side, wastes that have higher transportation cost by the volume due to the smaller value by a volume such as MSW (municipal solid waste), debris, wood, and feces, were mostly collected in a distance less than 20 km. On the contrary, wastes that had relatively higher market value like the metal, WEEE (waste electrical and electronic equipment), plastics, paper, automobile shredder dust (containing metals), and oil are mostly collected in longer distances. On the

provision side of recycled products, similar features were identified. The results indicated that recycled products with higher transportation cost by volume are usually delivered in short distances, whereas high-valued products that are relatively cheap for transportation are delivered in long distances.

Fig. 7 – Transportation distance of each waste and product



Source: Chen et al., 2012

As another result, when promoting the recycling activities, circler scale and the related recycling facilities' location were important considering that different wastes had various recycling distances. Optimal design for allocating the recycling plants of different wastes could hereby enhance the eco-efficiency of the recycling and further contribute to sustainability of EID. For realization of these benefits, effects of agglomeration of recycling plants which operate different wastes and influence of logistic system including shipment would be considered.

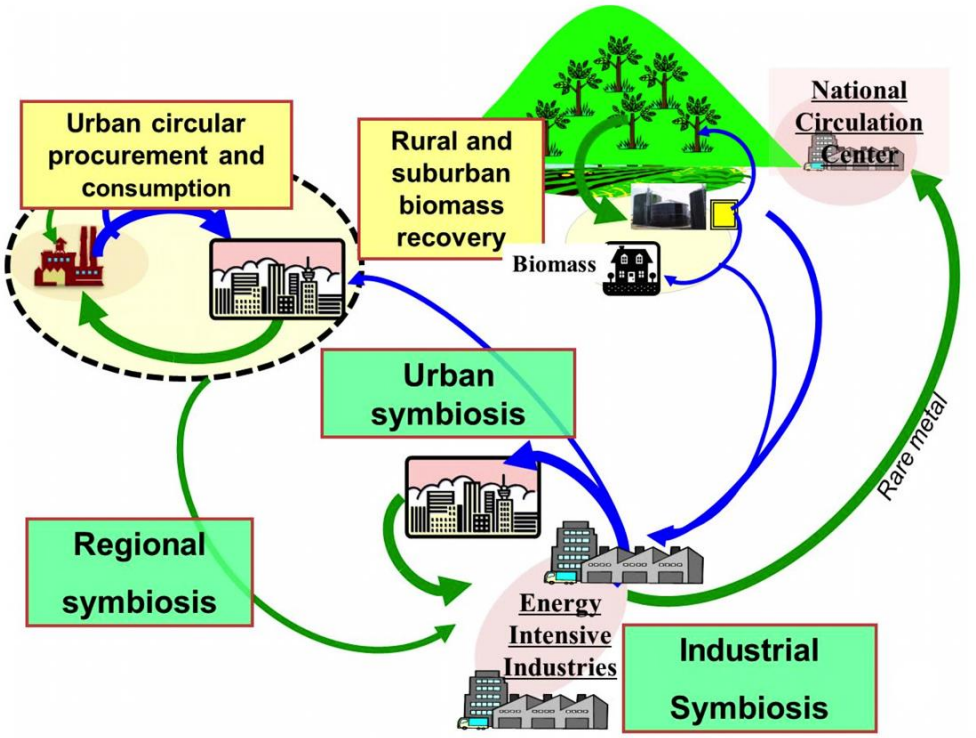
4. Lessons and suggestions from the Eco Town Program toward Sustainable EID

The following is the policy lessons and suggestions toward sustainable EID based on analyzing the social experiences in Japan.

Social system is crucial for EID implementation as well as technical innovation. Sufficient level of legal and collection system enable industrial system to symbiotic networks by the significant pressure. The appropriate and innovative waste management regulation system has played crucial roles to support the business to contribute to establishing EIDs with profitability in collaboration with stakeholders, namely circular business.

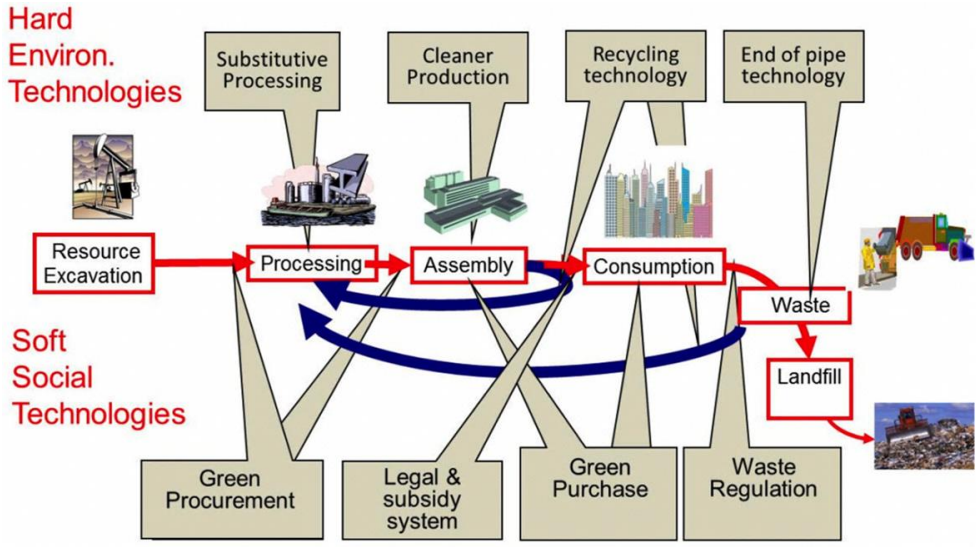
Circular business cannot keep the business only by hardware of environmental technologies including substitutive processing, cleaner production and end-of-pipe treatment technologies. The essential point making circular business successful is in collaboration with software, so called social technologies including green procurement; reuse/recycling regulation and subsidies to construction of facilities, green purchase and waste regulation along with life cycle stages as described in Section 2 and shown as Fig. 8.

Fig. 8 – Concepts for resource circulation from life cycle perspective



For establishing the circularization of material and energy, circular scale and the related recycling facilities' location play the important roles for different wastes. For an optimal design for allocating the recycling plants of different wastes, effects of agglomeration of recycling plants which operate different wastes and influence of logistic system including shipment need be considered. Fig. 9 shows conceptual overlays of different circular zones and EID as the centric functions. Eco Towns in Japan tend to locate ports along seaside because EIIs, as recycled waste acceptors, needs huge amount of imported materials from abroad. Agglomeration of EIIs, recycle plants and collection centers of waste from urban area in sites differed from each other would create new material/waste flows and incubate the recycling businesses.

Fig. 9 – Image of urban symbiosis and regional symbiosis



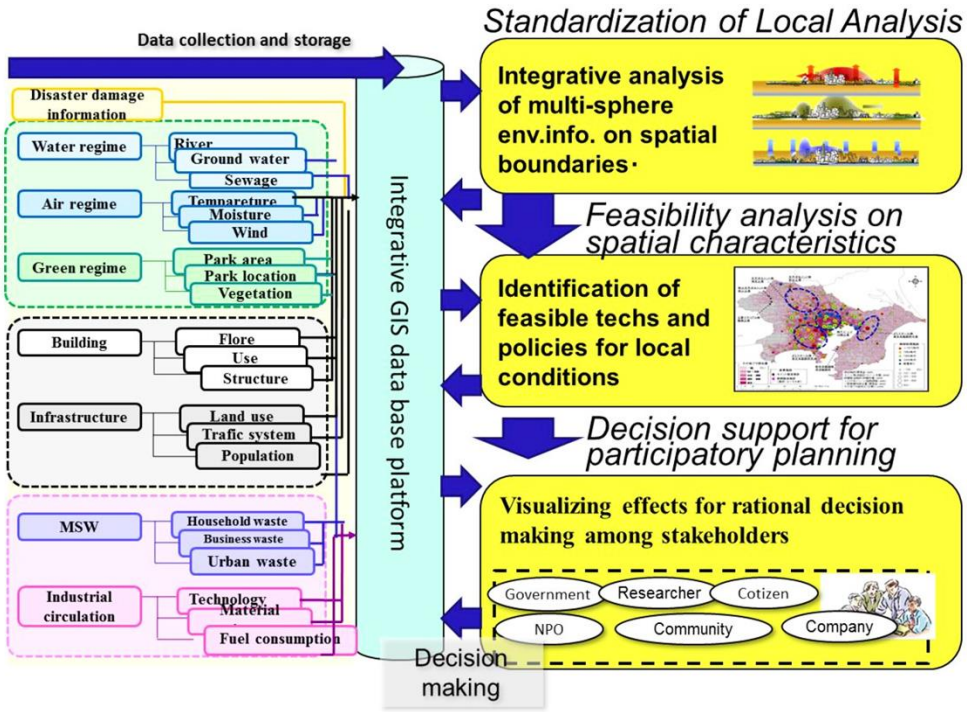
On the other hand, there is a trade-off of transformation cost and potential amount of wastes when collection boundary spreads to larger area. From a different angle, as cost of fuel/electricity and virgin material utilized by industries accepting recyclable wastes would be increasing, the added value of recyclable waste could be increasing relatively, resulting that recycling businesses could be in operation with high profitability. Establishment of multi circular scale, named regional symbiosis considering appropriate social waste transportation cost and environmental value of recycle products should be incorporated in the systems. To realize this system, social multi-stakeholder collaboration scheme for such separation, collection and green purchase would be essential issues.

EIIs with co-processing technologies have been one of key actors of EID to invest the recycling businesses. In Japan, researchers and policy makers generally express the EIIs as arteries industries and the recycling industries as vein industries by an analogy of material/energy circulation and blood circulation. As we pointed out in Section 3, EIIs would promote regional symbiosis in collaborated with recycling industries, namely arteries and vein industries symbiosis. Additionally, as the policy simulation system estimated environmental gains of CO_2 emission reduction and virgin material reduction including future scenario (Geng *et al.*,2010; Hashimoto *et al.*, 2010; Chen *et al.*,2011), EIIs could play one of the most significant roles as key actors of establishing efficient low carbon cities.

At the detailed planning stage of regional symbiosis, it is essential to identify the characteristics of local condition which are location patter of building and industries, flow of environmental resources such as water, sewage water, air etc. and material including waste and energy flow. As previous spatial analysis revealed, suitable circular scale could be considered for policy making.

To promote circularization policy and contribute to sustaining cities, the social system should be consolidated to operate recycling technology more efficiently so as to support the regional symbiosis. Consolidation of social system to internalize the value of regional symbiosis which market cannot take appropriate control will make circular business activating in various regions. Establishment of these kinds of technological and social system based on the empirical analysis and future simulation is essential.
It is one of the most significant missions for researchers to provide stakeholders with scientifically reasonable direction of implementation to regional symbiosis by identifying suitable condition for combining each regional characteristic. Fig. 10 shows an academic scheme for designing and planning regional symbiosis.

Fig. 10 – Integrated GIS database platform



At the first step of analysis of the region, a database should be constructed which consists of rainfall, water flow, air, green area, buildings, infrastructure, solid waste and industrial waste information, these information further incorporated into Geographic Information System (GIS) for decision making support. This information will be utilized for standardization of local condition analysis on location patter of building and industry, flow of environmental resources, and to integrate multi-sphere environmental information on spatial distribution and flows. These results by feasibility analysis with spatial characteristics would facilitate each region to identify the best available technologies and

policies for local conditions. As the result of this analysis, we can prepare a decision support tool for the participatory planning by visualizing the effects of decision making on stakeholders in each region. These processes, which are standardization, feasibility analysis and decision support, have feedback to collection and storage of data and enrich the data platform.

5. Conclusions

We pointed out a progress of symbiosis from industrial district to urban area and region to expand collection boundary suitably. From a Japanese experience, we concluded that that EID including industrial symbiosis is significant to act as a driver for sustainable industrial system and cities, and suitable circular scale could be considered for policy planning for different by-products and wastes. For the future progress to promote regional symbiosis, integrated GIS database platform would be an efficient tool to policy makers designing plans and implementing as well as academic communities.

As future challenges, we should make data availability be built up for analyzing the characteristic of local condition. The experiences in cities approved by the Eco Town Program would promote to standardization of data collection and analysis especially concerning material and waste flow. Secondly, methodology of feasibility analysis in spatial characteristic has not been constructed theoretically. Matching system of demand-supply of material and energy source, technology assessment being appropriate for each city etc. should be researched more. Thirdly, how could we make EID concept implement into practices. We have tried to apply an integrated GIS database platform into several cities. However, we are still on a learning process to establish whole the system, so standardization of local data, evaluation methods, and optimal location model would be discussed. This challenge would make progress in this research field.

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ONE MAN'S TRASH, ANOTHER MAN'S TREASURE. ARCHITECTURAL CIRCUITS IN A GLOBAL CONTEXT

Iben Vadstrup Holm

Abstract

The world's largest island, Greenland, is facing enormous challenges as the ice melts, minerals become available and new international industries and foreign cultures arises. Greenland calls for new solutions and the aim of the project *One Man's Trash, Another Man's Treasure* – developed in collaboration with Lise Birgens Kristensen at the School of Architecture Aarhus – is to explore how architecture can contribute to a positive sustainable development in Greenland.
The development of the project started with a fascination of the circuits of nature – the biosphere and the mindset of the "industrial symbiosis" in Kalundborg – as an example on how waste from one industry can become the raw material of another. By interpretating these concepts into the field of architecture, the project demonstrates how architecture can be a link that connects flows of resources into programmatic, ecological and social circuits.
In its overall form the project is an initiation of studies that indicate how architecture can be a tool to create sustainable design in cooperation with living resources, technology and humans beings in a network of mutually dependency.

Keywords: symbiosis, circuits, hybrid architecture

"ONE MAN'S TRASH, ANOTHER MAN'S TREASURE". I CIRCUITI ARCHITETTONICI IN UN CONTESTO GLOBALE

Sommario

L'isola più grande del mondo, la Groenlandia, si trova ad affrontare enormi sfide a causa dello scioglimento dei ghiacci, della sopravvenuta disponibilità di minerali ed il nascere di nuove industrie internazionali e di culture importate dall'estero. La Groenlandia richiede nuove soluzioni e lo scopo del progetto *One Man's Trash, Another Man's Treasure*, elaborato in collaborazione con Lise Birgens Kristensen alla School of Architecture di Aarhus, è quello di comprendere come l'architettura possa contribuire ad un relae sviluppo in Groenlandia.
L'elaborazione del progetto prende il via dal fascino dei circuiti della natura – la biosfera e l'approccio della "simbiosi industriale" in Kalundborg – che fornisce un esempio di come gli scarti di un'industria possano diventare la materia prima di un'altra. Interpretando questi concetti nel campo dell'architettura, il progetto dimostra come l'architettura possa costituire il collegamento tra flussi di risorse e circuiti programmatici, ecologici e sociali.
Nella sua forma complessiva, il progetto rappresenta l'inizio di studi che indicano come l'architettura possa essere uno strumento per ideare progetti sostenibili in un network di reciproca dipendenza e cooperazione tra risorse naturali, tecnologia ed esseri umani.

Parole chiave: simbiosi, circuiti, archiettura ibrida

1. Introduction

Through centuries, we have systemized, structured and cultivated our society with technology and the belief in our own immortality. This has gradually cleared out any connection between consumption and environmental consequences.

Rem Koolhaas describes this narrative in a presentation under the title *Apocalypse*, in which he describes the two extreme processes that has taken place over the centuries: «There is an entirely different streak in our culture. It is not a narrative of linear and reasonable progress, but a narrative of disasters and fundamental tensions between nature and mankind. It depicts nature as a kind of punishment of mankind and, occasionally, mankind as a punisher of nature. That narrative, however we look at it – religiously or otherwise – is a fundamentally anti-modern one, which insists on apocalyptic expectations».

Nature is changing to an extent where we cannot grasp the consequences. Architecture is an act of will in contrary to nature and we have to start thinking of alternative solutions and invent other ways of planning and designing our future cities. Our planets fragility, including its limited natural ressources is changing to an extent where we cannot grasp the consequences. Architecture is an act of will in contrary to nature and we have to start thinking of alternative solutions and invent other ways of doing panning and designing our future cities. Our planets fragility, including its limited resources, can be seen as an opportunity to define new approaches and rethink the role of architecture. The project described in this paper aims to explore how architecture as a tool – with nature's adaptability and symbiotic collaborations as inspiration – can reverse the human-induced, linear process to circular process, while stimulating the method of strategic urban planning and the design of new buildings.

Architecture is an act of will in contrary to nature. The projects asks the questions:

- How can resource awareness become a model for a sustainable Greenland?
- Can head to tail mindset of indigenous culture be a model for future Greenland?
- How can sustainability develop from being a general and often technological challenge to be a site-specific, architectural challenge?
- Can this take part in setting a sustainable agenda on the terms of architecture?

2. Methodological approach

The project works with two agendas divided into a global and a local level. The global level operates with the issue of waste in general and the insistent necessity to deal with these issues, raising questions to discuss new possible local solutions.

At the local level, the project points out a specific case, a company or an institution producing waste of resources. In this project, it is mainly about launching new urban developments by using the waste of shrimps to implement new programs based on a social and cultural necessity, as the direct beneficiary of the resource. The project proposes installation of a biogas plant (Cyclifier) in symbiosis with a bathhouse (Plug-in program 1), a diner (Plug-in program 2) and apartment units (Plug-in program 3) in relation to the Royal Greenland shrimp factory in Sisimiut, Greenland. Hence, the special waste challenge on the local level is triggering an architectural task demanding a specific solution.

The overall structure of the methodological work leading to the identification of the parameters in the specific case is divided into three main chronological parts. The research method based in part 1 and 2 is a theoretical, scientific approach, which contains

interdisciplinary collaborations, comparative studies and mapping of how other professionals work with exchange of resources in the field of architecture. Part 3 terminates into an architectural project. Based on sketching of an overall organization and programming of the elements linked in a network, scenarios of how the Architectural hybrid is manifested in a particular location is unfolded. In particular, the three parts are the following:

- *Identification of Mother-plug:* identification of linear processes, flow of resources and identification of a company with a waste. Parallel research on possible methods of reusing the resource as a raw material through technology.
- *Identification of contextual programmatic elements (Plug –in):* mapping of the physical layers in the specific context; existing systems and flow of resources as well as social and cultural resources and programmatic necessities in a societal development.
- *Identification of hybrid-structures:* analysis of resource requirements and a programming of the interconnections between the relevant programmatic elements, as well as the architectural spatial consequences of the architectural circuit in terms of scenarios and drawings.

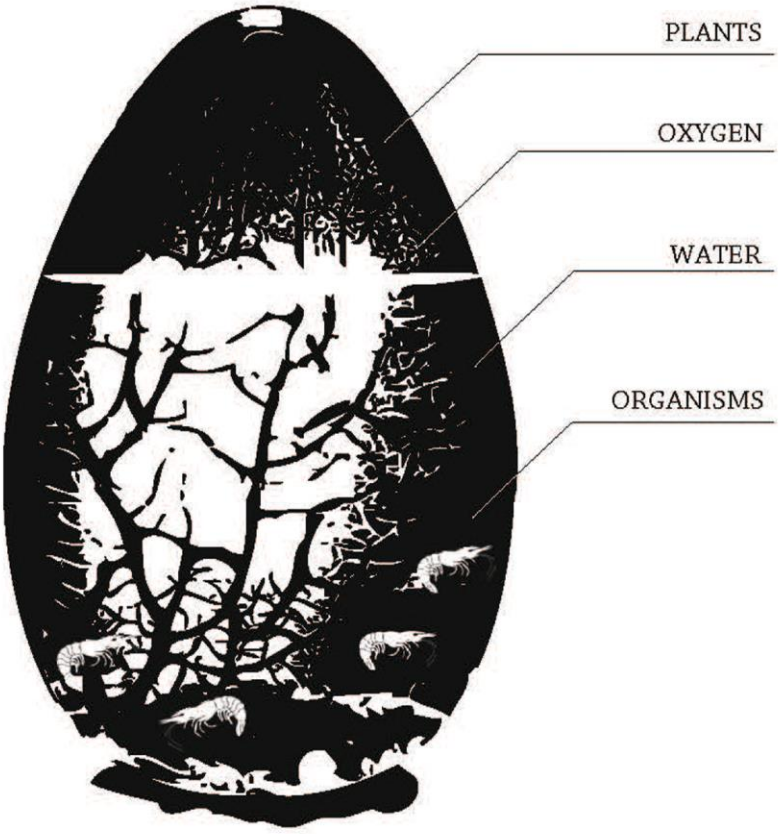
3. Mindset

Through the evolution, nature has created sustainable systems. In nature, waste does not exist. Output – such as a falling leaf – is an input in another end of an ecosystem, where the leaf turns into nutrients. This is simply the magic of the biospheric circuit. The circuit is characterized by being the place where life is lived and the precondition of life. A system which, consisting of several elements in synergy, is living in constant exchange and development (Fig. 1). With the fascination of the systems of nature, the concept of the project is based on the world-renowned human made symbiosis – the Kalundborg Industrial Symbiosis – and aims to interpret the industrial symbioses into the framework of architecture.

The concept of an "industrial symbiosis" is a collaborative and symbiotic relationship between two or more companies, where one company's waste product is purchased by another company, to be used in its own production. That is a cooperation with mutual economic and environmental benefits. Kalundborg Industrial Symbiosis is a world famous example of working with industrial symbiosis. In its more than 50-year history, Kalundborg Symbiosis has constantly been evolving.

The symbiotic collaboration originated in the 50's in the light of economics due to the high waste charges in Denmark. The consequence was both sustainability and economy. The local power plant, *Asnæsværket*, is one of many symbiotic collaborations in Kalundborg. *Asnæsværket* produces flyash as a residual product, and the flyash is purchased by a local plasterboard factory (*Gyproc*) where it is a part of the gypsum production. In addition, the power plant delivers steam to the pharmaceutical manufacturer *Novo Nordisk*, which is also a part of the symbiosis (Fig. 2). At its core, the industrial symbiosis must be understood as a crucial mindset. By getting companies to think holistically – where one company's waste is another's resource, you can create growth, maintain jobs and create sustainable production. This mindset and its development – in an architectural context, shows that it is possible to connect diverse elements and inverting linear process to circular, when using the mindset of nature combined with interdisciplinary approach and new technology.

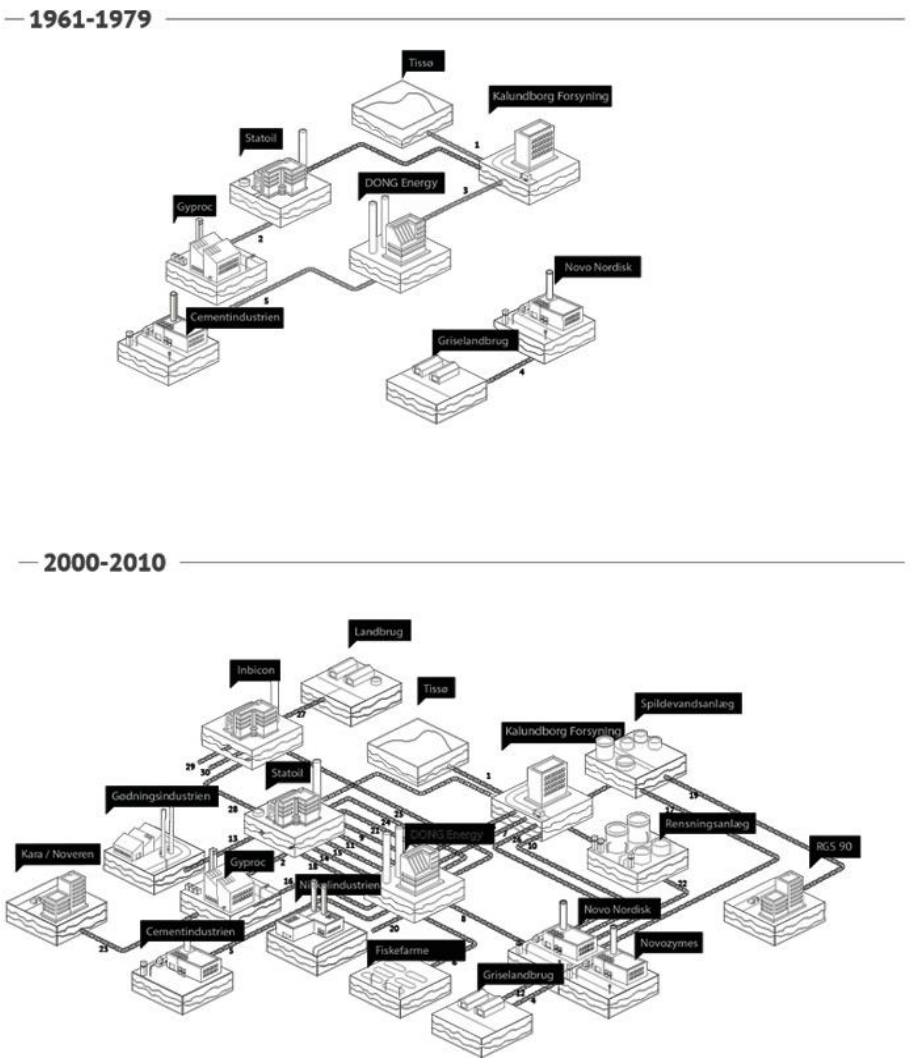
Fig. 1 – Inspired by the Biosphere: the cycle of life



For centuries, the Inuits has lived in contact with nature and adjusted to its constantly changing character. With a landscape of radsrocks and snow, The Greenlandic Seal was one of the main food resources and the Inuit people used every part of the animal. The meat was eaten, the skin was used for clothing and the bones for weapons and craftwork. They took pride in not practicing ruthless exploitation of nature. From the total utilization of available resources, a "design culture" emerged, that formed the base of survival in the extreme conditions in the Arctic North. The design culture was, besides practical, also an aesthetic and creative approach to the available resources (Fig. 3).

This so-called design culture is rethought in e.g. the Greenlandic shark *Somniosus microcephaly*, which also goes by the name *the Greenlandic gold*. The sharks are approximately 50% of the total by catch and are treated as waste in Uummannaq Municipality.

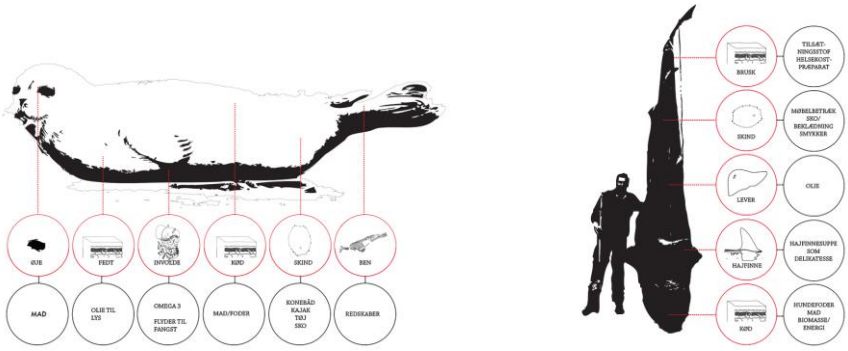
Fig. 2 – The symbiosis (the industrial circuit): local collaborations and exchange of resources



Source: www.symbiosecenter.dk

With the opportunities offered by technology, DTU Technical University of Denmark discovered a great potential in utilizing the shark to produce biogas and energy. The shark has no kidney, making its meat more or less toxic for instance to feed other animals with. However, it has been discovered that the large amount of fat in the meat is suitable for the production of bio-oil and biogas, making it possible to find usage for more of the dead animal meat. The Greenlandic shark is the contemporary answer to how technology of today and rethinking of existing resources can create new opportunities for growth, based on a traditional design culture (Fig. 3).

Fig. 3 – Design culture



a) Native knowhow *b) New technology - new resource opportunities*

4. The paradox

Today, the people of Greenland are partially promoting themselves on the pristine landscape and a sense of a people living in harmony with nature. At the same time, they throw all their waste into the ocean, the same ocean from which they feed. From slaughterhouse and fish waste to black water and industrial wastewater. The lack of waste management is starting to have serious consequences in terms of pollution of the marine environment. In the end, this will result in death of the microorganisms that the sea animals feed on. The people of Greenland are in dealing with the waste destroying the environment that covers 90% of their livelihood. By rethinking the utilizing of living resource, Sisimiut GL was chosen to exemplify how a company can give more back to society than what it takes. Hence the working title: *One Man's Trash, Another Man's Treasure*.

Sisimiut is the second-largest town in Greenland, with a population of 5,598 people. Today, Sisimiut is the largest business center north of the national capital of Nuuk, and it is one of the fastest growing towns in Greenland. The fishing industry is the main occupation and the city is known for its professional education facilities that attracts students from all over Greenland. Today the city is self-sufficient on energy through hydropower, but when the city develops further the power gained from water cannot meet the growing demand and will need fossil fuels. Decentralization, low density and a programmatic zoning of cultural, commercial and industrial facilities characterize the city. This project aims to mix new diverse programs that support the social and cultural development of the city and creates a focal point, where multiple environments can meet (Fig. 4).

In Sisimiut, the northernmost town with ice-free waters in Greenland (42 kilometers north of the polar circle), you find Royal Greenland's largest modernized shrimp factory. It makes the city stand out on the map as one of the most important ports in Greenland. Every year 20,000 tons of shrimps are hauled in, boiled and peeled. Of these, 6,000 tons of shrimp products are exported to the rest of the world. The remaining 14,000 tons are shrimp waste. Hence, 75% of the shrimp is waste and every day approximately 38 tons of shrimp waste is discharged into the sea through a piping system, leading from the shrimp factory and directly into the sea. The Shrimp Factory in Sisimiut has dispensation to discharge its waste because of the bays strong currents, leading the waste away.

Fig. 4 – Multiple environments

a) Localization of Sisimiut

b) Sewage discharge in Sisimiut

c) View of Sisimiut

d) Colors of the water in the harbor pink

Sources: a) Map of Sisimiut; b) Google Earth; c) Photo by Iben Holm; d) Photo by Frida Foberg

With the shrimp waste as a catalyst, the projects aim to exemplify how the mindset of symbiosis, can contribute to the development of new sustainable planning and designing methods that facilitate future urban development, in this case in Sisimiut, Greenland (Fig. 5).

5. Strategy of symbiosis

PESTEL is a marketing analysis model used to analyze the conditions of the external macro- environment that has impact on the business concerned. The analysis is based on six areas: political factors (P), economic factors (E), socio-cultural factors (S), technological factors (T), ecological factors (E) and legal factors (L). For an industrial symbiosis these factors are crucial to its success. The model was used on this project from the beginning in order to identify the challenges in the realization of an architectural symbiosis in Sisimiut that this project proposes.

The different factors are explained below, generally and in relation to the specific case:

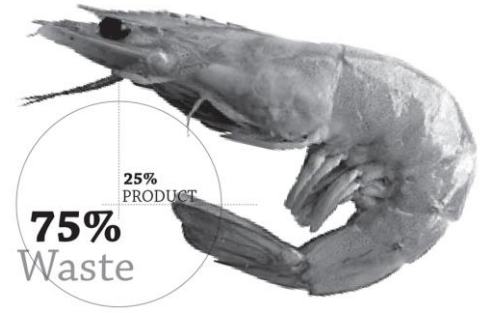
– *Political factors (P):* for the symbiosis and its mindset to gain currency and being further developed, it requires primarily dynamic and innovative forces and a unit that will facilitate this communication and launch development projects. In Kalundborg it is the Municipality that facilitates the existing symbiosis and provides financial support to its development. In Perth, AU, the industrial symbiosis of Kiwana is facilitated by

Curtin university, which has an industrial ecology research department. In Greenland it is the Self-Government, placed in Nuuk that desides which of the municipal projects that will be initiated. This can often be a longer bureaucratic process that sometimes hampers the development of the various municipalities. In Sisimiut, the Municipality has therefore begun to initiate their own projects to keep development from being detained. These actions are substantial for the future of Sisimiut.

- *Economic factors (E):* the symbiosis is emerging from an external political or economic pressure on the company. The economic element is essential for the cooperation to even be considered. The symbiosis in Denmark is particularly successful because of their fee-system in relation to waste. In this sense, it can be beneficial to find partners who can use it, and thereby acquire ones bi-current. The economical factor correlates to the development of GDP, inflation and economic growth, wage levels, public finances, unemployment, currency and the level of interest rates and cyclical factors. Sisimiut is growing, partly due to its position as Greenland's center of education, but also because of its large exports of fish. These two main players could be the leading elements to take part in a symbiosis.
- *Socio-cultural factors (S):* both cooperation, communication and trust between the companies involved are crucial factors of the symbiosis. This often works best in smaller communities where leaders know each other. The symbiosis mindset is revolving around the fact that companies are part of a dynamic collaboration, which can always be interrupted if it is no longer profitable. For boosting the mindset, it is necessary to have visionary and creative leaders. The infrastructure in Greenland is a general challenge in all towns and settlements. The inability to connect cities with roads means that no one is commuting between home and work. The symbiosis can therefore be seen as a natural tool to use in Greenland, because they are forced to stay within the limited areas when it comes to developing cities. They have to find and use the local resources.
- *Technological factors (T):* in order to realize the symbiosis, geographical proximity is an important element. The symbiosis is unfolded between to uneven units. It is not symbiotic if the exchange of bi-streams takes place within the unit itself. The academic term for an industrial symbiosis is three industries that share two bi-streams, but two industries that exchange one bi-stream is also a symbiosis. The symbiosis must be adaptable regarding the technical aspects in collaboration. These elements such as patents and products, research, public support for research and general development in technology will play a significant role in the symbiosis.
- *Ecological factors (E):* sustainability is something that is implicit in everything we do today. The symbiosis arose from a need to do things smarter. Optimization and efficiency are concepts often used when businesses modernize today, but on top of this comes the discussion, that we need to be better at taking care of our earth. Issues such as ecology, waste, energy consumption, pollution, global warming and rising sea levels are at the top of many industrial corporate agendas. The waste disposal issue is important in Sisimiut and one of their biggest challenges.
- *Legal factors (L):* regulatory requirements can generally jeopardize the symbiosis. A company can get trapped between the legislative and fiscal environment because they do not always cooperate. This can make companies deselect the exchange of bi-flows with another company, since it may be more profitable not to do. Competition law, antitrust law, and legislation on labor market conditions and product liability therefore

play a significant role in the establishment of the symbiosis. The company Royal Greenland has a department that studies the development of compaany factories. It is also aware of the vast amounts of waste in Sisimiut, but currently it is not profitable for the factory to handle their waste diefferently. Due to the lack of legislation on indirect taxation, the Royal Greenland continue to derive their waste into the sea.

Fig. 5 – Shrimp waste as a catalyst for the project



a) Waste product from the Royal Shrimp

b) The factory

c) The harbor after work

d) The front of the factory

Sources: a) Graphics by Iben Holm and Lise Birgens Kristensen; b) Google Earth; c) Photo by Iben Holm; d) Photo by Iben Holm

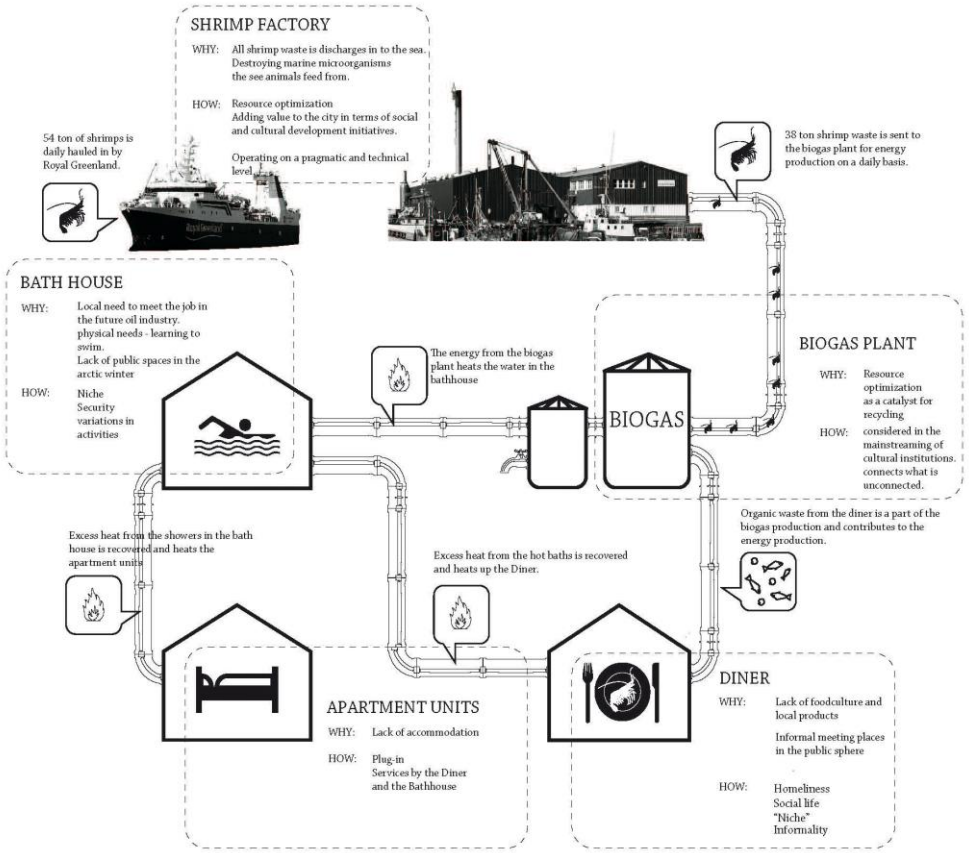
6. The circuit

Based on the issue that Royal Greenland dump their waste into the sea, we designed a circuit that utilize shrimp waste as a main resource and in synergy with new recipients and urban programs, becomes a new regenerative force in the city that contributes to welfare and social and cultural development (Fig. 6).

Alongside a mapping of local in- and output resource and waste streams, the construction and qualification of the circuit was based on research on social needs for development and research on how a waste stream, in collaboration with new technology could be a feedstock for another. Working at the interface between technology and architecture is a challenging task and calls for a wide interdisciplinary collaboration where knowledge sharing is the key

word. The design of the circuit was developed in dialog with anthropologists, engineers, Sisimiut municipality, parallel to comparative studies, fieldwork and a three-week stay in Sisimiut.

Fig. 6 – The circuit in a constellation of the shrimp factory



The match of actors in the circuit that is proposed is the shrimp factory as the main resource, a biogas plant as the main technology that sends the waste in circulation, a Bathhouse, a diner and apartment units as receivers and small processors. Receivers and small processors meaning the diverse programs feeding from the main resource and processing it into a new resource. The complex of diverse programmatic elements is gathered in a hybrid structure. The short version of the programmatic relevance criterion of the selected Plug-in programs is here described:

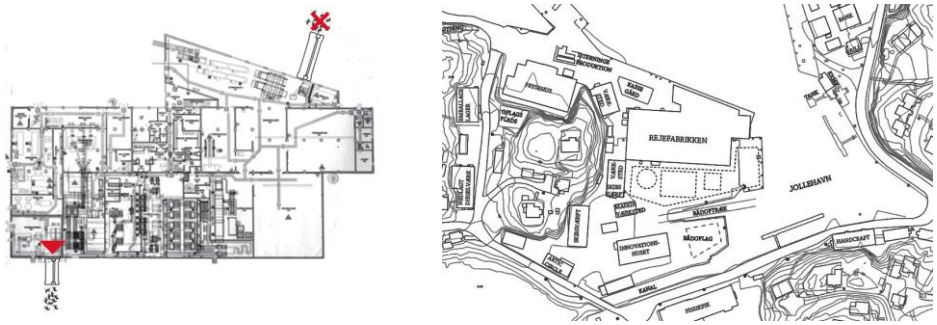
– *Biogas-plant:* the shrimp waste has a high value of COD (Chemical Oxygen Demand; COD is a unit of measurement for energy outcome of biogas production.) By implementing a biogas plant next to the shrimp factory, the waste converts into energy.

The biogas plant represents the technological machine and is the catalyst of the circuit. It is called cyclifyer, i.e. an element that has the property to send flows of resources into circuit. A term borrowed from *2012 Architechten*.

- *Bathhouse:* the relevance of a bathhouse comes from the Greenlanders' desire to hold positions in the emerging oil-industry. As in many other fishing cultures, Greenlanders cannot swim, but in order to hold jobs on drilling rigs, they have to pass a test showing that they are able to get themselves out of a helicopter under water. Furthermore, it is desired to have a public space that facilitates exercise and physical activity through the long Arctic winter.
- *Diner:* Sisimiut lacks cafes and other facilities that can run outside the tourist season. The city asks for social and public spaces that can be the base of social meetings and a place where you can actually eat the Greenlandic fish where it is caught. That is not possible today.
- *Apartment units:* This program is an add-on to the hybrid construction that can support different events throughout the year. The program will include overnight accommodation for conferences in the city and visitors from companies; it relates directly to the house of innovation that is located on the harbor next to the factory.

The hybrid is the juxtaposition of these programs in a coherent circuit. The hybrid is a plug-in for the shrimp factory in which there is a synergy between the two. The biogas plant convert waste into heat to warm up the hot baths of the bathhouse. By recollecting the heat from the bathhouse, transmitting it to the diner and the apartment units, the bathhouse also becomes a cyclifyer. In addition to the main resource, an associated internal circuitry between the diner house and the biogas plant in the form of organic waste is established (Fig. 7).

Fig. 7 – Plug-in circuit



a) Turning linear process into circular *b) Placement of the components*

7. The architectural project

The field of knowledge and knowledge processing that was unfolded in the first, and the main part of the project, was complex when attempted to take to the architectural level. The technological resources process and the relations of exchange between the different programs was established, but how do they connect visually, socially and physically? The

architectural task called for spatial guidelines and concepts from the field of architecture that could point out directions for the architectural configuration. We studied the expression of the industrial symbiosis, the concept of hybrid architecture, the Greenlandic social culture, and the environment, daily life and characteristics of the port.

To design a building that can contain these very different programs, the projects explores how we can rethink architectural programs and unfold the potentials of an architecture that has the capacity to incorporate the inherently conflictual situation between natures ecosystems and the development on our societies:

- *The hybrid:* the project introduces the "hybrid" as a concept with that ability. The hybrid stimulates the non-hierarchically and supports diversity.

  A hybrid is a juxtaposition of different elements with its own identity. Hybrid architecture can be interpreted as being an anti-typology, as it will always take shape after the programs combined. It is in this kind of anti-typology, that "the hybrid" is the key term in the design of an architectural circuit.

  In the project the programs are not seen as individual distinct objects as it is today, but as a network of programs and activities infiltrated and connected by the constant exchange of resources. The agenda is to make architecture an active and dynamic player in the exchanges that take place between buildings, people and systems and it is in the interaction between programmatic elements and the social and technological exchanges, that the architectural hybrid arises. The project investigates how a hybrid structures, inspired by nature, can be a viable new sustainable architectural typology.
- *Industrial symbiosis:* as an initiation of the architectural task, we visited Kalundborg Industrial Symbiosis and some of its collaborators to study how the circuit visually and functionally is expressed. The symbiosis is basically self-grown and this character is visible in the long lines of colored piping between the industries. Today our buildings hide everything away and do not contribute to creating awareness of our consumption, rather the opposite. The narrative expression that lies in the visible connection between industries bear witness to new collaborations and it is a strong and captivation image; the exchange and visualization of the processes required to maintain the good life promoting a new necessary awareness of resources and consumption (Fig. 8).
- *Social culture:* to identify some specific elements that could be essential for the spatial configurations of the building, we studied the living rooms, the place where the Greenlandic community unfolds. Everything in Greenland is publicly owned. This degree of publicity is also reflected in the social culture, where the private house is a more public space than for instance in Denmark. Kaffemik, a social gathering, is a very Greenlandic phenomenon that expresses this part of the culture. It is an open house, where guests enjoy themselves, drink two cups of coffee, and then make room for new guests. Through compiling and systematizing six modern living rooms, three consistent features were identified through models in order to identify possible spatial potentials – *compactness*, *lining* and *niche* – and one of these spatial investigations N*iche* was further developed (Fig. 9).
- The *Niche* shows how they use the social space in the house by creating several smaller intimate spaces. When you enter the livingroom, you do not experience that it is oriented towards a single and central meeting place, but against several small zones each containing different ways of being together.

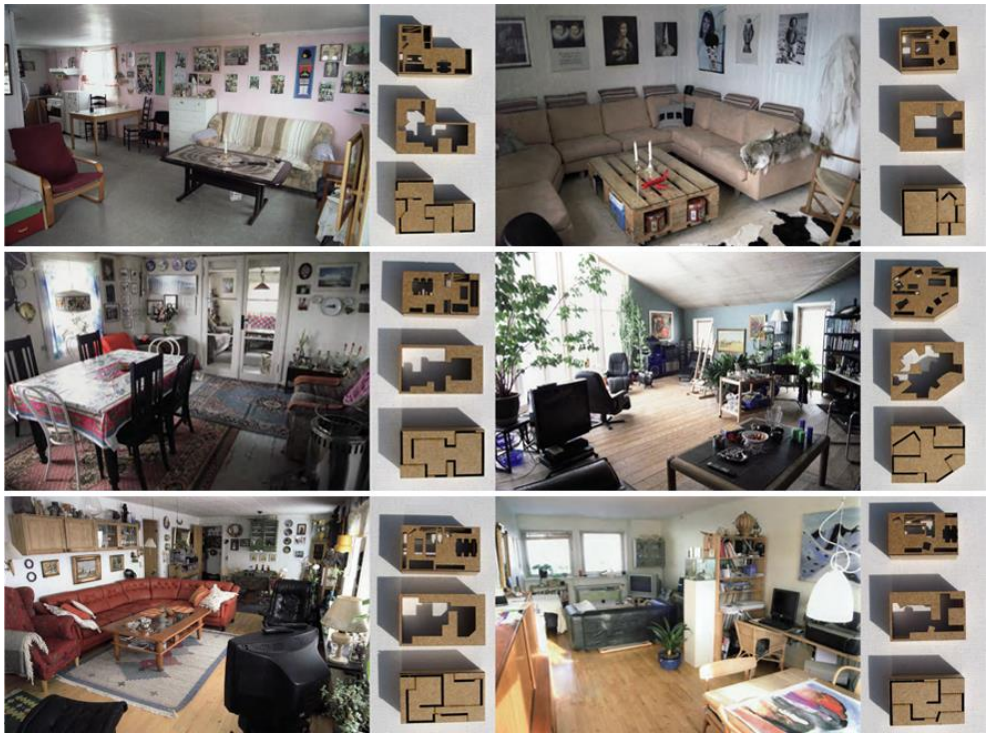
– *The Port*: The port consists exclusively of functions related to the fish industry, the import and export from Arctic Line's container ships, shrimp and crab catch from the Royal Greenland factory and the local fishermen's seal catch. The port is active around the clock and sets the frames the livelihood of the city. With a building site next to the shrimp factory architectural circuit inscribes in an active and rough environment in an immediate chaos of boats, containers, trucks, peeled seals and fish boxes (Fig 10).
  In this exemplification, the building is designed from the inside out and with the different programs added on as informal layers. It has not one but multiple entrances, and the building is organized by the logistical and programmatic exchanges of the circuit.

The spatial interpretation is visible in the drawsinmaterial presented further on.

Fig. 8 – Kalundborg Industrial Symbiosis and the aesthetics of industries

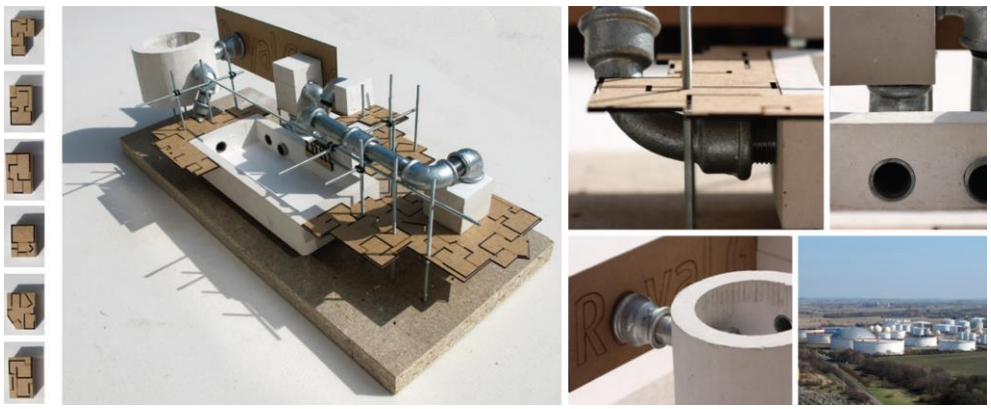
Photos: Iben Holm

Fig. 9 – The Greenlandic living room



Photos of Livingrooms: Julie Edel Hardenberg
Models and representation: Iben Holm and Lise Birgens Kristensen

Fig. 10 – Diagrammatic study of spatial and programmatic plug-in structure



Photos: Iben Holm and Lise Birgens Kristensen.

The architecture in this investigation is based on making the resource sharing visible, as a way to use the architecture as the storyteller of new connections and resource exchange that today, the project argue, is not apart of our awareness (Figs 11-18). The structure takes the expression from the industrial materials of the harbor and the visibility and coloring of the piping from the industrial symbiosis. With steel facades and the porous expression characterizing the additive and labyrinthine nature at the harbor, the structure infiltrates as just another layer to the natural character of the site.
The hot water basin in the bathhouse contains an exchange of social character and shows how the bathing house becomes a new social space and a public meeting place in the city.
The living room which is located centrally in the building acts as a living room for the apartments, the arrival for the bathhouse users, and the daily meeting area of the visitors of the house in general.

Fig. 11 – Plan showing the spine of the building with the piping everywhere visible

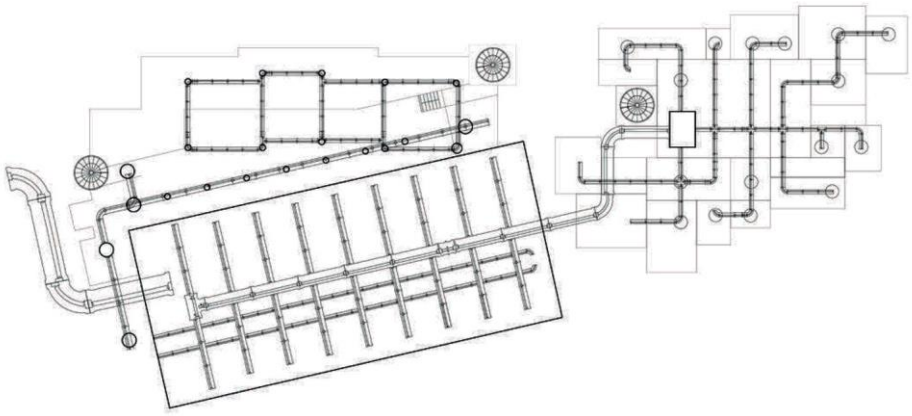


Fig. 12 – Plan

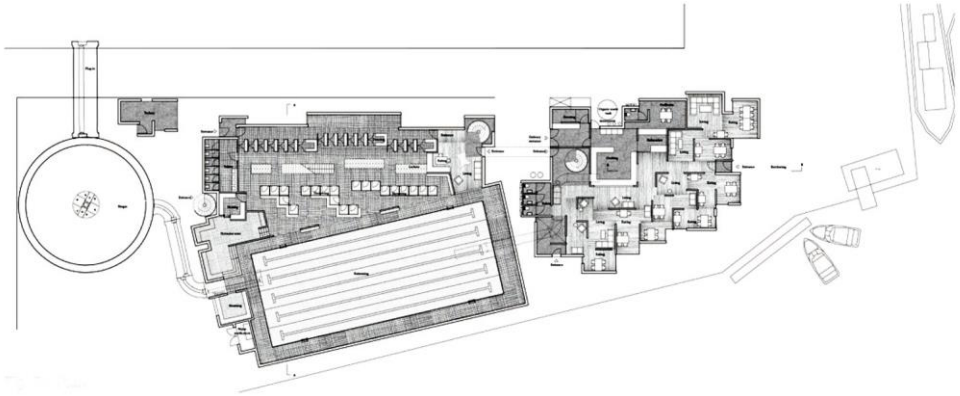


Fig. 13 – Arrival between the biogas power plant and the bathhouse facilities

Fig. 14 – West and south facade

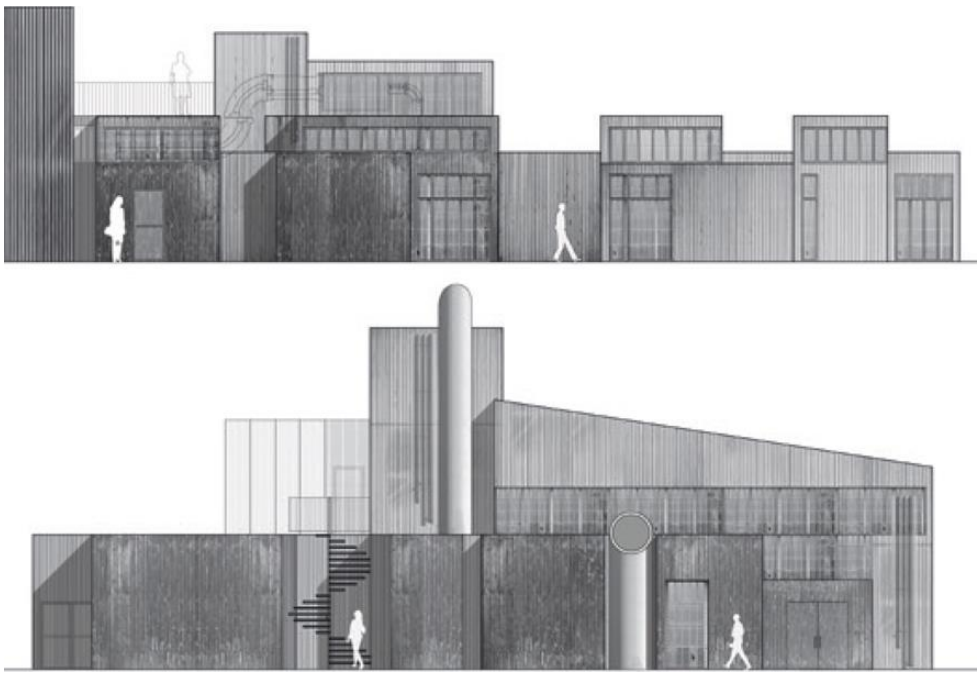


Fig. 15 – Section through the bathhouse, changing facilities and the apartment units

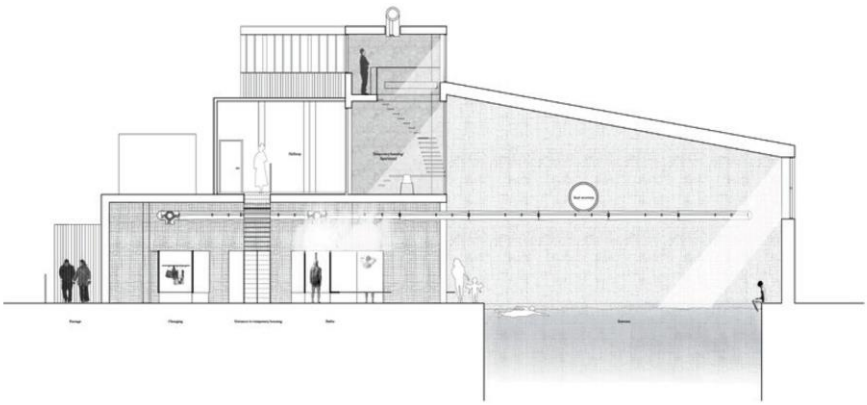
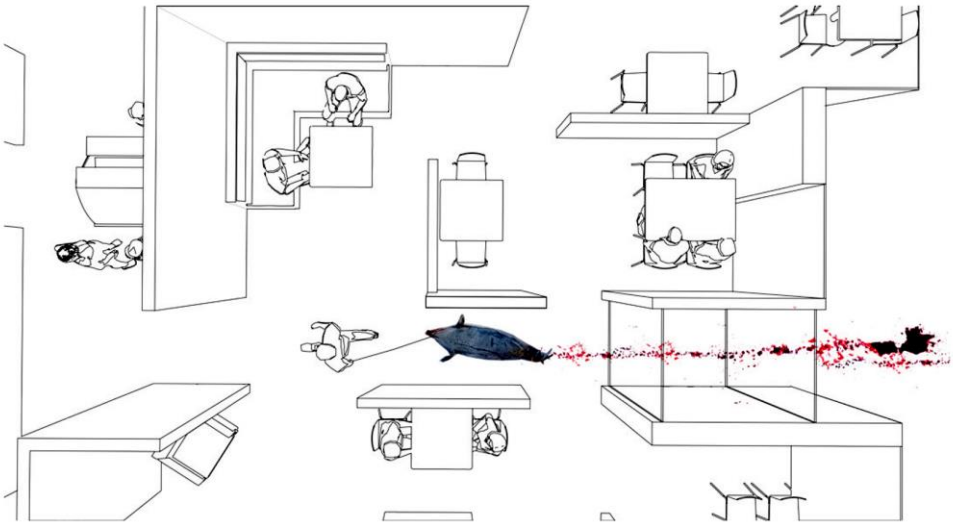


Fig. 16 – Section investigating the relationship between people, activities, pipes and spatiality

Fig. 17 – Scenario from a regular day at the diner

The diner's relevance to the harbor stands out with a clear location at the dock where the exchange between the local fishing environment and visitors of the diner will be put into play. Where the seal is brought to land, it is slaughtered and eaten, at the same time as the local culture of reuse is exposed in front of the guest of the diner. The diner becomes a place for cultural gathering that symbolizes the livelihood of the city.

Fig. 18 – The diner: a clash between food culture and food production



8. Concluding remarks

Utilization of resources is a part of the global discussion and an intrusive issue for the entire planet. One of the main points experienced in this project is that the challenge and its solution is locally anchored and need to be solved on site. This specific bottom-up challenge demands new methods of mapping, interdisciplinary analysis and research collaborations that answer to the specific culture and resources on site.

The physical project exemplified here, was developed and explored in the drawing of sections. It is here the concept of the hybrid structure is manifested and the relations between the social culture, the technological elements and the harbor environment is coming together in a complex constellation. In the plan and the spatial configuration there is still a lot of unanswered questions that calls for more exploration in the design process than the time available in the process of this project. In a wider perspective, the future work concerning the architectural project calls for focus on the development of physical appearance and a tool for reading and understanding the aesthetics in a complex constellation like this.

Our ambition is that architecture is an act of will and can make a change in a local environment. The methodological approach of this project suggests an evidence of this. However the concept does not get its validity before it is conducted in close collaboration with the local users. In this specific case, where the spatial intentions of the diner is founded in the "homeliness", which has a unique character in the Greenlandic culture, it can only succeed if it is build up by the future users of the diner. The same goes for the bathhouse. How do you build a house where both the local fishermen, the workers at the factory, children, teenagers and other parts of the population in the city will meet? For the architectural project to develop further it needs greater level of involvement than possible in this case.

Symbiosis is the phenomenon of a coherent resource utilization at a global level. But when

you dive into the local challenges, it is possible to adjust the significant parameters such as PESTEL. This makes the project interesting but also difficult and complex. The vulnerability in this project lies in the search coil between reality and ideology. In the world today, with an unstable global economy, the success of an architectural industrial symbiosis foremost depends on lobbyism to spread the concept of the mindset and political goodwill. This can only be found locally in communities with strong visionary forces. Also questions concerning the concept of the circuit, in unstable financial times like these, is insistent and needs strategic developing, e.g.what happens if an element in the circuit goes bankrupt and falls out, and what happens if a company is expanding and can no longer get enough raw material from its collaborator. The collaborative network needs flexibility at the same time as long termed contracts to make it affordable for companies to collaborate in the first place. These are questions that needs to be answered with intelligent solutions and strategies. The methodological approach described from part 1 to 3 is complex and requires interdisciplinary assistance.

Symbiosis collaborations should not only be limited to the industrial field, where machines and output play the main parts. It is important that we constantly perceive the surrounding environment, its living resources and the possibilities of new technology as a coherent whole. Instead of seeing the elements concerned as individual objects working alone, we should look at machines and new technology as natural incorporated extensions of our existents and thereby creating a sustainable development on the terms of architecture. As stated in the introduction, the project is to be seen as an initiation of studies that indicate how architecture can be a tool to create sustainable design in cooperation with living resources, technology and humans beings in a network of mutually dependency. By doing that, we believe will lead us to new forms of architecture – sustainable typologies where the architecture creates new opportunities for a more sustainable development of society, with an extent of which we have only seen the humble beginning. As in every new initiation, it needs more research and more examination, and more interdisciplinary collaborations.

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HISTORIC CITIES IN EMERGING COUNTRIES. ECONOMICS OF CONSERVATION REVISITED

Christian Ost

Abstract

In 2012, UNESCO celebrated the 40th anniversary of the adoption of the Convention for the Conservation of the Architectural Heritage. The protection and preservation of the world built heritage has been since so successful that we face today a new challenge in managing the heritage in a context of threatening macroeconomic factors: mass-tourism, urban development, restructuring, market dominance, climate changes, etc. The paper aims to revisit economics of conservation in the framework of historic cities in emerging countries. That entails the need for the sound assessment of economic values, the development of new monitoring tools, and decision-making process. It also put emphasis on new partnerships between public and private initiatives in historic cities.

Keywords: historic cities, macroeconomics, historic urban landscape

LE CITTÀ STORICHE NEI PAESI EMERGENTI. UNA RIVISITAZIONE DELL'ECONOMIA DELLA CONSERVAZIONE

Sommario

Nel 2012, l'UNESCO ha celebrato il 40° anniversario dell'adozione della Convenzione per la Conservazione del Patrimonio Architettonico. La tutela e la conservazione del patrimonio costruito nel mondo ha avuto da allora tanto successo che oggi si deve affrontare una nuova sfida nella gestione del patrimonio, continuamente minacciato da fattori macroeconomici quali: turismo di massa, sviluppo urbano, ristrutturazione, predominanza del mercato, cambiamenti climatici, ecc. Lo scopo dell'articolo è di rivisitare l'economia della conservazione nel quadro delle città storiche dei Paesi emergenti. Questo comporta la necessità di una stima precisa dei valori economici, di elaborare nuovi strumenti di monitoraggio e processi decisionali. L'articolo pone, inoltre, l'accento sulle nuove partnership tra iniziative pubbliche e private nelle città storiche.

Parole chiave: città storiche, macroeconomia, paesaggio storico urbano

1. The current challenge for historic cities

In 2013 – for the first time in the human history – the majority of the world population lives in urban settlements. Rural exodus and urban development are the most powerful trends in accompanying the demographic increase of the world population. Emphasis has been put in the recent decades on the cultural, social and economic implications of this challenging movement. To list a few issues: poverty alleviation, sustainable development, urbanization, transportation issues, immigration, industrial restructuring, gentrification, have all been associated to the debate of cities and welfare. The discussion is also embedded within the UN System Task Team for the Post-2015 Development Agenda *Realizing the future we want for all* (United Nations, 2012), and within the UN-Habitat (1986-2013) initiatives for a better urban future *Global reports on human settlements*.

In this regard, historic cities are considered to possess cultural capital as a promising source of income and welfare in a globalized and highly competitive world economy. They present also the most exemplary and challenging issue in heritage conservation. The forces of changes that prevail in the framework of historic cities are mainly economically driven, and can be handled only with similar and consistent principles both from conservation and economics. This has been acknowledged by UNESCO in promoting the concept of Historic Urban Landscape that could be addressed in a macroeconomic perspective, embedding adequately the systemic and collective dimensions of the urban heritage. The ability to match the cost of preserving the past with the benefit of balanced development will eventually determine the future of the heritage.

Any city in the world is historic. There are ordinary cities with a couple of monuments people cherish, and World Heritage Cities with strong commitment for protection. There are nation's capitals and small towns, rich and poor cities, but all of them face the common challenge of preserving their cultural heritage along with fostering economic development. Historic cities address the challenge of achieving the best trade-off between the past and the future.

2. Four decades of successes and failures

In 2012 UNESCO celebrated also the 40th anniversary of the adoption of the *Convention for conservation*. And the world is struck by a major economic downturn as a follow-up of a long and structural cumulative process that started several decades ago. Public debt, financial imbalances, and high unemployment are symptoms of the decline of the industrial development located initially in the West, and redistributed today in a global economy. At the same time, emerging countries (BRICS for Brazil, Russia, India, China and South Africa) face huge development needs for which the cities will have a dominant role to play. Heritage cities are at the front line of this debate. In addition mass-tourism has never been to such a high level. Some historic cities face a threatening flow of visitors which disrupts the urban fabric, as well as the social and economic traditional network of activities and trade.

The cities with an astounding growth rate of their population face conflicting issues between historic preservation and economic development. Together with social conflicts, political turmoil, wars, and natural disasters, the economic development can be identified as a factor of risk for the cultural built heritage. The lack of public funding and protection, as a result of an unprecedented rise of free-market initiatives, becomes a major concern for the world of conservation.

That story has started after World War II. Post-war reconstruction (especially in Europe) emphasized the need to preserve our common and universal architectural heritage. Many monuments had been destroyed, or badly damaged. Time had come to set modern principles of conservation for the cultural built heritage throughout the world. The background was favorable, with high economic growth, the increase in private and public funding, full-employment, and rising disposable income. In the Western countries the background was also challenging, with the baby boom and the subsequent expanding population. This was a time for new architectural schemes and modern urban-planning settings, sometimes not compatible with the preservation of monuments and sites.

The Fifties had set the stage for the upcoming Golden Sixties. Principles of conservation start to emerge, culminating with the adoption of the *UNESCO Convention for conservation* in 1972. Countries start to list their monuments, architectural sites, and historic centers as a world heritage with outstanding cultural value. There were economic resources available for preservation, and additional revenues from cultural tourism which grew at an expanding rate. Then came the Seventies. Economic growth started to shiver. Shocks and aftershocks occurred in such various fields as economics, money, energy, trade, employment. The uninterrupted rise in income and consumption was no more the rule. Social and cultural behavior changed sharply. Environmental concern for more sustainable growth on the planet gathered full momentum. Historic conservation partially benefited from this evolution.

With lower growth and industrial challenges the Western world faced a global loss of competitiveness. Globalization was on the rise and economic welfare was redistributed among the Nations, to the benefit of emerging countries. Globalization really started during the Eighties, bringing new opportunities to the world of conservation. But it brings also new challenges, particularly in terms of governance and decision-making. Unable to sustain globalization and the aftermath of a decade of economic crisis, the Soviet Union collapsed, providing the free-market system with an undisputed hegemony. Meanwhile, the world heritage list extended, boosted by huge expected benefits from mass tourism, and despite the financial burden that the protection of cultural heritage would inevitably bring along. In particular in a context of lower economic growth, and lack of private and public funding.

3. Economic of conservation revisited

The process of economics applied to conservation starts, and ends with economic values. Environmental and natural resource economics that emerged as a distinct branch of economics in the Sixties proposed a distinction between use and non use values. Use and non use values express the tangible as well as the non tangible aspects of the built heritage. In economic terms, the distinction between use and non use values refer to marketable and non marketable aspects of the heritage. The measurement of use and non use values aims to develop simultaneously quantitative and qualitative approaches to heritage conservation.

In the process of assessing economic values the use of indicators aims to reveal both the features of the cultural built heritage, and the robustness of the economic environment. Indicators aim to identify and measure three categories of factors, market-related factors, resources-related factors, and values-related factors. Market factors emphasize the higher economic risk that is related to totally free market mechanisms (existence of regulations, heritage protection rules, fiscal incentives, public/private partnership). Resources emphasize the higher economic risk in an adverse macroeconomic background (indicators

for GNP/capita, unemployment, business innovations, real estate market). Values emphasize the higher economic related to a weak identification of economic values (balance of non use and use values, direct and indirect, carrying capacity accommodations, local jobs).

The discipline of economics of conservation has been enhanced by a growing need for tools to cope with the issues of managing and financing heritage in a context of crippling economic resources. Economics of conservation never aimed to challenge the principles of conservation, but just to help decision-makers in assessing and measuring impacts of projects. Modern principles of heritage conservation have shifted from single monuments and sites with explicit universally recognized outstanding value, to integrated conservation, and to a more holistic perspective, best illustrated by the concept of the Historic Urban Landscape. Once again, conservation and economics have crossed paths. Methodological concern for economics when applied to conservation emphasizes a comprehensive approach, or a macroeconomic perspective, which is perfectly consistent with the concept of Historic Urban Landscape. The new paradigm, based on the historic urban landscape, implies an intrinsic coupling of conservation and economics. Conservation economics is no more merely providing a toolkit to achieve cultural goals, but aims to decide with conservation specialists and urban planners which resources are to be allocated, and how.

Today, the protection of cultural heritage has earned global recognition and legitimacy. But it is also a time to ask whether the problems stemming from the current economic crisis may challenge some of the protection principles originally adopted:

- governments face the challenge of their financial commitment *vis-à-vis* the heritage. The debate between advocates of a free-market and those of government-backed intervention in cultural activities is stronger than ever;
- globalization has increased mobility and created a mass cultural tourism that sometimes threatens the monuments and sites;
- historic cities face the challenge of rural exodus and urbanization: the shift of consumption and production schemes throughout the world has brought the cultural assets into the agenda for poverty alleviation and sustainable development;
- cultural capital is acknowledged as a powerful economic force in attracting investors and new business. The economic paradigm for development has been reversed: while economic factors used to bring welfare, today livability and urban amenities generate economic benefits.

Accordingly, economics of conservation has come today to the front stage of the debate between historic preservation and economic development. It is time to bring economic criteria into the protection and the management of historic sites for the sake of survival of the cultural built heritage. As Raymond Lemaire, co-writer of the *Venice Charter* and co-founder of ICOMOS, declared in 1982: «In the coming years so much will be protected, but it will be increasingly difficult to manage it. Hence the decision of what remains protected and how, will partly become an economic decision. I just hope that conservation economists will then be ready».

4. The case for emerging countries

Emerging countries are now experiencing significant growth. The determinants of growth are both cyclical and structural. Of course, urban development is a key factor in this surging demand for housing, space for business, transportation, services to businesses and

individuals. In this regard the pressure on the cultural built heritage in cities gathers momentum, as more and more urban development initiatives are taken by the public and private sectors.

A strategic assessment of the threats and the opportunities which derived from this current situation can be made in accordance to the UNESCO's *Recommendation on the historic urban landscape*: «1) Undertake a full assessment of the city's natural, cultural and human resources; 2) use participatory planning and stakeholder consultations to decide on conservation aims and actions; 3) assess the vulnerability of urban heritage to socio-economic pressures and impacts of climate change; 4) integrate urban heritage values and their vulnerability status into a wider framework of city development; 5) prioritize policies and actions for conservation and development, including good stewardship; 6) establish the appropriate (public-private) partnerships and local management frameworks; 7) develop mechanisms for the coordination of the various activities between different actors» (UNESCO, 2013).

In particular the vulnerability of urban heritage is high, given the macroeconomic factors underpinning the development of the urban form:

- climate change and natural risk factors, as well as environmental challenges;
- mass-tourism;
- urban development in terms of the transformation of urban infrastructures;
- social and economic impact of urbanization: keeping accessibility and diversity in the urban form;
- restructuring, industrial regeneration, innovation, creative industries;
- changes in consumer behavior in the context of global urbanization.

The focus must be on identifying and measuring the economic value of heritage with the use of quantitative and qualitative data, indicators and maps, as per current UNESCO recommendations guidelines for city managers in a perspective of cultural policies and urban strategies compatible with heritage conservation. In emerging countries, city managers need more accurate information about the economic benefit of heritage and its conservation, as they are in charge of transforming cities confronted with globalization, urban development, climate changes and revitalization.

In this regard, one of the main objectives is to monitor historic cities to identify the most vulnerable spots, and how to prevent a further deterioration of the cultural urban environment. Monitoring world historic cities is part of UNESCO's initiative for promoting the role of culture for development, and in particular the integration of heritage conservation in a sustainable development perspective, as documented in the Kyoto vision of the 40th Anniversary of the World Heritage Convention celebrated in 2012. The conclusions of the preparatory meeting held in Ouro Preto in February 2012, called «for the practice of conservation to incorporate a new multi-disciplinary and inter-sectoral approach, which would be based on a fully participatory approach and integrate a consideration of social and economic dimensions through appropriate methodologies and indicators». (UNESCO, 2012).

Economics of conservation revisited entails to bring new monitoring tools and indicators into the process of protection, follow-up, and reassessment of the cultural built heritage in historic cities.

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HOW CAN URBANIZATION BE SUSTAINABLE? A REFLECTION ON THE ROLE OF CITY RESOURCES IN GLOBAL SUSTAINABLE DEVELOPMENT

Ana Pereira Roders

Abstract

This article is a contribution to the debate on the role of city resources in global sustainable development. It discusses the evolution of models in which urbanization is defined to be sustainable, as well as, their relation to the conservation of city resources. Further, it provides an in-depth reflection on the UNESCO Recommendation on the Historic Urban Landscape, reviewing its elaboration and implementation, both in practice and research. The results are expected to help government officials, academics, activists, or interested citizens identify and address the sustainability of urbanization, as well as, discuss the role of conservation of city resources in global sustainable development.

Keywords: historic urban landscape, city resources, sustainable urbanization

COME PUÒ ESSERE SOSTENIBILE L'URBANIZZAZIONE? UNA RIFLESSIONE SUL RUOLO DELLE RISORSE URBANE NELLO SVILUPPO SOSTENIBILE GLOBALE

Sommario

Questo articolo è un contributo al dibattito sul ruolo delle risorse urbane nello sviluppo sostenibile globale. Viene discussa l'evoluzione dei modelli nei quali l'urbanizzazione è considerata sostenibile, così come la loro relazione con la conservazione delle risorse urbane. Inoltre, fornisce una riflessione approfondita sulla Raccomandazione dell'UNESCO sul Paesaggio Storico Urbano, passando in rassegna la sua elaborazione e la sua attuazione, nella prassi e nella ricerca. I risultati potranno essere utili ai funzionari governativi, agli accademici, agli attivisti o ai cittadini interessati per definire ed orientare la sostenibilità dell'urbanizzazione, nonché la discussione sul ruolo della conservazione delle risorse urbane nello sviluppo sostenibile globale.

Parole chiave: paesaggio storico urbano, risorse urbane, urbanizzazione sostenibile

1. Introduction

The XXI century brought great challenges to contemporary urban planning. Urban population growth is unprecedentedly high, by nearly 60 million every year (WHO, 2014). Numbers are even expected to double by 2050, and triple by 2100 (Angel, 2012). Over the next 30 years, most urban population growth is expected in cities of developing countries. Without immigration (legal and illegal), the population of cities in developed countries is expected to remain largely unchanged or even decline (WHO, 2014).

The impacts of these shifts in population on cities can vary worldwide, each city carving its own model of urbanization. Many cities are expanding, others are shrinking, changing and vacating. The pace of urban population growth is speeding urban developing and that is changing our cities and their quality of life. The informal sector seems to be taking the lead, contributing to an escalation of urban sprawl and unplanned periurban development (UN, 2009). Hundreds of millions of citizens in urban areas are experiencing an increasing vulnerability towards rising sea levels, coastal flooding and other climate-related hazards (IPCC, 2007). These are few of the main challenges, contemporary urban planning is considered to have failed addressing (UN, 2009).

Compact cities have been confirmed as more sustainable than suburban sprawl or countryside settlements. They provide greater offer to society, have smaller carbon footprints and nurse more innovation (Glaeser, 2011). They also encourage more walking and cycling (Angel, 2012). Though, compact cities are also being accounted for higher levels of air pollution and heat island effects on urban population (Angel, 2012). Compact cities can be designed from scratch as the Masdar city, in Abu Dhabi, United Arab Emirates. Though often, to become compact, cities entail a process of urbanization targeting densification, where city resources get transformed and the urban dynamics intensified, reactive to the societal needs and economic strategies (Bandarin and van Oers, 2012).

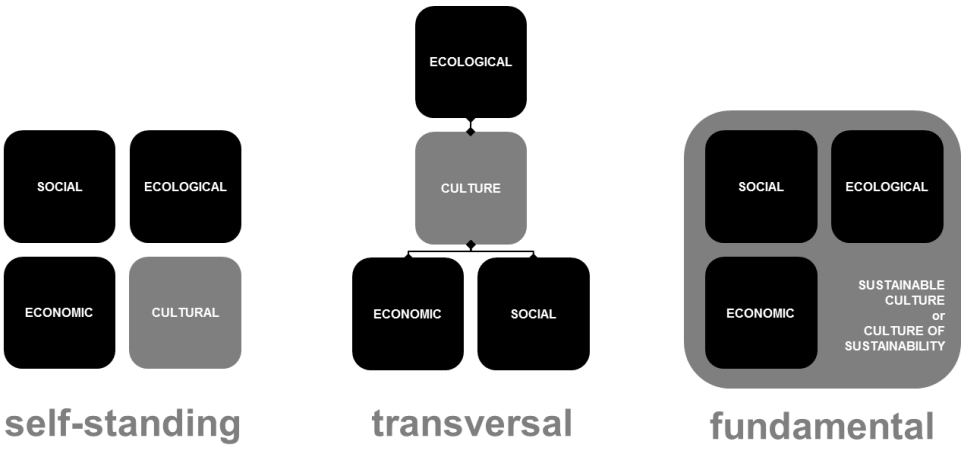
Though, not all compact cities seem to be endorsing such sustainable development. There is a global concern on rapid and uncontrolled urbanization models, which are causing deep impacts on community values and city resources. These models seem to impose excessive building densities to their cities, including standardized buildings alienated from their setting and cultural diversity. They contribute to the loss of public space and amenities, inadequate infrastructure, debilitating poverty, social isolation and increasing risk of climate-related disasters. They also create social and spatial fragmentation, and cause a drastic deterioration of the quality of the urban environment and surrounding rural areas (UNESCO, 2011a).

Such patterns question the validity in globally defining sustainable development as the «development that meets the needs of the present without compromising the ability of future generations to meet their own needs» (WCED, 1987), with three fundamental pillars: social, ecological, and economic. Besides remaining open for subjectivity and misinterpretation (Holden, 2006; Tanguay *et al*., 2010), the balance between the three pillars seems to remain theoretical. Ecological and economic sustainability are considered largely prioritized over social sustainability in the sustainable development agendas and action plans, both focusing on the ecological footprint and energy consumption (Tweed and Sutherland, 2007; Shmelev and Shmeleva, 2009; Colantonio, 2009).

The role of culture in sustainable development has also been gaining attention among scholars worldwide (Hawkes, 2001; Evans, 2005; Folke, 2006; Nurse, 2007; Bandarin *et*

al., 2011). O'Connor (2013) argues the need to consider culture as an aspect of sustainable development. Accordingly, «there is no context, content or process without culture». The disciplinary and cultural differences in the use of concepts – culture, sustainable and development – are considered to hamper the rise of a multi-, trans- and inter-disciplinary approach and subsequent co-creation of cross-sectorial policies.
As a result, the focus on a sustainable development, which acknowledges the role of culture, in relation to the three pillars of sustainability seems more the exception, than the rule. Soini and Birkeland (2014) report three main approaches on how culture can be integrated in global sustainable development: culture as self-standing, a fourth pillar of sustainability; culture as transversal, a driver of sustainable development; and culture as fundamental, as the culture of sustainability (Fig. 1). The strengths and weaknesses, opportunities and threats of such approaches are still much underexplored, together with the lack of a global understanding on how governments and other key stakeholders approach it in practice. Further research is much needed in these domains, but entails the close cooperation between scholars from different disciplines and governments.

Fig. 1 – The three main approaches on the role of culture in global sustainable development

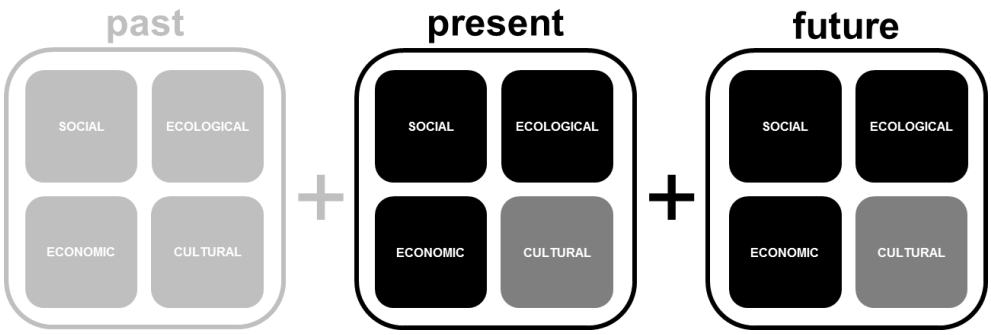


Sources: adapted from Soini and Birkeland (2014)

Apart from the disciplinary discussion on the nature of the three pillars of sustainable development, the exclusive focus on present and future needs of sustainable development also raised questions among scholars, regarding the role of the past needs and developments (Matero, 2000; Pereira Roders, 2007). Conservation, like history, is respectively seen to enroll the conscious commitment to ensure cultural continuity even where living cultural memory ends (Matero, 2000). Therefore, the level of integration conservation achieves in global sustainable development can act as an indicator on how the past and its pillars of sustainability are being acknowledged and even advanced by urbanization (Fig. 2). The models of urbanization and the level of conservation of the urban resources, seem therefore

determinant to urban development of compact cities as being sustainable, balancing past, present and future.

Fig. 2 – The evolution on the definition of sustainable development



This article discusses a model of urbanization that has long been fletched by academics worldwide (Evans, 2005; Palmer, 2009; Gucic, 2009; Pereira Roders and van Oers, 2011). A model of urbanization that acknowledges the three temporal dimensions of sustainable development – past, present and future – by integrating the conservation of city resources – natural, cultural, and human – into the wider goals of urban development. This model has proven to stimulate several local governments to develop culture-led urban strategies (Evans, 2005; Nijkamp and Riganti, 2008), but also, to contribute to the development of local communities and to the satisfaction of human needs (Tweed and Southerland, 2007). A model where culture is acknowledged as a driver for sustainable development, providing cities with a unique identity, in their competition for global markets (Scheffler *et al*., 2009). Still, the model has primarily been tested in pilot projects, requiring further theorization and a broader validation before its contribution to global sustainable development can be scientifically confirmed. This is the same model, the *Recommendation on the Historic Urban Landscape* has chosen to endorse, further analyzed and discussed in this article.

2. The Recommendation on the Historic Urban Landscape

UNESCO (United Nations Educational, Scientific and Cultural Organization) is sensitive to the urban challenges of the XXI century and recently contributed to the elaboration of international guidelines with a non-binding "soft-law", the *Recommendation on the Historic Urban Landscape* (hereinafter "HUL approach"), adopted in November 2011, by UNESCO's Member States (currently 195 countries).

The HUL approach echoes an evolution in UNESCO's approach, over the last 40 years, concerning the global conservation of resources, as well as, the shared responsibility in conserving parts of heritage considered of outstanding universal value, through the popular World Heritage list.

This evolution is felt through the UNESCO conventions and recommendations (UNESCO, 1962; 1968; 1972a; 1972b; 1976; 2005; 2011a), as well as, the ICOMOS charters

(ICOMOS, 1964; 1982; 1987; 2005a; 2005b).
Earlier approaches acknowledged urban development as one of the many dangers that can threaten the resources and to which conservation is to be reactive. Instead, the HUL approach endorses the model of urbanization that integrates the conservation of city resources into the wider goals of urban development – past, present and future.
The HUL approach was tailored for urban areas resultant from a «historic layering of cultural and natural values and attributes», including «the broader urban context and its geographical setting». Therefore, also including the site's «topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure», as well as, «social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity» (UNESCO, 2011a). Thus, every city is a candidate to explore the potentials of the HUL approach in guiding its sustainable urbanization and it is up to the stakeholders to distinguish the city resources according to their tolerance for change, ranging from those worthwhile of conservation to those available for transformation. Tangible and intangible, movable and immovable, natural and cultural, it is up to the stakeholders to determine what to value and why, without ethical prejudices.
The HUL approach is much focused on "what is to be managed and why", as often doctrinal documents are. Though, the six step approach (UNESCO, 2011b) even if not adopted along with the official text, does hint on a roadmap on how the HUL approach could be implemented in cities, within their specific contexts. In brief, the city's resources are mapped, distinguished according to the values they convey and vulnerability to change agents e.g. climate change and urbanization. That allows for their inclusion in the city development strategies and action plans, while establishing partnerships and local management frameworks, variable per project, depending on the involved actors and aims.
The six steps of the HUL approach (UNESCO, 2011b) are the following:

- to undertake comprehensive surveys and mapping of the city's natural, cultural and human resources;
- to reach consensus using participatory planning and stakeholder consultations on what values to protect for transmission to future generations and to determine the attributes that carry these values;
- to assess vulnerability of these attributes to socio-economic stresses and impacts of climate change;
- to integrate urban heritage values and their vulnerability status into a wider framework of city development, which shall provide indications of areas of heritage sensitivity that require careful attention to planning, design and implementation of development projects;
- to prioritize actions for conservation and development;
- to establish the appropriate partnerships and local management frameworks for each of the identified projects for conservation and development, as well as to develop mechanisms for the coordination of the various activities between different actors, both public and private.

Tab. 1 – Aims and objectives of the four main groups of tools proposed in the HUL approach

	Civic engagement tools	**Knowledge and planning tools**	**Regulatory systems**	**Financial tools**
Aims	• facilitate intercultural dialogue; • learning from communities about their histories, traditions, values, needs and aspirations; • facilitate mediation and negotiation between groups with conflicting interests; • constitute an integral part of urban governance dynamics	• help protect the integrity and authenticity of the attributes of urban heritage; • allow for the recognition of cultural significance and diversity; • provide for the monitoring and management of change; • improve the quality of life and of urban space	• recognize and reinforce as necessary traditional and customary systems	• building capacities and supporting innovative income-generating development, rooted in tradition; • complement government and global funds from international agencies
Objec-tives	• identify key values in their urban areas; • develop visions that reflect their diversity; • set goals, and agree on actions to safeguard their heritage; • promote sustainable development	• document and map cultural and natural characteristics; • use heritage, social and environmental impact assessments to support and facilitate decision-making within the framework of sustainable development	• reflect local conditions; • include legislative and regulatory measures aimed at the conservation and management of the tangible and intangible attributes of the urban heritage; • include their social, environmental and cultural values	• foster private investment at the local level; • support local enterprise with micro-credit and other flexible financing a variety of models of partnerships, are also central to making the historic urban landscape approach financially sustainable

The HUL approach refers to varied stakeholder groups involved in the urbanization of cities. All levels of government – local, regional, national – can contribute to the definition, elaboration, implementation and assessment of the HUL approach. Policy planning and practices can be developed in line with the governmental strategies and agendas, following a participatory process where all interested stakeholders, institutional and sectorial, can share their viewpoints. Those include public and private stakeholders, but also International

organizations, as well as, National and international non-governmental organizations.
Four main groups of tools are proposed to assist the implementation of the HUL approach: civic engagement tools; knowledge and planning tools; regulatory systems; and financial tools (Tab. 1). Their aims and objectives seem distinctive. Yet, their integration is crucial for the success of this landscape approach. After all, communities can indeed have an active role in the sustainable development of their cites, though, they also need to be supported by efficient planning and policies, as well as, provided with the opportunities to generate the financial means to materialize their ambitions and contribute to quality of life and of urban space.
Given the HUL approach is a non-binding "soft-law", the implementation to their national contexts each UNESCO Member State has agreed to adapt, disseminate, facilitate and monitor (UNESCO, 2011a; Veldpaus *et al.*, 2013a), seemed worthwhile to provide an overview already two years after its official adoption, to trace early adopters and their challenges and preliminary findings.

3. A tool for sustainable urbanization

Even though the adoption of the HUL approach by UNESCO Members States is less than three years ago, the academic and practical exploration on its potentials as a tool for sustainable urbanization worldwide, started already while the HUL approach was being drafted (van Oers, 2010).
As part of an official program, UNESCO undertook several field activities prior to 2011. The first workshop took place in Baku, Azerbaijan, in 2010, at the request of, and financially supported by, the Administration of Icheri Sheher, the local authority responsible for the management of Baku's World Heritage. Azerbaijan has become one of the world's fastest-growing economies due to its oil wealth and is aspiring to become a prominent capital of Europe and Central Asia. Such ambitions imply major planning and design schemes, as the promenade along the Caspian Sea, the modernization of electrical grids and transportation (van Oers and Pereira Roders, 2012). Kingsbury (2010) raised concerns on the development driven by entrepreneurial spirit and market thinking, with models of urbanization with great impact, direct and indirect, on the city's resources, including its urban heritage.
Furthermore, three training workshops were organized, with financial support of the Flemish Government, on the concept and application of the HUL approach for local authorities in three cities on the Swahili Coast in East Africa, being the Island of Mozambique, Lamu in Kenya, and Stone Town, Zanzibar, in Tanzania. These cities are also exposed to ambitious development plans for the East African Community, which has become among the most vibrant economic regions in the world.
With capacity building and research as leading components of this initiative to explore the potentials of the HUL approach in steering sustainable urbanization, UNESCO established cooperation with international and local universities and educational institutes on the Swahili Coast, during the workshop and implementation of identified follow-up activities. The results were shared with an international public, through an abridged report (UNESCO, 2013); but also, during a two-day international colloquium on *World Heritage Cities in the 21st Century*, organized by the City of Bruges and the Flanders Heritage Agency in 2012.
Since 2011, international expert meetings and training programs have periodically been organized by the World Heritage Institute of Training and Research for Asia and the Pacific

(WHITRAP) in Shanghai, China. The HUL approach was already discussed in the context of all UNESCO regions (WHITRAP, 2013), involving UNESCO Members States as Brazil, China, Australia, United Kingdom and Dubai. An hand full of pioneer cities as Zanzibar, in Tanzania; Ballarat, in Australia; Rio de Janeiro, in Brazil, Naples, in Italy; and Beirut, Lebanon; seem to be taking the lead in exploring and enriching the HUL approach.

The URBACT, an European exchange and learning programme promoting sustainable urban development has recently financed two projects talking the implementation of the HUL approach. Heritage as Opportunity (HerO), led by Regensburg, Germany, developed a new management approach designed to enable cultural heritage to act as a catalyst for sustainable development through the preparation of Integrated Cultural Heritage Management Plans, tested through 19 pilot projects in 9 cities.

Management of Cultural Heritage in the Central Europe Area (Herman). Led by Eger, Hungary, joined 9 cities, to "moving from conservation to management" and promote improved and sustainable management strategies for cultural heritage. Though, many more cities are expected to follow considering the growing number of cities taken as case study by scholars, teaming up with governments worldwide.

The HUL approach has already been analyzed at varied levels; locally, in cities as Liverpool (Rodwell, 2008), Amsterdam (Bruin *et al*., 2013), Edinburgh (Bennink *et al*., 2014) and Naples (De Rosa and Di Palma, 2013); nationally, in Chinese cultural, political and social contexts (Xu, 2014); regionally, in Asia (Chandler and Rellensmann, 2011) and East African contexts (UNESCO, 2013); and even, cross regionally, in Port cities/areas (Fusco Girard, 2013). Particularly, the HUL approach has been contextualized to the evolution of cultural landscape theories and World Heritage cultural landscapes (Xu, 2014), as well as, to the evolution of heritage and urban planning theories (Jokilehto, 2010; Sonkoly, 2011; Veldpaus *et al*., 2013a; Martini, 2013). The HUL approach was considered to enable the integration of conservation and planning (Fusco Girard, 2013; Xu, 2014), throughout the strategic, planning, design and management levels.

4. Discussion and conclusions

The HUL approach is confirmed to stimulate a cultural-led planning approach to local development, creative and resilient solutions. It promotes a trans-disciplinary perspective, attentive to both the part and the whole, to specific interests and to common goods (Fusco Girard, 2013). An urbanization model based on specific cultural resources, and not only on technological innovations. From a circular perspective, the HUL approach puts all aspects in a holistic/systemic view, by linking the old with the new, past and present, present and future, intrinsic values and instrumental values, private spaces and public spaces (Fusco Girard, 2013).

Direct parallels are made between the HUL approach and the Council of Europe Faro Convention (CoE, 2005), for their potentials as prototypes to enable the development of legal models fostering the cohesion of human rights to the city, rights to cultural heritage, and conservation of city resources inherent to historic urban landscapes (Markevičienė, 2011).

The need for new evaluation tools and a widespread "evaluation culture" to enable the implementation of the HUL approach (Fusco Girard, 2013), is being endorsed by scholars as Xu (2014) and Veldpaus *et al*. (2013b) who developed theoretical frameworks, to explore the application of the HUL approach. Xu (2014) tested the framework in cities in

China. The framework has three main themes and several sub-themes embracing dimensions such as perception of landscape, land-use, ways of life, spiritual or social-economic associations with landscape, and tools which can be used for identification of values. Veldpaus *et al*. (2013b) tested the framework in two European case studies, Amsterdam and Edinburgh. The framework has four main themes: object, values, actors and tools.

A more global assessment on the application of the HUL approach is still to be developed. This could surely benefit from the in-depth scrutiny from the case studies so far explored. Though, they are still too limited and alienated to allow global conclusions. Platforms as UN-Habitat and UNESCO, together with leading universities in developing global monitoring systems focused on city resources, have a role to play over the next decade in revealing and discussing the sustainability of urbanization models cities will be endorsing to pursue their visions on sustainable development. A global observatory on historic urban landscapes is needed, to allow a scientific debate fed by facts, concerning the sustainability of urbanization models, but also the role of culture in global sustainable development.

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TOWARDS A PLURALISTIC PHILOSOPHY OF THE CONSERVATION OF CULTURAL HERITAGE

Rosa Anna Genovese

Abstract

The evaluation of cultural properties, intended in the full richness of their authenticity, must be taken into equal account for their material and non-material (*Venice Charter*, 1964). The *Nara Declaration* (1994) stresses that the definition and the assessment of the value of authenticity must be referred to a multicultural dimension. The destiny of cultural heritage is linked to the evolution of modern societies, seduced by the advance of technology, in which the destruction of ecological balance and the progression of egoistic materialism. It is necessary to call for an ever increasing participation in the building of an ethics adapted to the post-industrial world, enriching the socio-economic debate with the introduction of a humanistic vision nourished by the very sap of heritage. An effective policy for cultural properties supported by the participation and "conscious consensus" of the population can constitute the central instrument to ensure the economic, social and cultural development of the Regions of the world and to guarantee integrated conservation of cultural heritage.

Keywords: integrated conservation, authenticity, conscious consensus

VERSO UNA FILOSOFIA PLURALISTICA DELLA CONSERVAZIONE DEL PATRIMONIO CULTURALE

Sommario

La valutazione dei beni culturali, intesi nella piena ricchezza della loro autenticità, deve tenere nella stessa considerazione i valori materiali ed immateriali (*Carta di Venezia*,1964). La *Dichiarazione di Nara* (1994) evidenzia che la definizione e la valutazione dell'autenticità devono riferirsi ad una dimensione multiculturale. Le sorti del patrimonio culturale sono legate all'evoluzione delle società moderne sedotte dal progredire della tecnologia nelle quali si alternano la distruzione degli equilibri ecologici e la progressione del materialismo egoistico. Occorre sollecitare una sempre maggiore partecipazione alla costruzione di un'etica adattata al mondo post-industriale arricchendo il dibattito socio-economico con l'introduzione di una visione umanistica nutrita alle sorgenti del patrimonio. Un'efficace politica dei beni culturali, sostenuta dalla partecipazione e dal "consenso cosciente" della popolazione, può costituire lo strumento centrale per assicurare lo sviluppo economico, sociale e culturale delle regioni del mondo e per garantire la conservazione integrata del patrimonio culturale.

Parole chiave: conservazione integrata, autenticità, consenso cosciente

1. Introduction

The consideration that, even though the fundamental principles of the *Charter of Venice* are valid, the Charter had to be revised, taking into account the evolution of culture, in different geographic and cultural areas and its various interpretations, especially in the countries with a civilization different from the European one, induced Roberto Di Stefano to promote a Congress, held in November 1995 in Naples, entitled, *La Carta di Venezia trenta anni dopo* (Lemaire *et al*, 1995; Genovese, 1995). During the debate, even though the principles and the contents stated by the Charter were attested, the necessity came out to open up the spirit of the Charter to cultural conceptions different from the western notions that had generated it.

In his essay *Quelle doctrine de sauvegarde pour demain?*, Raymond Lemaire had previously stressed that «when the Charter was edited, in Venice, in 1964, its authors believed they were enunciating principles of universal value. They were not aware that other civilizations, different from the European, could have a distinctive approach to the issues of restoration and protection, another sensitivity concerning the dialogue with the testimonies of their own past» (Lemaire, 1990, p. 217).

2. Authenticity and values

In the contribution on *Authenticité et patrimoine monumental* , Lemaire points out that the values underlying the concept of authenticity and the interest toward artwork, the recognition it is met with, are considerably different from culture to culture. Taking as an example the temples of the imperial Sanctuary Shinto of Ise in Japan and the Parthenon in Athens, he reminds us that the one hundred and twenty temples of the immense Japanese Sanctuary are reconstructed on an average every twenty years, re-proposed in their original shape. The carpentry and joinery workshops are kept permanently open while mops of cedars and fields of stubbles are grown especially to provide the yards with traditional materials. In Athens instead, the whole range of sciences and techniques available are applied to the conservation of the Parthenon; extensive researches are carried out to identify the stones that are thought to be the ones belonging to the monument, and to reassemble them into it, while those not yet identified, are stored and catalogued (Lemaire, 1994).

As I have previously stressed in one of my essays, the concepts so far recalled on the safeguard of cultural heritage are indeed different from one another, as the major concern of the former conception is the survival of the exact shape as a substance ("formal authenticity"), with no interest in materials; the latter, does the opposite, overlooking shape, decreeing the consecration of material ("material authenticity"). After having variously evaluated the question, Lemaire states that the problem of the authenticity, both formal and historic, of a monument is extremely complex and that the use of the word "authenticity", not integrated by an adequate specificity is devoid of any valid significance (Genovese, 2004).

The considerations here mentioned have been cause for reflection for many scholars, conservation and restoration experts, who were invited first to write for and then to participate in the international congress, promoted by the Specialization School in Monument Restoration of Naples, and by the Italian ICOMOS Committee, on *Autenticità e patrimonio monumentale* (Genovese, 1994) held in Naples, in September 1994; the

scientific results of this Congress have constituted the preamble to the *Nara Document* on Authenticity.

The numerous contributions arisen in response to the work of Lemaire have thus outlined two guidelines: one, aiming to separate the formal or aesthetic authenticity from the material or historical one, the other, asserting the unity of the concept inherent works constituted by material formed in a unique and irreplaceable way.

On that occasion in particular, Franco Borsi observed that the historic and the formal authenticity recalled in the essay, actually correspond to both the historic and the aesthetic requirements recalled by Cesare Brandi and, above all, that formal authenticity appears to be a pseudo concept, when applied to the transformation in time of the work of art – which remains authentic throughout each of its phases or epoch. Furthermore, Marco Dezzi Bardeschi highlighted the concept of evolutive authenticity, in reference to the three modern editions of *Laocoonte*, in opposition to a nostalgic return to the origins, and recalled how, not without dedicating the greatest attention to the formal aspect, authenticity should be linked to material.

In this context Roberto Di Stefano emphasized "the authenticity of values" the work bears; values interpreted according to a scale of prevalence to be determined in response to three instances, the historic, aesthetic and psychological. He remarked how «Restoration should never destroy the ancient and original authenticity replacing it with a new historic reality, but should characterize itself as a historic event […]. It is thus necessary to critically determine what value, in an object (monument), is thought to offer the greatest utility to the person observing it, or rather the greatest utility for the majority of observers; this majority is changeable in different historic periods and in the culture of different countries» (Di Stefano, 1994, p. 126).

At this point it can be observed how Di Stefano was opening up towards human ecology, a theme he further investigated in another Congress, in 1997, entitled *Tutela cosciente e umanizzazione* (Genovese 1997a; 1997b) on account of the considerations and observations resulting from an in depth research by various scholars, assembled in the volume *L'uomo ed i monumenti*. *Una politica per la vita* (Di Stefano *et al*., 1996).

The above-mentioned International Meeting on *Protection* «has confirmed the urgency to oppose the ongoing vulgar mystifications (of which there are many instances) of the meaning assigned by modern culture to the existing relationship between man and monuments, as testimonies of the evolution of civilization, in which the life of individuals has taken place as they have adapted to such evolution, keeping the intangible values, essential to create the vital energy they need to exist, unchanged. The rapid and progressive loss of those values generates enormous damage, affecting the conditions in which men survive and actually making them more gloomy.

The Proceedings of the rich debate, written and spoken, taken place during the Meeting […] prove that there is a great quantity of thoroughly qualified people, and especially young people, who oppose and rebel against what is happening, and who demonstrate this by taking part in, or attending, the debate» (Di Stefano, 1997, p. 5).

But the need to extend the considerations on authenticity to other Regions of the world, particularly Africa and the Arab World, starting from the study of the architectural and urban restorations carried out in those places, was recalled by Mounir Bouchenaki during

the aforementioned Congress held in Naples (Bouchenaki, 1994). In that occasion, during which he represented the UNESCO Division for cultural Heritage, he also dwelt upon the critical approach to the concept of authenticity and the social meaning inherent to any restoration, previously introduced by Lemaire and Di Stefano.

The merit of the Neapolitan Congress, has thus been to nourish the particularly rich and stimulating debate on the theme of authenticity, within the scientific and professional community, sparking a series of considerations which were later taken up and expressed in many other international congresses; including the ones associated with the ICOMOS General Assemblies in Colombo (1993) and Sofia (1996); and above all, Nara in Japan.

The *Nara Document* on authenticity (*Nara Declaration*) was the result of the work of about forty ICOMOS experts coming from twenty-two nations, who came together in Japan, in November 1994, to carry out an in depth analysis of the concept of authenticity according to the cultural diversities and the different categories of cultural heritage (Larsen, 1995).

The point 4 of the preamble to this document, stresses that «in a world that is increasingly subjected to the forces of globalization and homogenization, and in a world in which the search for cultural identity is sometimes pursued through aggressive nationalisms and the suppression of the cultures of minorities, the essential contribution made by the consideration of authenticity in conservation practices is to clarify and enlighten the collective memory of humanity» and point 5 stresses that «the diversity of cultures and heritage in our world is an irreplaceable source of spiritual and intellectual richness for all humankind». Then, the paragraph *Values and authenticity*, point 10, reads as follows: «Authenticity, as is considered and stated in the Charter of Venice, appears as the essential qualifying factor concerning values. The understanding of authenticity plays a fundamental role in all scientific studies of the cultural heritage, in conservation and restoration planning, as well as within the inscription procedures used for the World Heritage Convention and other cultural heritage inventories». Finally, point 11 of the Charter states that «all judgment about values attributed to cultural properties as well as the credibility of related information sources may differ from culture to culture, and even within the same culture. It is thus not possible to base judgment of values and authenticity within fixed criteria. On the contrary, the respect due to all cultures requires that heritage properties must considered and judged within the cultural contexts to which they belong».

During the Nara Conference, in concluding her report on the concept of authenticity and its use in the practices of historic heritage, Françoise Choay stressed that the historic built heritage concerns, in priority, similarly and with the same urgency, the living memory of all populations, and how such memory is the only thing that, concerning heritage, could re-establish the legitimate use of the notion of authenticity. Refusing the conception of authenticity as an instrument for the evaluation of cultural heritage, she remarked that it is useful only as the base of cultural and anthropological identity (Choay, 1995).

The *Nara Declaration* therefore increases the number of factors the concept of authenticity is linked to, specifying that the very definition and judgment of the value of authenticity must be referred to a multicultural dimension. The document clarifies the relation between the attribution of values and the assessment of authenticity through the process of study and interpretation, in connection with the nature of the cultural property and its context, employing "information sources", including conceptions and form, materials and substance,

use and function, tradition and technique, location and place, spirit and expression, original condition and historic evolution.

The approach chosen by Andrzej Tomaszewski in numerous writings about twenty-first century conservation, which he places within a framework moving towards a pluralistic philosophy, contains the greater part of the evolution of the debate so far described, thereafter resumed by him together with Jean Barthélemy, Michael Petzet, Andras Roman, in the session on *Conservation* which I coordinated, in Madrid, in December 2002, during the International Scientific Symposium on *Strategies pour le patrimoine culturel du monde. La Conservation dans un monde globalisé: principes, pratiques, perspectives***,** of the thirteenth ICOMOS General Assembly (Martorell Carreno, 2002).

Andrzej Tomaszewski stressed that: «Both material and non-material values should be taken equally into account when assessing cultural property from the point of view of the (to use the phrasing of the Venice Charter) "full richness of their authenticity". Ignoring the equivalence of these aspects condemns western conservation to a prejudiced viewpoint, to valuing the material above the spiritual. It also demonstrates its isolation from current trends in modern science and the experiences of other cultural regions of the world. One can and must believe that due to international exchanges of views and experiences, the protection and restoration of non-material values of cultural property and their "memory values", the recognition and treatment of material cultural property as "places of memory", will characterize the further development of conservation in the coming century» (Tomaszewski, 2004, p. 48).

ICOMOS has launched, at the international level, an action which, starting from the respect of authenticity leads to the policies of integrated conservation and sustainable development, envisaged by UNESCO, is intended to pursue three aims: the protection of urban and architectural heritage, the intention to include this protection in the socio-economic future of the various realities throughout the world, and the adaptation of the new initiatives to the geographic and cultural contexts of the places of origin.

The *Convention for the protection of cultural and natural world heritage* of UNESCO (1972) establishes that in order to be inscribed onto the List a heritage site must hold outstanding universal value and respond to criteria of "authenticity" for cultural heritage, and "integrity" for natural heritage. The World Heritage has greatly contributed to raise awareness over this, emphasizing the extraordinary diversity and the richness of a cultural, environmental and human heritage, which is unique and prestigious.

This is why the habitat of the future should take better inspiration from its places of origin, be better adapted to the climate, employ the natural materials and resources in a more appropriate way, shunning the inhuman uniformity and arrogance of industrial models, in order to return to the poetry, conviviality and quality indispensable for life.

«The necessity to acknowledge the immaterial aspects of cultural heritage (the knowledge, the practices concerning nature and its universe, oral traditions, languages, dialects, customs, popular and religious festivals, social practices and rituals, knowledge and craftsmanship skills, ancestral cultures, etc.) is one of the current objectives of the constitutive process of the List, and strengthens the adoption of the *International Convention for the safeguard of Cultural and Immaterial Heritage* (17 October 2003) by UNESCO. The immaterial cultural heritage is characterized, in its full articulation, by its being transmitted from one generation to the next, and by being constantly recreated by the

communities and groups in close correlation to the surrounding environment or its history. It promotes respect for cultural diversity and human creativity, spreading, dynamically and certainly not frozen into unchangeability throughout time, the observance of human rights, the sustainability of the development of all countries, and the formation of their identities, to which each one of us is called» (Genovese, 2012).

The progressive disappearance of the different aspects of the immaterial heritage may lead to a loss of coherence in urban environments and to a loss of the global authenticity of cultural identity. Thus it is necessary to call for an ever increasing participation in the construction of an ethics adapted to the post-industrial world and to our technologically advanced society. From this point of view, an educational effort based upon humanism and "know how" should become the preponderant factor for the re-conquest of our heritage.

«The new challenges to be faced in an essentially changed world press us to extend preservation perspectives and fields to: cultural routes, ensemble, cultural landscape, urban landscape, environment, setting, rural heritage, industrial heritage, plurality of cultural categories; and to attempt to upgrade regional and national specificities to an expression of global differentiation against global uniformity» (Genovese, 2005, p. 79).

3. Cultural policies and conscious consensus

The cultural heritage, therefore intended as the ensemble of the properties belonging to the history of civilization, constitutes a vital resource for humanity. In globalization, which has seen the triumph of the economic dimension, heritage represents the roots, the starting point from which to build a project for the future and should be considered an example demonstrative of the possibility of sustainable development based on community consensus.

Due to international cooperation, interdisciplinary approach, and the contributions of the many actors involved in the process, the project of conservation has become:

- the guarantee of intangibility and duration of the heritage itself;
- the drive for cultural growth (of identity, function, generally recognized and shared roots. etc.);
- the drive for economic development (because capable of activating new functions, of generating employment, whether directly, indirectly or as satellite activities);
- a drive for social mobility and change (because it increases the perception of shared values and the feeling of common belonging, involving the inhabitants residing in low income historic fabric areas directly or indirectly, improving their conditions and so on).

It should be recalled that since the first half of the 20th century European Governments have tried to develop a policy for the protection of cultural property, without however preventing an extensive transformation of cities and theirs territories, imposed by the logics of industrial society, and the development of a civilization of machines inexorably bound to overwhelm the civilization of man.

During the second half of the century the concept of conservation began to assert itself as being a distinct subject form restoration; that is, intended as a goal to be achieved through restoration and the aid of specific legislation, appropriate technical-administrative bodies and dedicated funding. Cultural debate has therefore has shifted from restoration to conservative preservation, and has tried to define the reasons for which the collectivity should commit itself to such social objective, which constitutes a "duty of the State".

With Alois Riegl, a new path has been taken, allowing for the evolution of the concept of

protection of historic and artistic properties into the modern concept of conservation of the values within such properties; a notion that is still struggling to assert itself today, given the prevailing frantic search for materialistic development. The great contribution given by Riegl is that of having changed the very concept of protection, by stating that it must be applied to monuments not only as works of art and history, but also as testimonies of the values that are recognized by men as a collectivity, and not just by an educated elite minority. There follows that protection should be carried out through technical interventions intended not merely for material and structural preservation, but also for the conservation of the values the properties hold. Thus preserving the values contained within cultural heritage means preserving man and his psychic and physical wellbeing.

The Congress of Athens (1931) (Giovannoni, 1945; Perogalli, 1954; Genovese, 1979) and the Venice Congress (1964) (Gazzola, 1972) tried to appeal to governments throughout the world for the establishment of rules that would preserve the memory of the past for future generations; but the search for a balance between conservation and the use of properties does not seem to have achieved positive results. The new culture, offspring of the concepts of Alois Riegl, has begun to assert itself only in recent years through a more lively "social participation".

«What has been affirming itself at present time instead is the basic duty of the State to guarantee the "right of the citizen" to live a better life in a society which – having overcome the merely nationalistic vision, and become instead part of the more general framework of international cooperation – is in search of a global development not only sustainable, but actually in accordance with the dual need of man for material property and spiritual values.

The quest to satisfy both these contemporary needs constitutes a real "duty of the State" and imposes no longer the "conservation of cultural property" of art and history, but a "policy of cultural property", that is a set of guidelines of the initiatives the State should undertake in the various fields of the associated life, towards the previously mentioned development. These guidelines should be selected with the aware consensus of the whole population (through the democratic participation and the control of its transparency) sharing first of all the reasons for conserving the things having value and which people must have the possibility to acknowledge and interpret freely (beyond any kind of hidden conviction). Moreover, it is the people who have to select the way to enjoy the specific and particular benefits (economic and cultural) such things offer; a way of "utilizing without consuming" (that is to say conserving) which requires complex ways of management, economic, technical and administrative investments, as well as sometimes considerable costs, which have to be justified by sure benefits, only material, for the population.

The "policy of cultural property" thus considered, is much more than what up to some years ago was intended as "conservation of cultural property", because it means having recognized that only the political conscience will enable to achieve conservation as the transformation of an existing resource into a property able to provide substantial chiefly spiritual, utility» (Genovese, 1996).

From this point of view, the conscious consensus of the majority in accepting the choices for a dynamic action capable of producing cultural development is fundamental.

4. Conclusions

The evaluation of cultural heritage, to be intended in the full richness of its authenticity, should equally take into account material and non-material values and be referred to a multicultural dimension.

To ensure the conservation of the cultural and environmental heritage to the advantage of the collectivity, it is also necessary to reach a balance between public and private interventions and start from three fundamental standpoints:

- *Knowledge*: education and instruction are important in fighting a widespread shallow of culture, whilst information (from which the education and instruction of the individual depend) constitutes an essential factor for the appropriate conservation of cultural heritage. Knowledge of historic stratification and of cultural, social and economic conditions of architectural and environmental heritage requires the highest professional qualification of the operators of conservation and protection, who should be structurally involved in decisions about appropriate policies and strategies.
- *Corrective actions*: we should appreciate how the future of our cultural heritage is bound to the evolution of modern societies – that have been seduced by the progress of technologies – in which the best and the worst alternate, mixing progress to negative drawbacks such as the destruction of the ecologic balance, the advance of egoistic materialism, the uncontrolled growth of destructive powers. All this calls for a debate we should never try to shun, but actively take part in, after having acknowledged how the balance resulting from industrial society is not, after all, so seductive. Considering the deterioration and dehumanization in the current prospects of life it should come as no surprise that the cult of heritage is expanding everywhere.

  Society is expecting us to take part in the elaboration of new objectives for humanity by enriching the social-economic debate with the introduction of a humanistic vision nourished by the very sources of heritage. We are, thus, called to re-formulate the general framework of our action, defining exactly what priorities to adopt against the impending threats. The reorganization of public structures for the protection and enhancement of heritage requires the carrying out of corrective interventions for the intended use of land, functionality and development strategies, protection of the environment and sustainability, civic commitment, local governance, strengthening of communities.
- *Carrying out appropriate policies and creating management instruments*: an effective policy for cultural heritage, supported by the participation and the conscious consensus of different levels of the population, constitutes, today, the central instrument to ensure the economic, social and cultural development of the different Regions of the world and to guarantee respect of integrated conservation of architectural and environmental heritage. Cultural policies should lean towards the conservation of the values contained within heritage and the fruition of the heritage itself, privileging the interests of collectivity, founding their action on social equality, cultural context, the recognition of the rights and participation of the community once properly informed.

A new paradigm of universal values is necessary to interpret and share the changes taking place in a now globalized and multicultural world, including the value of culture, and for it, those of conservation, restoration and landscape as “human rights”.

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RETURN ON HERITAGE INVESTMENTS: MEASURABLE ECONOMIC RESULTS OF THE CONSERVATION OF ROSSARED MANOR HOUSE

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Abstract

This paper presents an application-oriented theoretical platform and a new model, providing adequate approaches to solving boundary-spanning challenges for regional growth, strengthening competitiveness, sustainability and development of building conservation. In the Halland Model, building construction workers and apprentices were trained in traditional building techniques and then operated on historic buildings at risk under the supervision of skilled craftsmen and conservation officers. In this paper two of the most comprehensive conservation projects within the Halland Model are analyzed. The conservation of Rossared Manor House and a villa at Olsztyn in Poland showed how the historic environment sector could be prepared for a major conservation initiative within a too-weak legal system, how to treat principles of conservation in such projects as well as return on heritage investments.

Keywords: trading zone, integrated conservation, sustainable development

LA REDDITIVITÀ DEGLI INVESTMENTI SUL PATRIMONIO: RISULTATI ECONOMICI DELLA CONSERVAZIONE DELLA ROSSARED MANOR HOUSE

Sommario

In questo articolo viene presentato un programma teorico finalizzato all'applicazione ed un nuovo modello, i quali forniscono un approccio atto a risolvere le sfide trasversali della crescita territoriale, rafforzando competitività, sostenibilità e sviluppo della conservazione del costruito. Nel Modello Halland, gli operai e gli apprendisti del settore vengono formati nelle tecniche di costruzione tradizionali per lavorare in seguito sugli edifici storici a rischio, sotto la supervisione di esperti artigiani e di funzionari preposti alla conservazione. Nell'articolo si analizzano due dei progetti di conservazione più esaustivi nell'ambito del Modello Halland. La conservazione della Rossared Manor House e quella di una villa a Olsztyn in Polonia sono la dimostrazione di come il settore del patrimonio storico potrebbe essere pronto per importanti iniziative di conservazione nel quadro di un sistema legale troppo debole, di come i principî della conservazione debbano essere considerati in questo tipo di progetti così come la redditività degli investimenti sul patrimonio.

Parole chiave: zona commerciale, conservazione integrata, sviluppo sostenibile

1. Geography and History

The "Halland Model" started in 1993, as a regional cooperation project between the cultural heritage bodies and the labour market sector, jointly with the private construction industry, during the worst recession in Sweden for decades. The author was initiating founder of the Halland Model and member of its steering committee.

In Halland situated in the Swedish west coast area, massive unemployment was especially affecting the construction industry. The model for political action from the side of Swedish government in periods of recession, all since WW2 in general has been to increase funding for ventures in labour market policy such as relief work, training programmes, and subsidies. In Halland, the historic environment sector at the beginning of the 1990s understood that this situation opened for an opportunity to formulate a pressure for change. The Regional Museums of Halland prepared an initiative and presented a list of historic buildings at risk, that were suitable for labour market policy measures (Gustafsson, 2009).

The idea of the Halland Model at that time was to train construction workers in traditional building techniques by practicing such skills on historic buildings at risk. County Labour Market Board, County Administrative Board, Regional Museums of Halland and Halland Vocational Committee of the Construction Industry composed jointly the cross-sectoral network.

The Region Halland and County Halland have the same geographical borders: "county" is in this paper used for the administrative body in Halland representing national Government of Sweden; similarly "region" is used for the regional parliament's administration but also the geographical territory. The Swedish Construction Industry Training Board (*Byggnadsindustrins Yrkesnämnd*, BYN) is organised jointly by the Swedish Construction Federation (*Sveriges Byggindustrier*, BI) and the Swedish Building Workers' Union (*Svenska Byggnadsarbetareförbundet*). BI represents the interests of the construction industry in Sweden, being the trade and employers' association of the private construction companies. The Swedish Building Workers' Union is the trade union organization for all construction workers. Annual agreements are settled to prepare the contents in training programmes for construction workers. A three-year upper secondary school programme is followed by a period of almost three years of apprenticeship before the apprentices become skilled workers and fully paid. BI represents the interests of the construction industry in Sweden, being the trade and employers' association of the private construction companies. The Swedish Building Workers' Union is the trade union organization for all construction workers.

The motto of the Halland Model was to:

- save the jobs;
- save the craftsmanship;
- save the buildings.

After a while a fourth motto was added:

- to find activities or businesses for improved premises, contributing to regional sustainable development.

A decade later almost 90 historic buildings had been saved and conserved within the Halland Model (Gustafsson, 2009). Almost one third (1,100) of the region's 3,600 construction workers had been employed in the conservation projects and were trained in traditional building techniques. In the businesses that took place in the conserved buildings 235 new jobs had been created.

2. Aims and objectives

The objective of this paper is to describe one of the Halland Model conservation projects and to evaluate its impact on job creation, establishment of new functions, estate economy and as a knowledge conveyor. The paper presents various investors' contributions and their returns. Another aspect to be discussed in this context is the estimated impact of conservation measures on values of built cultural heritage. This analysis starts describing the selection of conservation objects and the problems of preservation initially faced, relating to the Rossared Manor and the villa at *ulici Metalowa* (Metal Street) at Olsztyn town (northeast Poland) that were chosen as cases for this paper, since they provide conspicuous returns on heritage investments, and have shown clearly measurable results among the Halland Model conservation projects. However, conservation and preservation cannot be seen as processes where something has been taken out from economic realities. The decision to preserve and conserve a historic building is a complex process based on economic, cultural, historic and political aspects. The process leading to a decision may be described as a successfully concluded articulation of meanings and values.

The focus of this analysis is discussions of preserving the Rossared Manor house and the villa at Olsztyn, with their actual qualities and intended new functions, the investment return in building conservation projects and further the difference between existing resources before starting actual conservation processes, and after their conclusion, with new functions of the buildings. The buildings, the financial means, and the professionals of labour market and historic environment sectors together with construction industry – including their knowledge and strategies as well as their organizations – constituted these kinds of resources. The results of this kind of processes can therefore be observed in increasing value of existing buildings and new knowledge acquired among the participants.

Further, it is of vital importance to study adjustments between the interests of various groups, and to describe decisive choices and factors that made conservation possible to accomplish. On the agenda of the historic environment sector in the process of the Halland Model a first priority was to protect the buildings from demolition, next to conserve them with as high an ambition as possible, and ultimately to increase the skillfulness in traditional building techniques among construction workers. For the County Labour Market Board it was important promptly to stop increasing unemployment, but also to create new niches for construction workers in the labour market.

Even if the value concept has a core position in this paper that does not imply pretending to establish an all-embracing framework. The focus rather concerns identifying the value of cultural heritage, to stipulate place and to establish function for the return on investments in conservation. The Rossared Manor was found in a given location in the region and its cultural landscape, in its actual condition. Conservation officers prepared a preliminary conservation study that was presented to the cooperating partners, representing other interests. This paper is investigating and discussing how the aims of conservation developed together with the other interests during the procedure of the feasibility study.

To claim funding for projects from the labour market sector projects, the historic environment sector had to find a way to express its needs and objectives so that decision-makers within the County Labour Market Board understood them as well as their resources. This development of establishing a productive working climate is described in the paper. The cooperating partners were able to communicate and to establish common agreements based on the descriptions of aims for the Halland Model to interpret essential notions and

concepts as well as to understand each participant's specific field of responsibility.

3. Problem formulation

The overall issue in any conservation project is whether to intervene with full responsibility or just to leave the object of concern in its actual state. Before making investments in conservation of any historic building, the first issue to deal with is the question whether to demolish it and to erect something else or to conserve the actual structure. Such values might be elucidated by means of calculation. This paper discusses and presents values from such a calculation of a set of selected conservation projects in Sweden and Poland.

In such comprehensive consortia as within the Halland Model, several performers generally are driven by various and different agendas, objectives and strategies. The historic environment sector and the labour market sector represent different background political priorities and have different objectives and missions. These sectors however, also have different traditions and cultures and use different professional languages and have completely different kinds of resources available for fulfilling their missions. This paper elucidates the different roles of various involved performers and participants in the Halland Model, and the composition of their resources, what risks they took, and the resulting returns on their various investments. All members of the steering committee had made the agreement, that if public society financially contributed with such resources to the Halland Model conservation projects, the return to the public should be equivalent. This paper describes implications from principles into practice, as well as discussions and negotiations in the trade between various interests.

Being able to achieve targets agreed upon in the steering committee, a common language had to be developed. All team members of the comprehensive Halland Model consortium would have to understand and agree, that historic buildings at risk are potential conservation objects, and as such they are conveyors of intended and desirable meanings. In this new situation it is of interest to study how the way of communication affected the results. This paper also examines what stakeholders that took the initiative to act during different phases of the conservation projects. The paper also presents considerations on the impact of this approach in relation with the quality of the conservation results.

4. Political judgment and trading zone

The integrated conservation processes applied in the Halland Model implied that groups of professionals and citizens were affected in various ways. It also resulted in a flexible and transparent attitude among its participants, as well as in the choice of methods of operations that were used (Gustafsson and Rosvall, 2008). Of decisive importance was the involvement of participants in finding common objectives for collaboration, and how to communicate together, but also with politicians and other kinds of decision makers. In the Halland Model a large number of actors entered the conservation arena, representing various types of power structures (e.g., County Administrative Board, County Labour Market Board, and various municipal administrative bodies), commerce and trades (e.g., Swedish Constructors' Federation, and the Swedish Building Workers' Union), and knowledge-oriented mechanisms (museums and universities), as well as citizens and their NGOs (e.g. local folklore associations).

In the Halland Model, each of the various cooperating public sectors had their own planning instruments, differing political perspectives and priorities. The planning

instruments of these various sectors were joined in a "trading zone", or "feasibility study" as it was called, in a process where it was of great importance that the conservationists were able to make themselves understood. These kinds of meanings might be described as desirable, social, private or scholarly meanings. Conservation projects are often "experts-only" zones, but the Halland Model, with its broad approach, implied that it was possible to invite representatives from other public sectors to joint cooperation, resulting in what Muñoz Viñas (2005) calls conservation "affected-people zones".

The decisions made within the Halland Model can be compared to what Sörlin (2001) regards as a trading zone where different actors present their values and goods to achieve them in various goals. The trading zone is a manifold commercial, scientific and political marketplace where various traditions, methods and languages, related to the actual stakeholders involved, have to be understood and combined. The trade within the Halland Model can be regarded at least at two levels. First, there were strategic decisions made within the cross-sectoral network's steering committee at the regional level, and furthermore, there were decisions made within each individual conservation project. The steering committee decided on selection of conservation objects and gave priority to realizations. The decisions were based on the need for ventures regarding labour market policy aspects, such as where within the region unemployment struck hardest at the moment; what categories of labour force that were most exposed, and when the measures prepared might be realized. The decisions also were based on what kinds of craftsmanship or other skills that required support. These requirements then were adapted to a historic building at risk of demolition. Further, the functions of the conserved building – including its improved premises – were decided together with the other cooperating bodies.

Depending on a considerable amount of buildings, in combination with many training programmes and people that were handled in the decision-making process, the trading zone needed to be elastic. The keywords used for this process were flexibility and transparency. The partners in the Halland Model could be confident depending on that they knew that if a project under discussion in this process did not suit their demands, then anticipated objects in the "pipe-line" possibly would be "theirs". If, for instance, a building of less historic value was needed to be conserved in a part of the region with high unemployment, or if it needed to be repainted, then it could be prioritized instead of a listed building of a higher grade, however located in a part of the region with less unemployment, and therefore was conserved in return. The members of the steering committee acted sincerely and the conservation budgets, as well as the project planning, were adapted according to constraints from regulation of the other sectors. For the negotiating process, it was understood, that the County Labour Market Board's resources for investments consisted of financial resources, training programmes and unemployed people. The resources of the historic environment sector had buildings in need of maintenance and conservation as its contributing assets and required work was labour-intensive, and the buildings had historic values. Altogether this was a win-win-situation for the participants.

5. Resource-based economic studies

The empirical material of this paper consists mainly of the author's observations during the conservation process, the various written reports on the Halland Model from the management process, and technical conservation reports from the planning process (Gustafsson, 1992, 2000, 2003, 2004; Reit, 1998). The completed conservation of the

historic buildings and their new functions is here analyzed with accumulated experience, of relevance has been added a decade later. In this analysis methods developed for purposes of conservation, sustainable development, and estate-management have been used.

Nowadays, there are several surveys compiled presenting ways to calculate the economic impact of conservation projects. Manson (2007) has outlined the significance and scope of value-centred conservation theories, and according to him, the two main points are that buildings have a number of different kinds of value, and reckoning with a broader range of values will result in better conservation decisions and outcome. Beside the historic characteristics or qualities of buildings, there are numbers of contemporary values, including economic, social and environmental values. In economic impact studies the total contribution of conservation to the economy is calculated, and contingent valuations, e.g. "willingness-to-pay" studies, and other stated-preference methods address non-use values of conservation.

This paper is referring to resource-based economic methods where calculations are based upon the resources, to understand economic dimensions of conservation. This includes both qualitative and quantitative methods that are used in combination. The prerequisite of conservation projects is the existing historic buildings with their surroundings, financial resources, as well as performers with their available knowledge, strategies and organizations. In this case, calculation will not estimate values expressed in monetary terms. With reference to the estate of concern, its location determines its general value, and in this context a building certainly is impossible to move. All historic buildings – with a few exceptions – are objects for alterations, especially concerning function. A new function affects the value and therefore it is of interest in the calculation to take possible future needs into account. Time spent on conservation work is in the calculation understood to be the contractors' and construction workers' investments in the conservation projects.

The interaction between involved performers and increased knowledge among the participants are subject matters to be documented. New knowledge and skills achieved by participants in the training programmes and also through experience from their apprenticeship periods are regarded as resources contributing to higher quality of conservation in the actually conserved building.

Resource-based economic study is a method developed at School of Business, Economics and Law at University of Gothenburg to investigate urban development in a broad perspective, focused on economic impact (Polesie, 1995; Berglund and Blume, 1999; Johansson *et al*., 2002). Return on investments consists of results, increase in value, and dividend. In various research projects, inquiries have investigated how infrastructure has developed in various businesses such as real-estate business, energy supply, transport, and financing companies. The results have been linked to historic and geographic perspectives. The basic theme of these studies is how owners differently create increased values in their estates, and how they deal with existing buildings and construction of new buildings.

In the municipality of Mölndal, in Göteborg region, this group of researchers has investigated a specific case of the decision-making process, the realization, and the economy and housing (the results of what was coming into being of the housing area of Eklanda) (Johansson *et al*., 2002). Cooperation between various actors and economic impact for the municipality has been closely investigated. The same method was used to make calculations for the purchase of a major bank as well as an electricity company (Berglund and Blume, 1999; Spens, 2005). Nordsten and Olsson (1995) have investigated

an industrial site and used historic and experience-based values that were compared with future potential economic value, when discussing the industrial site's operation after conservation measures had been completed.
Depending on EU regulations and international accounting standards, several real-estate companies nowadays are accounting for investment property values in their balance sheets as real value instead of purchase value (Bengtsson, 2006). The positivistic idea that the purchase value is "objective", and that this would be possible to verify, has been abandoned. When estimating the value to the market value, relevance has become more important than verification.

6. The Halland Model: a cross-sectoral and multi problem-oriented network

The majority of the almost ninety historic buildings that were conserved within the Halland Model had a significant historic value and were protected by means of various legislations. The selection of conservation objects was based on the planning documents of the historic environment sector, together with wishes and needs of the cooperating bodies (Gustafsson, 2003). Most of these buildings were threatened by demolition. The selection was based on available resources, values and needs of the participating sectors, as well as possible opportunities in the region. Further, the decisions were rested upon locations and points of time with greatest demands for labour market policy initiatives, what kinds of skills that were available among the construction workers on the building market, and what kinds of buildings and functions that was required for regional needs (e.g. ventures in tourism, culture, or the arts).
The functional views opened up the interpretation from the side of the conservationists, not limiting themselves only to artistic or historic dimensions of historic buildings. In value-driven conservation – as within the Halland Model – decision-making is based on analysis of the values possessed by the actual buildings, related to different groups of sectors, but also to the resources allocated to the projects (Muñoz Viñas, 2005; Gustafsson and Rosvall 2008). These resources consist of the buildings, the funding made available, and the actors' strategies and organizations. The result of the conservation projects, or the return on the investments, implied that consensus had to be reached within the conservation team.
The Halland Model was organized so that specific meanings and needs were prioritized – such as cultural and local identity, cultural history, employment, training needs and the overall importance of sustainable development. These meanings were discussed and negotiated within the consortium during the feasibility studies of each conservation project, where key words for the success of conservation projects, as well as cross-sector and multi-problem-oriented approaches were formulated as «flexibility among stake holders, trust for the partners, and transparent methods» (Gustafsson and Rosvall, 2008).
One example of these types of buildings was the Grimeton Radio Transmitter Station, which after conservation was completed within the Halland Model, it was inscribed in UNESCO's World Heritage List (in reality only two of the six towers were conserved within the scheme). The estate owner was the former state-owned telecom monopoly company Telia, which after reorganization of the company had accepted a new business plan implying that all buildings owned by the company were supposed to bring in a profit. A minor group within Telia wanted to preserve the antenna with its six towers at Grimeton. The historic technology with long-wave transmitters had not anymore a commercial value and the site therefore only was to be regarded as a museum. The National Act first

protected the site for Cultural Heritage and later by UNESCO's World Heritage List. The site has partly the same function as before conservation, but the station building now is open to the public.
The National Act protected Tjolöholm Manor for Culture Heritage. Since maintenance had been neglected for a long period, the main building at this estate was heavily affected by fungus and dry rot. Conservation of the building was regarded as too expensive for the estate owner, and demolition was considered as the only relevant solution, for the long-term planning. After the conservation project within the Halland Model, the site was saved and is now a conference centre.
The public open bathhouse in Varberg Township was protected as a Cultural Heritage National Interest. This complex had lost its splendid early twentieth century characteristics after being repaired and changed several times. The structure of this building was in a poor technical condition, and a proposal to be demolished was the predominant opinion for decision-makers about its future, especially among leading local politicians. This bathhouse however became conserved within the Halland Model, and as a result received an award as best conservation project in Sweden for 1998. Its original function hereby continues, and after conservation was completed it has received an increased number of visitors.

7. Save the craftsmanship

The motto of the Halland Model was to "save craftsmanship, jobs, and buildings", and to find new activities to take place in the conserved buildings and their improved premises. In the first category of these three, conservation projects are to be found that have had the greatest impact for passing on traditional construction techniques and to develop craftsmanship. In the case of Harplinge village comprehensive conservation measures were carried out on a windmill conservation project (Gustafsson and Polesie, 2007). This is an important representative of the peak-era of the technically most sophisticated windmills in Sweden. Originally, it required a great number of advanced measures of craftsmanship. Another conservation project within the Halland Model based on advanced original craftsmanship is the Tjolöholm Manor House, which required the highest quality in conservation skills as well as in the management of project designing, planning and team work.

8. Job creation

The County Labour Market Board was the major financing partner of the Halland Model, and therefore labour market policy aspects was a top priority for various decisions made within the joint venture. The Spenshult Hospital was conserved as a result of a massive joint-venture action aimed at rescuing the hospital and hundreds of jobs in the Halland region. The Halland Model played an important role in taking the first initiative to this broad cooperation. After having conserved a couple of its buildings, the hospital management decided to stay within Halland and the site therefore further developed into a significant research centre for rheumatism. In the same period, the Kuggavik summer camp in the northern part of the region operated as a conference centre for the Temperance movement. It was under threat of closure since its board of directors planned to move the activities of this facility to another region. The Halland Model conserved the buildings and the conference centre, leading to job opportunities remaining in Halland as well as establishing an important training-course for youngsters' abuse of drugs, tobacco and

alcohol.

9. New activities in the improved premises

Most of the conserved buildings referred to in this study, have gained a new function after completed conservation (Gustafsson, 2003). The activities in the improved premises became increasingly important for the selection of conservation projects within the Halland Model. The closed-down industrial site at Rydöbruk – as an example – was turned into "the Artists' Village" with studios, an art gallery, a restaurant, and apartments. Further, the farm *Lilla Böslid* close to Halmstad was organized as a new centre for the Rural Economy and Agricultural Society in Halland with a research and training centre for ecological cultivation. Indeed, the Rural Economy and Agricultural Society (*Hushållningssällskapet*) is an independent members' organization (NGO), dedicated to enhancing an enterprising spirit in rural areas and promoting a healthy environment in the country-side as well as in the towns. The very first Swedish agricultural society was formed in Gotland 1791, and since 1850 there are agricultural societies organized in every county. They were the very first agricultural organizations in Sweden, thus they been involved in most issues relating to rural development in the country.

At Laholm municipality the theatre was reopened after completed conservation, and later a fire brigade station was turned a museum of graphic art.

10. The Rossared Manor

The history of Rossared Manor Farm goes back to the Middle Ages. The present manor house was built in 1919 as an extension to the existing timber framework structure, with an addition of two and a half storeys (Fig. 1). The building proprietor was a ship owner from Göteborg, Lars Göran Dalman, and the architect was Arvid Bierke (1880-1952) who designed several buildings in Göteborg (e.g. Götaplatsen with the City art gallery, theatre, and concert hall). The farmyard consisted of the manor house with two wings, another two separate wings (a stable and a cowshed), and a number of workers' dwellings. The stable was burnt down in 1991, and all of the buildings were in great need of maintenance.

11. Cultural heritage legislation

In 1986, two new acts were adopted in Sweden of great importance for the protection of cultural heritage: the Act for Preserving the Natural Resources and the Act for Building and Planning (Sweden has one of the oldest legislations for heritage protection in the world, the first act dates back to 1666). A legislative innovation was the formal possibility to protect entire environments of historic value, and not only isolated monuments. The Rossared Manor Farm before the Halland Model interventions was well protected by the Act for Preserving the Natural Resources by three separate reasons: as a national interest for nature conservation; for the mobile outdoor life; as well as for the cultural heritage. Further, the manor house, together with its wings, was protected by local planning regulations, while the surrounding cultural landscape was protected by the act for nature conservation. After a decision by the municipal council, also the conservation programme of Kungsbacka municipality protected the environment. The legal protection of Rossared was – in other words – very strong.

Fig. 1 – The Rossared Manor

Photo: Christer Gustafsson

During the 1980s the interest for golf rapidly increased in Sweden and several new clubs were established. One idea that was suggested was to lay out a golf course on the Rossared estate. The manor building was planned to become the clubhouse. The property owner, the Rural Economy and Agricultural Society, and the golf club agreed that the latter was to be responsible for maintenance (the Rural Economy and Agricultural Society had been the owner of the property since the 1940s). Simultaneously, there were lots of protests against the plans from the locals as well as from the heritage and nature conservation sectors. This was the first juncture when the new legislation was put to the test. In the Halland County it became apparent that legislation was not as strong as it was supposed to be. The result was that the plans came to a standstill and the manor therefore was not used from the 1980s on, nor was it maintained.

Meanwhile, the Rural Economy and Agricultural Society had made considerable investments in a new milking establishment, at a distance of a couple of hundred metres from the manor house. The purpose of the society in retaining the ownership of Rossared mainly was to develop the milking production. For that reason it became not obvious that there was no need the manor house.

In 1993, Sweden was found to be in the worst recession for decades. Unemployment, especially among construction workers, was considerable and constantly increasing. In Sweden the Labour Market Board had the capacity to offer relief work or training programmes for unemployed workers. Otherwise these unemployed workers were obliged

to use allowances from the unemployment benefit fund. Since there was a lack of temporary employments within the construction industry, there was a risk that individual unemployed construction workers' periods of unemployment benefits were about to expire. Therefore, it was important for the County Labour Market Board to set up projects where unemployed construction workers could be offered temporary employments, and apprentices could get trainee jobs. The aim and the ambitions of the Vocational Committee of the Construction Industry was to create opportunities for apprentices to be offered their initial job and then to establish themselves in the labour market.

12. Preparation for conservation

In 1992, a survey of historic buildings at risk was compiled by the Regional Museums of Halland, in which Rossared Manor was evaluated as an interesting complex to be preserved (Gustafsson, 1992). An inspection of the condition of the manor house was carried out in 1992, showing that the building suffered from subsidence and that the façades had big cracks in the plaster. It also showed damage due to damp on the ceiling of the garrets. Some roofing tiles were in disorder and rain gutters and drainpipes were in need of cleaning from waste and to be adjusted and repaired (Reit, 1998). A survey from the year after showed that the artificial mound that the manor was erected upon, was constructed in terraces with retaining stonewalls. In some positions these walls had fallen down. The subsidence was visible both from outside of the building as well as from the inside. Practically all the plaster was damaged. The damage due to damp had increased and some spots had begun to rot.

The problem for the historic environment sector was that the new legislation was not sufficiently strong to protect the estate, and the historic environment sector did not have enough financial resources. In the early 1990s, the historic environment sector's budget for conservation of historic buildings in Halland was only € 7,000. After a decision at national level, the budget was increased to € 40,000, but still this was not enough for proper building conservation. Therefore, the very first objective from the historic environment sector was to protect the manor from demolition, and to preserve it.

13. The conservation process

The Halland Model and the County Labour Market Board solved the problem. In October 1993 the general outlines for the conservation project of Rossared Manor house were laid down. The conservation project was initiated after an agreement on financing principles between the Halland Model and the Agricultural society. At first project team meeting, the conservation project had already started and the scaffoldings were erected. The heavy commitment from the Halland Model implied that the level of ambition for conservation had increased. The established objective was to use traditional methods and construction materials. The valuable historic parts of the interior, such as wallpaper, furniture, and the tiled stove were to be conserved.

The original plaster with its vertical reinforcements was replaced with plaster according to the serponit-method. Here a flagstone was covered with net and then plastered with three layers of hydraulic lime; the two outermost layers were sprayed and finally the surface layer was coated with trowels. The deviation from the conservation idea of only using original materials and building techniques was decided since from a conservation point of view the use of lime plaster was the most important and that the serponit-method was in

general use in the construction market. It could be of more value for the construction workers involved in the training programmes to learn this method, and consequently to become more attractive and competitive on the rapidly demising labour market.
The surveys needed for the quantified and quality aspects were started in 1993. Various consultants and conservation officers made up operational instructions including colour schemes, and exterior building works including plastering. The conservation work became much more comprehensive than originally intended. In 1994, when the conservation work had already begun, the extent of the damages became increasingly visible. Floor joists, sills, and other timbers were considerably damaged by rot and formation of mildew. When the roofing tiles were removed it was discovered that the roof structure in some parts was completely rotten. The timber framework was also in a much worse condition than assumed from the beginning. After the roof, facades and ground stones had been removed it became evident that the sills together with huge parts of the logs in the timber framework had completely putrefied. All this was removed and repaired with new timbers.
Over 140 individual construction workers in total were employed during periods of various lengths in the conservation project. Of these sixty were apprentices who were trained by the Halland Model in traditional building techniques (Gustafsson, 2003). In the conservation project the following crafts were operating: selective demolition and recycling of used building materials; bricklaying and plastering; stucco work; masonry; timber construction; zinc, lead and galvanized sheet-metal work; restoration of windows; carpentry; reconstruction of interior fixtures; traditional painting, marbling, painting from a stencil; tiling; stone work; and cabinetmaking.
The objective of the interior conservation was to restore the building to its original state but at the same time to carefully readapt the upper floor and the attic level into guest rooms with toilets and bathroom facilities. The kitchen was carefully rebuilt to become a rational institutional kitchen. Several installations were made in the basement for air ventilation, a sewage system, and electrical cable wiring.

14. Volvo's purchase of Rossared

When the conservation almost was finished, it was announced that the property owner The Rural Economy and Agricultural Societies had sold the estate to the automobile corporation Volvo. The intention of Volvo with this purchase was to use Rossared as an international conference centre. The Halland Model had invested almost € 2 million in the conservation project and the price paid by Volvo was more than twice higher, € 4 million.
During this period it was made known that the Rural Economy and Agricultural Society had almost gone bankrupt, caused by its share of the costs for conservation. Its contribution had been almost € 500,000 (Gustafsson, 2003). In the contract between the property owner and the County Labour Market Board it was agreed that if the property was sold within a limited time after conservation was completed, a specific amount of the subsidy would be paid back. Eventually, these funds were used to finance other conservation projects within the Halland Model.
With Volvo as the owner, the Rossared Manor obtained a strong estate owner, implying that there were financial possibilities for conserving also the other historic buildings on the estate. Also the earlier burnt stable was reconstructed and the business was developed into an international conference centre. It happened, that it was just at Rossared that the executive Board of Directors of Ford group made the decision, to start production of the

Volvo new "flagship" XC90.

15. The Halland Model: return of investments

Between 1993 and 2003 approximately ninety historic buildings have been conserved within the Halland Model. The County Labour Market Board provided financial resources as well as useful contacts with political leaders and significant decision makers, knowledge about how to turn the public budgets to the best possible account, as well as to find jobs for unemployed people. The labour market policy was in acute need of work places. The restrictions posed that the public-funded ventures were not allowed to drive existing construction companies out of the market, or to generate push-aside-effects. In parallel, the general idea of the Halland Model was to increase the volume of building schemes in Halland. The historic environment sector therefore provided buildings in need of conservation or comprehensive maintenance. Common for them was their historic values, but also that the measures involved were labour intensive. Since all these potential working places required the conservation of historic buildings, the Labour Market Board found that the historic environment sector was as attractive to cooperate with, as with the six municipalities (that needed to repair school buildings and kindergartens), and the County Council (that needed to build a new hospital at Halmstad). From a labour market policy point of view the great amount of small conservation projects required in total, a couple of hundred construction workers whereas the construction of the hospital only required about fifty. The decision procedure in the local decision-making bodies had a long take-off process, which meant that the repair work could start at the earliest one-year later. The circumstances on the labour market however needed immediate measures. The risks posed by these circumstances were readily understood from the side of the historic environment sector in general, implied that this obligatory labour from the employment office to the conservation project would end up in less devotion among the craftsmen resulting in poor quality in the conservation work (Tab. 1).

Beside that all the construction workers involved became trained in traditional building techniques, the Halland Model also had a significant impact on private enterprising between 1998 and 2002, when over 1,300 contractors and suppliers were hired. For most of them the conservation project was regarded as "business as usual", i.e. they were not familiar with the specific circumstances under which the Halland Model was operating. During the recession period this was very important, though it implied that these companies did not have to give employees notice, but instead they were enabled to keep their staff, to increase their competence. These companies increased their competitiveness on a new market – the conservation industry.

The increased demand from the Halland Model for traditionally-produced building materials also had spill-over effects on the regular market, which implied that owners of historic buildings gained an increased supply of, for example, adequate windows. Approximately 235 new jobs were created in the activities that took place in the conserved buildings, for example an interior design company with approximately fifty employees moved to Rydöbruk thanks to the conservation project. The County Labour Market was the biggest financier of the Halland Model and allocated approximately € 40 million. The property owners contributed with € 6.5 million and the historic environment sector with € 4.5 million.

Altogether there were 8,580 working days carried out by 138 construction workers in the

conservation of Rossared Manor. After conservation was completed Volvo employed three people to run the international conference centre, and an additional twenty-five people were employed part-time.

Tab. 1 – Return on heritage investments for various investors

Investor	Stake	Return
Labour market sector	Funding Training programmes Contacts Knowledge	Preserved employments New jobs Trained labour force Fundings in return
Historic environment sector	Funding Knowledge	Saved building Conserved building Craftsmanship
Construction industry	Enterprises Network Experience	Trained labour force Engaged companies
Property owner	Building Funding	Saved building Increased selling price Investments in other objects
Purchaser	Purchase sum Investments in conservation and maintenance	International conference centre Additional conserved buildings
Region level of society in general	–	Regional development Increased commerce Increased attractiveness

16. The Halland Model in Poland – ulici Metalowa at Olsztyn

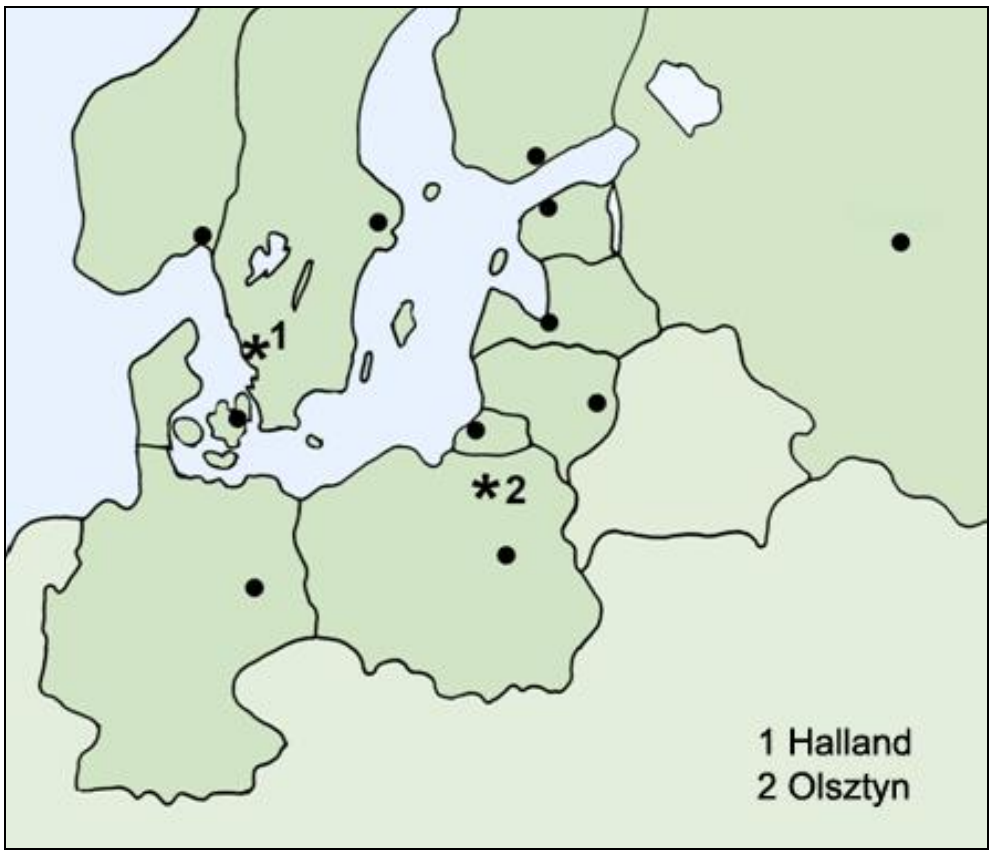
The villa at *ulici Metalowa* (Metal Street) at Olsztyn (northeast Poland, Fig. 2) was conserved within the project "Halland Model at Olsztyn" (Gustafsson, 2000). It was a pilot project, financed by the Swedish Government, aimed at exchange knowledge of and experience concerning issues such as training, cultural heritage, labour market policies, building craftsmanship, planning and building issues, as well as between the parties on the labour market. Further, the aim was to investigate the possibilities of transfer of the Halland Model to other countries.

Since 1970s, the regional museum at Olsztyn had searched for new premises for the department of history of nature. There were however no funds available for conservation purposes. During the 1990s project plans were prepared for rebuilding the villa, implying heavy measures, e.g. to replace the existing system of beams of wood with concrete and to demolish the staircase.

Within the Halland Model at Olsztyn similar groups of interest were represented in the project, as was the case in Sweden. New project plans were developed, aiming at conservation of the building. The purpose was that the museum would develop their

activities into a regional ecological centre. The villa finally was conserved and 128 construction workers were trained in traditional building techniques. The total cost for conservation of the villa was € 1.2 million, of which approximately € 500,000 was the property price.

Fig. 2 – Baltic Sea Region



17. Conclusions and recommendations

The conservation of the Rossared Manor was developed in three major stages. First, it was stated as a struggle just for survival of the building. Later, it was made clear that the funding available made it possible to conserve the manor house with highest conservation ambitions, and eventually, the takeover by Volvo implied that the rest of the buildings on the manor farm could be conserved. The case at Olsztyn had a similar development, but instead of an international centre organized by a car manufacturer, there was a Museum for history of Nature, combined with a Centre for Ecology.

The Rossared Manor was the first major and entire conservation project within the Halland

Model joint venture scheme. It was also the first conservation project in Halland run by the public sector, and with highest ambitions concerning use of historic materials and traditional building techniques. This implied that the management skills for the conservation site had to be considerably developed.

Conservation of the Rossared Manor house was started before the project planning was finished. This implied a great challenge for all involved. The historic environment sector understood, that this was an opportunity to protect the manor house threatened by demolition. The County Labour Market Board regarded the project as an important solution for their problems on the labour market, and with termination of construction workers' periods of unemployment benefits. For the Vocational Committee of the Construction Industry it was an opportunity to train apprentices. The motto for the Halland Model, was to:

- save the jobs;
- save the craftsmanship;
- save the buildings.

The cross-sectoral network of the Halland Model made it possible to conserve the Rossared Manor House with much higher ambitions than was customary at the time being, and as initially planned. There was no public, nor private funding available for conservation measures before the appearance of the Halland Model. For the historic environment sector the primary aim was just to preserve the building and to protect it from demolition. From a cultural heritage point of view it was an important step to regenerate the traditional building techniques and to hand them on for the future. This issue has been further described in a separate paper, analyzing the case of Harplinge windmill (Gustafsson and Polesie, 2007).

In such broad cooperation, as in the Halland Model, with so many participants, it is important that all involved consider themselves to be visible and important in the process, but also that they can see results and to establish a firm involvement with the project. In the trading zone an exchange occurred, and a common language of communication across the borders was developed between different disciplines and practices. Here conservation was understood as a process of articulation. For this reason it was of decisive importance that participants in a conservation project were able to find jointly accepted objectives and a common language.

Conservation of Rossared Manor house implied a new function for the building as well as for the whole manor. For security reasons the international centre was closed to public access. That meant a negative public impact of Volvo's purchase of the estate. In return such a financially strong owner had resources to conserve the rest of the buildings at the manor farm as well as to rebuild the stable, completely burnt-down. Further, the Rural Economy and Agricultural Society was saved from bankruptcy. Parts of the sum obtained from the sale had to be paid back to the Labour Market Board. This money was later reused in other Halland Model conservation projects. Other parts of the sum were invested in a farm, which was conserved within the Halland Model, and eventually became an ecology centre for the region's farmers.

The cooperation carried out with different conservation objects can be described in different ways, depending on observation angle and background of the observer. For example, the cooperation can be regarded as a cross-sectoral network aiming at conservation, cultural heritage, labour market, training, sustainable development, regional growth, environment, and tourism. Conservation of the villa at Olsztyn might be called the

first "Baltic project", since it was a cooperation project between two regions in the Baltic Sea Area and this cooperation brought its participants close to one another. Furthermore, it can be regarded as a "labour market project" since it provided job opportunities to unemployed construction workers, and also a "conservation project" since a historic building was saved and conserved, and further as a "training project" since construction workers were trained in traditional building techniques, and also an "ecological project" since the use of the villa after completed conservation was aimed at education in ecology.

Sustainable development is defined as a process, which is sustainable with economic, social and environmental circumstances. The Rossared case is based on sustainable preservation, as well as sustainable conservation. It was economic since it provided an obvious return on the investment, which moreover contributed the regional growth. Concerning social aspects, the conservation project increased regional cohesion, developed cross-sectoral networks and a multi-problem-oriented approach, strengthened local identity and created jobs. Finally, the project was sustainable from environmental aspects since the conservation hands used environmentally-friendly materials, and were used on existing resources, instead of demolishing the buildings.

It was possible to conserve Rossared Manor house with its current project planning and to enhance conservation ambitions in the conservation process. The economic value of the manor had increased, which was illustrated by the purchase of Volvo. Historic construction materials were in the 1990s a commodity generally in short supply; further there was an absence of craftsmen skilled in traditional building techniques as well. For Rossared, it was important to conserve the manor house with adequate materials and methods, corresponding to its splendid location and its actual history. In this respect, conservation officers play a crucial role and it is decisive for the quality of conservation works if they can be an active part also of the planning of the use of the building after completed conservation.

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LA VALUTAZIONE DELLA QUALITA' PERCEPITA DEL PAESAGGIO: IL CASO STUDIO DELLA REGIONE DI VALENCIA

Alfredo Franciosa

Sommario

Il Consiglio d'Europa (2000), al fine di comprendere i molteplici valori del paesaggio suggerisce l'esigenza di approcci valutativi capaci di coinvolgere l'opinione pubblica e considerare aspetti diversi. Tra i metodi a disposizione, la valutazione della qualità del paesaggio riconosce l'esperienza della percezione come un campo di studio multidimensionale, attraverso il quale poter stimare anche valori di difficile rilevazione quantitativa. Il suo processo valutativo promuove la partecipazione pubblica ad attività di scelta preferenziale di paesaggi percepiti, comparati rispetto ad indicatori fisici, artistici e soggettivi. Su tali basi si sviluppa l'esperienza analizzata di Valencia, che ha prodotto una mappa della qualità paesaggistica regionale in seguito al coinvolgimento della percezione comunitaria, a supporto del piano d'azione per lo sviluppo territoriale.

Parole chiave: valutazione della qualità, paesaggio percepito, partecipazione pubblica

PERCEIVED QUALITY ASSESSMENT OF LANDSCAPE: THE CASE STUDY OF VALENCIA REGION

Abstract

In order to understand the multiple values of landscape, the Council of Europe (2000) suggests an evaluative approach that takes into account the public opinion and other different aspects. Among the available methods, the landscape quality evaluation recognizes the experience of the perception as a multidimensional field of study, through which we can also estimate values of difficult quantitative survey. This kind of evaluative process promotes public participation in activities of preferential choice of perceived landscapes, compared with physical, artistic and subjective indicators. The evaluative experience analyzed in Valencia has its basis on these concepts. This has produced a map of the regional landscape quality as a result of the involvement of the common perception, in support of the action plan for the regional and spatial development.

Keywords: quality assessment, perceived landscape, public participation

1. Introduzione

Nei secoli il concetto di "paesaggio" si è evoluto assumendo significati diversi che possono ricondursi a tre interpretazioni (Maniglio Calcagno, 2006):

- *di tipo estetico*, il paesaggio come immagine, che trova origine nella filosofia romantica e tardo idealista;
- *di tipo scientifico*, il paesaggio come fenomeno, che coincide con lo sviluppo delle scienze naturali;
- *di tipo sistemico e interdisciplinare*, il paesaggio secondo un approccio integrato e multidimensionale.

La Convenzione Europea del Paesaggio nel 2000, a favore di quest'ultima interpretazione, definisce il paesaggio come «una determinata parte di territorio, così come è percepita dalle popolazioni, il cui carattere deriva dall'azione di fattori naturali e/o umani e dalle loro interrelazioni» (Consiglio d'Europa, 2000, art. 1).

Con questa accezione, esso viene considerato come un sistema complesso di relazioni tra il capitale umano/sociale, naturale/manufatto e storico/culturale. La sua qualità, come risultato dell'interazione di questi fattori ed espressione dell'identità delle popolazioni, è determinante al benessere individuale e collettivo nonché allo sviluppo sostenibile di un territorio. I benefici che dispiega, in campo ambientale, culturale, sociale ed economico, sono però spesso perdenti nei processi politici decisionali in quanto sempre difficilmente comunicabili e misurabili.

Per tale motivo il Consiglio d'Europa, incentiva la produzione di studi capaci di valutare la complessità dei paesaggi «tenendo conto dei valori specifici che sono loro attribuiti dai soggetti e dalle popolazioni interessate», avviando procedure di partecipazione pubblica (Consiglio d'Europa, 2000, art. 6).

In letteratura gli approcci tradizionalmente utilizzati per valutare il paesaggio seguono due filoni di ricerca.

Il primo, sforzandosi di dedurre la qualità del paesaggio in termini monetari, «si basa sulla disponibilità a pagare come strumento concreto per esprimere il valore e si svolge in un contesto che considera reale sia la domanda che l'offerta» (Fusco Girard, 1992, p. 154). Si divide in metodi diretti, in cui un campione di soggetti dichiarata la disponibilità a pagare per i benefici tratti da una condizione ambientale attraverso indagini costruite in un mercato simulato, come l'analisi di contingenza; e in metodi indiretti, in cui in cui la disponibilità a pagare è rilevata dai comportamenti messi in atto dagli intervistati, come il metodo dei costi di viaggio e quello del prezzo edonico (Green e Srinivasan, 1978, 1990; Hanley e Spash, 1993; Bravi e Curto, 1996).

Il secondo approccio, fondandosi su metodi di valutazione di tipo multidimensionali (Lancaster, 1966; Keeney e Raiffa, 1976; Fusco Girard e Nijkamp, 1997, 2004), stima la qualità del paesaggio interpretando le reazioni della popolazione alla percezione delle caratteristiche ambientali (Jakle, 1987; Kaplan, 1987; Taylor *et al.*, 1987; Buhyoff *et al.*, 1994; Fiedeldey, 1995; Lothian, 1999; Zhang *et al.*, 2000), mediante attività operative di indagini o interviste (Daniel e Boster, 1976; Tempesta e Thiene, 2006).

Diversi studi multidisciplinari, condotti in Europa e in America a partire dal 1960, hanno valutato il paesaggio attraverso lo "strumento" della percezione, differendo tra loro per basi teoriche e filosofiche a volte divergenti e per l'importanza data al punto di vista degli individui (Lynch, 1964; Daniel e Boster, 1976; Porteous, 1982; Punter, 1982; Zube *et al.*, 1982; Daniel e Vining, 1983; Kennedy *et al.*, 1988; Tempesta, 1997; Tempesta e

Crivellaro, 1999; Swanwick, 2002; Dakin, 2003; Domon *et al.*, 2005; Ryan, 2005; Wherrett e Tan, 2005; Tempesta e Thiene, 2006).
Il ricorso ai metodi multidimensionali risulta necessario quando l'obiettivo della valutazione è di comprendere la qualità "complessiva" del paesaggio, intesa come il riflesso di un sistema di fattori tangibili e intangibili, coesistenti e relazionati, riconosciuti non solo per un'utilità economica ma anche in quanto portatori di valori indipendenti dall'uso (ambientali, sociali, culturali, identitari, ecc.). Tali metodi, fondati su indicatori quanti-qualitativi, infatti, sono adeguati per affrontare valutazioni in cui la risorsa oggetto di studio è caratterizzata da valori incommensurabili (Munda *et al.*, 1995; O'Neill, 1997; Martinez-Alier *et al.*, 1998, 1999), come lo è il paesaggio, e segnata dal conflitto di aspetti diversi e percezioni divergenti tra i gruppi sociali di una comunità (Nijkamp *et al.*, 1990; Patton, 1996; Fusco Girard e Nijkamp, 1997, 2004; Beinat e Nijkamp 1998; Janssen e Munda, 1999; Munda, 2008).
Nell'ambito dell'approccio valutativo di tipo multidimensionale al paesaggio, si inserisce il caso studio dell'esperienza Valenciana presentata in questo articolo. Il coinvolgimento pubblico nell'attività di valutazione dei paesaggi percepiti, e il supporto tecnico della tecnologia GIS (Geographic Information System), hanno consentito la formulazione di una mappa dei livelli di qualità del territorio regionale (23.255 Km^2) riconosciuti dall'intera comunità; a beneficio dello sviluppo di una nuova politica paesaggistica coerente con gli obbiettivi della Convenzione Europea del Paesaggio. La discussione del caso studio ha, pertanto, l'obiettivo di fornire un contributo operativo all'avanzamento di modelli valutativi innovativi che si concentrano sulla stima della qualità di un paesaggio ricorrendo all'analisi dell'esperienza percettiva.
L'articolo è organizzato secondo tale struttura: il § 2 affronta il tema della percezione come esperienza multisensoriale; il § 3 presenta la valutazione della qualità del paesaggio e i suoi approcci metodologici, riconoscendo "l'approccio esperienziale", fondato sulla percezione, il più valido per analizzare valori multidimensionali; nel § 4 sono esplicitate le diverse fasi operative adottate in letteratura per condurre una valutazione della qualità percepita del paesaggio; il § 5 esamina il caso studio; infine, vengono tratte delle considerazioni finali.

2. Il paesaggio e la percezione

La bellezza del paesaggio è una misura di riferimento importante nelle pratiche di pianificazione e nelle strategie di gestione ambientale (Daniel, 2001) in quanto è determinante alla capacità attrattiva di un territorio (Zube, 1980).
Storicamente la bellezza scenica ha svolto un ruolo fondamentale per le modalità in cui il paesaggio è stato protetto e per la conservazione di luoghi ritenuti di singolare pregio (Preece, 1991). La Legge italiana n. 1479/1939, che riguarda la *Protezione delle bellezze naturali*, tutelava le «bellezze panoramiche considerate come quadri naturali e così pure quei punti di vista o di belvedere, accessibili al pubblico, dai quali si goda lo spettacolo di quelle bellezze» (Legge 29 giugno 1939, n.1497, art. 1).
Oggi la bellezza di un paesaggio non è più concepita solamente come mera costatazione di un buon effetto "cartolina" ma come sintesi della qualità di una realtà complessa, dell'armonia e dell'interdipendenza tra ogni suo elemento e l'uomo (Fusco Girard e Nijkamp, 2004). La Convenzione Europea del Paesaggio (Consiglio d'Europa, 2000) ne dà un forte rilevanza in merito, riconoscendo un valore all'empatia tra una porzione di territorio che produce stimoli, indicazioni, segnali, attraverso le sue componenti naturali,

culturali/sociali, e le reazioni cognitivo/sensoriali che si determinano nelle popolazioni (Fig. 1). La formulazione "come è percepita", presente nel documento del Consiglio d'Europa, difatti implica un rapporto dinamico tra una variabile oggettiva e una soggettiva che Jakob (2009) ha sintetizzato nella formula P=N+S, dove P sta per paesaggio, N per natura (intesa come spazio complesso e multidimensionale) e S per soggetto.

Fig. 1 – Le interazioni che concorrono nel paesaggio

Fonte: Swanwick (2002)

Il tema della percezione è considerato da Lynch (1964) prioritario nell'attività di pianificazione, ritenendo fondamentale l'analisi di come le persone comuni interpretano la qualità dei luoghi in cui vivono. Secondo le sue teorie, l'uomo con le sue attività sensoriali (vista, udito, olfatto, odorato, tatto) è uno strumento fondamentale per rilevare "l'immagine mentale dell'ambiente", indagabile attraverso il contatto diretto, l'osservazione, il dialogo con i luoghi e la popolazione. Le preferenze espresse da ogni individuo possono fornire una chiara lettura del paesaggio percepito e dare suggerimenti per migliorarlo; o possono aiutare a comprendere il grado di danno o di beneficio arrecato da una forza perturbatrice esterna (come un piano o un progetto).
Bourassa (1990) e Goleman (2005), negli studi di psicologia ambientale, distinguono tre tipi di risposte percettive agli stimoli esterni, associabili a tre aree del cervello:

- *la percezione istintiva*, che riguarda l'area del cervello rettile, è legata alla facilità di lettura del paesaggio (Kaplan, 1979) e alla sua utilità potenziale, «percependo immediatamente certi aspetti dell'ambiente o inferendone degli altri» (Baroni, 2008, p. 86);
- *la percezione affettiva*, relativa all'area paleo mammifera del cervello, coinvolge la

componente emotiva collegata all'esperienza di vita e all'età di ogni individuo; essendo la più mutevole nel tempo, essa risulta di difficile analisi (Tempesta e Thiene, 2006);
- *la percezione intellettuale*, prodotta dall'area del cervello mammifero, è strettamente dipendente alla formazione culturale della persona, che condiziona l'interpretazione dell'ambiente circostante (Coeterier, 1996).

Da quanto espresso ne deriva che la qualità di un paesaggio è interpretata sia da percezioni comuni a tutte le persone che da percezioni propriamente soggettive legate alla formazione culturale/emotiva dell'individuo (Fiedeldey, 1995; Tempesta e Thiene, 2006). Inoltre, «la percezione della qualità di una risorsa è per sua stessa natura multidimensionale» (Fusco Girard, 1992, p. 156) in quanto considera una gamma di valori non solo di natura tangibile o utilitaristica ma soprattutto sociali, culturali, identitari, psicologici, ecosistemici.

Con questi presupposti il Consiglio d'Europa (2000) spinge l'attivazione di processi valutativi che incentivino la partecipazione "dal basso", affinché la più ampia comprensione del paesaggio sia a vantaggio di politiche paesaggistiche sostenibili. Per raggiungere tale comprensione è necessario ricorrere, pertanto, a metodi di valutazioni multidimensionali, e a indicatori quanti-qualitativi, capaci di analizzare l'interazione tra i diversi fattori di un paesaggio e la percezione pubblica attraverso attività dialogiche e operative coinvolgenti una comunità o i suoi stakeholder.

3. Gli approcci alla valutazione della qualità del paesaggio

Nell'ambito delle valutazioni multidimensionali, la valutazione della qualità del paesaggio è uno strumento di ricerca indispensabile quando la categoria paesaggio è analizzata nella sua complessa entità, come un "unico estetico" di elementi interdipendenti (Erdönmez e Kaptanoglu, 2007). L'obiettivo è di identificare una graduatoria di priorità (Fusco Girard e Nijkamp, 1997) o di preferenze dei livelli di qualità percepiti. Tale finalità risulta di notevole importanza per lo sviluppo strategico di un territorio, in quanto aiuta a impostare e a strutturare decisioni sulla base delle consapevolezze, esigenze, desideri, molte volte conflittuali e multidisciplinari, di una comunità.

La qualità, in tale contesto, è riconosciuta come il grado di soddisfacimento dei bisogni utilitaristici di base (cibo, acqua, riparo, opportunità ricreative, ecc.), dei bisogni spirituali (legame con la natura, ecc.) e dei valori naturali intrinseci. La componente cognitiva, inoltre, amplia il ventaglio di tali bisogni con concetti come il senso del luogo, i ricordi, i significati simbolici, storici, culturali e gli obblighi etico/morali (Seamon, 1982).

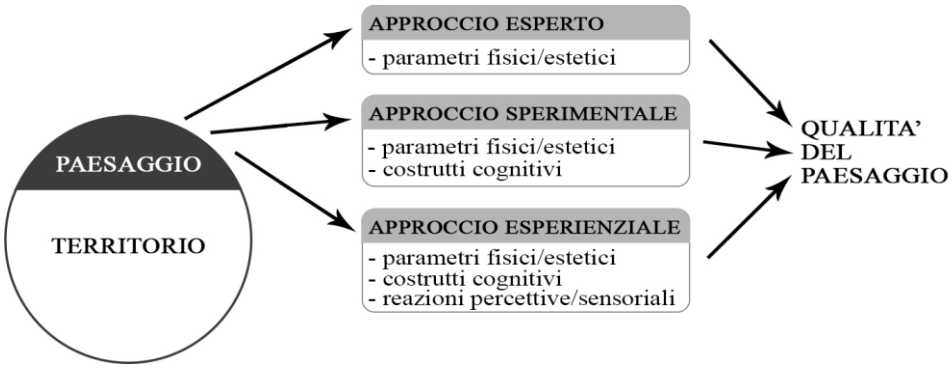
Il metodo di valutazione è generalmente scisso in attività condotte dagli esperti e in attività concentrate ad analizzare la percezione pubblica, differenziandosi principalmente nel modo in cui gli elementi rilevanti del paesaggio sono indagati e nell'importanza conferita all'uomo nel determinare i livelli di qualità. Dakin (2003), più analiticamente, divide gli approcci a tale valutazione in "tre famiglie" (Fig. 2): l'approccio esperto, quello sperimentale e l'approccio esperienziale (o anche detto percettivo).

L'"approccio esperto", prevalente nelle pratiche di gestione e pianificazione, considera il giudizio dei professionisti, di diversi settori disciplinari, riguardo le caratteristiche estetico-formali del paesaggio (la morfologia, la vegetazione, la linea, ecc.). Essi partono dal presupposto che la qualità di un paesaggio è intrinseca ai suoi attributi visivi, trascendendo le differenze culturali e sociali di ogni luogo (Daniel e Vining, 1983; Daniel, 2001; Dakin, 2003; Paquette *et al.*, 2005; Wherrett e Tan, 2005).

L'"approccio sperimentale", invece, apre il processo valutativo alla comunità o agli

stakeholder, chiamandoli ad esprimere preferenze riguardo le componenti fisiche e cognitive (leggibilità, mistero, ecc.) del paesaggio (Kaplan e Kaplan 1982, Daniel e Vining, 1983; Dakin, 2003; Wherrett e Tan, 2005).

Fig. 2 – Gli approcci alla valutazione della qualità del paesaggio



Diversamente, l'"approccio esperienziale" (o anche detto percettivo), non escludendo gli attributi visivi e i costrutti cognitivi, coinvolge anche le emozioni e le aspettative di tutti gli individui rispetto al paesaggio percepito, trattando le caratteristiche biofisiche come stimoli estetici psicologicamente rilevanti (Bruns e Green, 2001; Dakin, 2003). In particolare, come sostengono Bruns e Green (2001, p. 125), «il paradigma esperienziale vede le persone come partecipanti attivi nel paesaggio, derivando le loro preferenze dall'esperienza quotidiana». Quest'ultimo approccio viene considerato il più adeguato a interpretare i valori intangibili e a comprendere l'identità multidimensionale di un paesaggio.

La metodologia basata sull'approccio esperienziale si sviluppa sul modello teorico proposto da Kaplan e Kaplan (1982) che assegna un ruolo attivo alla persona/osservatore e un ruolo centrale all'ambiente circostante, deducendo una graduatoria dei livelli di qualità di un paesaggio attraverso le preferenze espresse soggettivamente all'impatto percettivo di uno o più scene di paesaggi visualizzati. La potenzialità di questo processo di valutazione, attivato "dal basso", risiede non solo nel captare la qualità generale ma anche di comprendere le debolezze e gli aspetti forti dello stato di fatto di un paesaggio o delle sue possibili trasformazione proposte da un progetto o piano. L'aspetto significativo, inoltre, viene riscontrato nelle attività operative concentrate sulla «osservazione diretta, evitando il filtro dei linguaggi tecnici, sull'identità dei luoghi come punto di partenza elementare di organizzazione, sull'intervista come strumento d'indagine e sull'esigenza di un nuovo linguaggio di rappresentazione e codifica» (Andriello, 1997, p. 162).

Le variabili che possono influenzare le preferenze di ogni individuo risiedono essenzialmente nei fattori estrinseci del soggetto che percepisce e nei fattori intrinseci all'ambiente percepito (Ferretti, 1995). I primi, trovando una spiegazione scientifica negli studi neurologici di Bourassa (1990) e Goleman (2005), si riferiscono alle reazioni emotive, alle associazioni mentali oppure al riconoscimento di un uso potenziale del paesaggio

percepito dall'osservatore (Laurie, 1975). I fattori intrinseci, invece, sono legati alla tipologia del paesaggio da esaminare (naturale, costruito, culturale) ma soprattutto alla condizione d'osservazione. Risulta preferibile condurre indagini sul campo affinché si potessero sfruttare tutti i sensi a disposizione dell'uomo (Craik e Zube, 1976); ma spesso molte esperienze valutative, per difficoltà logistiche e pratiche nella conduzione delle interviste, danno prevalenza alla componente visiva della percezione conducendo analisi sulla base di riproduzioni e/o simulazioni fotografiche di scene paesaggistiche.
L'approccio esperienziale anche se appare teoricamente discutibile, in quanto tenta l'interazione con la sfera istintiva, affettiva e intellettuale della percezione, dimostra di essere in pratica efficace. Difatti consente di condurre con un certo grado di attendibilità, attraverso una consequenzialità di attività e obiettivi da perseguire, a indagini sulla qualità se non del paesaggio biofisico comunque di quei caratteri che immediatamente influenzano le persone, il loro benessere e quindi le loro preferenze; fornendo un bagaglio di informazioni inedite e utili per una pianificazione territoriale sostenibile.

4. Il procedimento metodologico

Le questioni più diffuse relative alle attività per la valutazione della qualità del paesaggio, attraverso un approccio di tipo esperienziale, ruotano intorno al perseguimento progressivo di tre obiettivi:

1. la selezione di indicatori che descrivono il paesaggio;
2. l'interpretazione degli stimoli percettivi in un sistema di preferenze;
3. l'individuazione del valore o di una graduatoria delle qualità del paesaggio, nonché dei fattori determinanti a tale qualità.

La prima fase del procedimento valutativo risiede nella scelta degli indicatori attraverso i quali le persone potranno condurre la disamina del paesaggio percepito, o di più alternative paesaggistiche, al fine di decretare le loro preferenze. A tale scopo sono solitamente indetti laboratori partecipati, in cui vengono coinvolti professionisti di ambiti disciplinari diversi e stakeholder della comunità, in un'attività dialogica sull'identificazione delle peculiarità tangibili e intangibili del paesaggio oggetto di studio. Tale complessità viene analizzata e suddivisa in "criteri" di lettura dell'ambiente, a loro volta scissi in indicatori dei fattori intrinseci (legati alla tipologia del paesaggio) ed estrinseci (legati alla percezione soggettiva del paesaggio) detti "descrittori del paesaggio" (Gobster e Chenowet, 1989; Tempesta e Thiene, 2006). I descrittori del paesaggio, che sono indicatori quanti-qualitativi, secondo Gobster e Chenoweth (1989), possono essere:

- *di tipo fisico*, che riguardando le caratteristiche spaziali e formali di un paesaggio;
- *di tipo artistico*, accentuando l'interesse sulla qualità visiva;
- *di tipo soggettivo*, collegati alla percezione cognitiva/emozionale del singolo soggetto.

La scelta dei descrittori da impiegare, dipende essenzialmente dalle finalità della ricerca. Qualora lo scopo sia quello di fornire indicazioni di politica territoriale o economica, diviene utile impiegare descrittori di tipo fisico e artistico, pur con i limiti che ne possono derivare al fine di una corretta interpretazione della qualità del paesaggio. Il set dei descrittori soggettivi, invece, può riscontrare un certo interesse per l'analisi distributiva degli interventi in campo paesaggistico (Tempesta e Thiene, 2006).
Nelle Tabb. 1-3 sono elencati, in maniera non esaustiva e secondo la classificazione proposta da Gobster e Chenoweth (1989), i descrittori fisici, artistici e soggettivi del paesaggio presenti in letteratura (Appleton, 1975; Kaplan, 1982; Bernaldez e Gallardo,

1989; Gobster e Chenoweth, 1989; Strumse, 1994; BLM, 2010). L'uso prevalente di descrittori fisici e artistici del paesaggio nelle esperienze valutative contemporanee, viene spesso motivato dalla volontà di poter affrontare processi di valutazione che, seppure incentrati sulle preferenze soggettive, potessero condurre a stime realistiche e confrontabili della qualità di un paesaggio in quanto fondate su fattori identificabili. Questa propensione, però, non ha sempre trovato accordo in letteratura in quanto si ritiene possa correre il rischio di conseguire risultati artefatti della qualità. Kaplan (1975) sostiene, infatti, che gli studi affrontati mediante l'esclusivo utilizzo di descrittori selezionati per la loro oggettività difficilmente possono condurre alla comprensione ampia di un paesaggio, in quanto l'attenzione riposta sui caratteri salienti dello spazio fisico può trascurare la qualità rilevata dall'esperienza quotidiana della popolazione.
Sulla base dei descrittori del paesaggio si avvia operativamente il processo valutativo, con la partecipazione pubblica ad attività condotte in sito (a contatto con l'ambiente di studio) oppure, se non si è sul luogo, con la presentazione di un set di foto. In quest'ultima condizione, la modalità di presentazione del paesaggio attraverso l'illustrazione fotografica risulta cruciale, in quanto la foto rappresenta l'unico tramite d'interazione tra il paesaggio e l'osservatore.
Come per ogni indagine, intervista o questionario, questa metodologia registra le reazioni delle persone chiamate a esprimere una preferenza su luoghi, situazioni esistenti e una serie di possibili alternative allo status quo, rendendo la loro partecipazione attiva e le scelte più significative (Hudspeth, 1986).

Tab. 1 - I descrittori fisici del paesaggio

Criteri	**Descrittori del paesaggio**
Morfologia	Variazioni della superficie terrestre
	Propensione al verticalismo
	Presenze dominanti e suggestive
Acqua	Fonti d'acqua naturali e grado di dominanza nel paesaggio
Vegetazione	Presenza di vegetazione e grado di contrasto con il contesto
Carattere della vegetazione	Varietà di vegetazione in termini tipologici, formali e di texture
Diversità	Varietà degli elementi presenti nel paesaggio
Pattern	Presenza di elementi ripetuti regolarmente e/o modelli formali chiari
Allineamenti	Equilibrio geometrico nell'immagine osservata
Patch-shape	Presenza di elementi con forme irregolari
Componenti antropiche positive	Presenza di componenti antropiche tipiche o di pregio che migliorano la qualità del paesaggio
Componenti antropiche negative	Presenze che devalorizzano il paesaggio (strade, industrie, tralicci, ecc.)

Tab. 2 - I descrittori artistici del paesaggio

Criteri	Descrittori del paesaggio
Naturalità/artificialità	Forza visiva del paesaggio naturale sotto le tensioni generate dalle dimensioni e dalle forme delle entità antropiche
Ambiente selvaggio	Grado di paesaggio selvatico ancora non contaminato
Emergenze architettoniche	Riconoscibilità dei valori culturali/architettonici/artistici nelle costruzioni presenti
Rarità	Distintività del immagine rispetto a quanto è già presente nell'ambiente regionale
Colori	Grado di varietà cromatica
Contrasti interni	Forza o debolezza dei contrasti cromatici presenti nella scena paesaggistica
Ordine	Riconoscibilità di un ordine in corrispondenza delle aree di "collegamento" e nei "corridoi"
Influenze degli scenari adiacenti	Distorsione percettiva dovuta alle caratteristiche delle aree adiacenti
Ampiezza del campo visivo	Capacità di godere di una vista ampia e panoramica
Bellezza scenica	Grado di bellezza percepita del paesaggio
Armonia	Armonia percepita nella relazione tra gli elementi naturali e le presenze antropiche

Tab. 3 - I descrittori soggettivi del paesaggio

Criteri	Descrittori del paesaggio
Leggibilità	Facilità d'interpretazione del paesaggio osservato
Complessità	Complessità percepita della struttura spaziale
Coerenza	Coerenza dell'immagine come risultato dell'integrazione tra tutti gli elementi costituenti il paesaggio
Genius loci	Leggibilità di un "senso del luogo" (valori culturali, simbolici, spirituali)
Mistero	Percezione di informazioni o di elementi nascosti alla vista
Rischio	Propensione delle componenti del paesaggio a evocare un senso di rischio e di pericolo nell'osservatore

Il nodo critico della valutazione risiede, in riferimento a ciascun descrittore del paesaggio, nella modalità di traduzione degli stimoli percettivi in preferenze misurabili e confrontabili. Per tale motivo si ricorre all'utilizzo delle scale di misurazione, che Stevens (1946; 1951; 1959; 1968) suddivide in quattro tipi o livelli, differenti tra loro per le regole che condizionano le modalità di misurazione e di esplicitazione delle preferenze:

– *la scala nominale:* le preferenze sono assegnate in classi o categorie in base alla presenza/assenza di una determinata caratteristica ambientale, ma non sono ordinabili.

Consente solo misure di frequenza, percentuale e moda;
- *la scala ordinale:* permette di definire una graduatoria delle preferenze ma non di apprezzare la precisa quantità o la distanza tra un grado e l'altro. È possibile misurare la frequenza, la percentuale, la moda e la mediana;
- *la scala ad intervalli:* le preferenze sono strutturate gerarchicamente, come la scala ordinale, inoltre è possibile calcolare il valore tra un grado e l'altro della classificazione. In tale scala sono possibili tutte le operazioni statistiche e inferenziali e, inoltre, il punto a partire dal quale le misurazioni vengono effettuate può essere assegnato arbitrariamente (detto "zero relativo");
- *la scala di rapporti equivalenti:* differisce dalla precedente per il diverso significato dato allo zero (detto "zero assoluto"), il quale corrisponde all'assenza della proprietà oggetto di misurazione.

Le prime due scale rientrano della categoria delle scale di misurazione qualitative, mentre la scala a intervalli e quella di rapporti equivalenti si collocano nella categoria delle scale quantitative utilizzate non solo quando è possibile ordinare le preferenze rispetto a ogni descrittore ma quando è anche possibile esplicitare l'esatta quantità di ciascuna preferenza.
Sulla base di tali scale, grazie agli studi condotti dalle scienze sociali, una serie di tecniche sono state sviluppate per poter affrontare l'annoso problema del trasferimento dal piano teorico a quello empirico del sistema di atteggiamenti percettivi (emotivi, cognitivi, psicologici, culturali) (Thurstone e Chave, 1929; Krech e Crutchfield, 1948; Allport, 1954) che determinano la risposta preferenziale agli stimoli esterni.
L'obiettivo di queste tecniche, dette di *scaling*, è quella di far corrispondere un punteggio di natura quantitativa alle preferenze espresse da ogni individuo.
Esse vengono classificate in due famiglie: le tecniche di *scaling* "comparative", in cui le preferenze possono essere misurate ordinando due o più alternative paesaggistiche in relazione a uno specifico descrittore (tra queste la Scala di confronto a coppie, la Scala ordinata per ranghi, la Scala a somma costante e la Scala Q-sort); e le tecniche di *scaling* "non comparative" in cui le preferenze, per ciascuna alternativa paesaggistica, sono stimate rispetto a un numero limitato di opzioni ordinate sulla base di una scala di misurazione qualitativa (le più diffuse sono la Scala di Likert, la Scala di Thurstone, la Scala del differenziale semantico, la Scala a parziale autonomia semantica e la Scala auto-ancorante).
L'attendibilità di queste tecniche, come sostiene Corbetta (1999), riguarda la riproducibilità del risultato e il grado con il quale una certa procedura di traduzione delle preferenze conduce gli stessi risultati in prove successive, ripetute con lo stesso strumento di rilevazione o con strumenti equivalenti.
Nell'ambito delle esperienze di coinvolgimento pubblico, per la valutazione del paesaggio, è comunemente impiegata la tecnica di *scaling* di Likert (1932) per la sua immediata comprensione e per l'operativa facilità d'applicazione. La qualità di ogni scena paesaggistica, infatti, è valutata mediante l'assegnazione di punteggi, organizzati su una scala di misurazione di tipo ordinale. Il sistema di punteggi, che generalmente va da 1 a 5 punti oppure da 1 a 7 punti, interpreta gradualmente l'intensità delle preferenze rispetto a ogni descrittore paesaggistico: al punteggio più basso viene corrisposto il minore grado di preferenza, al punteggio medio un grado di preferenza medio, al punteggio più alto il massimo grado di preferenza.
In definitiva, secondo Tempesta e Thiene (2006), valutare la qualità del paesaggio attraverso la percezione pubblica significa individuare relazioni del tipo: Qp= (X; I); o

meglio, vuol dire attribuire un valore alla qualità (Qp) in funzione dei descrittori del paesaggio considerati (X) e dell'insieme delle preferenze individuali (I). Per tale difficoltà, il processo valutativo persegue una fase finale prettamente tecnica.
Le diverse preferenze, espresse per ogni descrittore, vengono esaminate come variabili statistiche in un'analisi di regressione, allo scopo di determinare una funzione che esprima le relazioni che intercorrono tra di loro. Questa trasformazione matematica permette la formulazione della graduatoria dei livelli di qualità percepiti in un paesaggio, comunicabile attraverso una scala di misurazione qualitativa o quantitativa a seconda degli obiettivi della ricerca.
Per facilitare la gestione e l'analisi degli eterogenei dati, soprattutto in questa ultima fase, negli ultimi anni si è fatto ricorso alla tecnologia GIS (Burrough, 1986; Peverieri, 1995; Murgante, 2008). Il GIS è uno strumento *computer-based* in grado di acquisire, gestire, interrogare dati di diversa natura in un database relazionale, associando a ogni elemento geografico (le diverse scene paesaggistiche) una o più descrizioni alfanumeriche (le preferenze espresse e ogni descrittore), e di comunicare i risultati con la rappresentazione di mappe digitali.
Le mappe consentono la visualizzazione spaziale, rispetto a strumenti cartografici georiferiti, delle informazioni prodotte dall'analisi relazionale dei dati a disposizione. Esse, costruite sulla base delle preferenze della comunità, hanno la potenzialità di mettere in relazione i processi mentali umani con i paesaggi fisici e per tanto rappresentano lo strumento più valido per leggere un paesaggio (Daniel e Vining, 1983).
Alla tecnologia GIS hanno fatto appello diverse esperienze di valutazione del paesaggio, che hanno coinvolto la percezione pubblica, per la gestione delle aree forestali (Brown e Reed, 2000, 2009; Clement e Cheng, 2011), per la gestione delle aree protette e dei parchi urbani (Tyrväinnen *et al.*, 2007; Pfueller *et al.*, 2009), per lo sviluppo residenziale e turistico (Brown, 2006; Raymond e Brown, 2007), per la gestione delle aree costiere (Alessa *et al.*, 2008), per lo sviluppo delle aree rurali (Pocewicz *et al.*, 2010; Nielsen-Pincus, 2011), per gestire i rischi del cambiamento climatico (Raymond e Brown, 2011).
Il caso studio descitto nel successivo paragrafo vuole rappresentare un contributo allo sviluppo del procedimento metodologico, finalizzato a valutare la qualità del paesaggio, fondato sull'analisi della percezione pubblica e supportato dalla tecnologica GIS per l'elaborazione e la comunicazione dei risultati.

5. La valutazione della qualità percepita del paesaggio Valenciano

La *Comunidat* di Valencia si era prefissata di diventare, entro il 2010, la prima regione spagnola ad attuare in pieno gli obiettivi della Convenzione Europea del Paesaggio attraverso la progettazione e l'attuazione di un insieme di politiche e di piani per la protezione e la valorizzare dei suoi paesaggi.
Con una superficie di 23.255 km^2 e 5.016.348 di abitanti, la regione di Valencia è una delle aree più dinamiche della Spagna. La sua posizione strategica nel bacino del Mediterraneo, il notevole patrimonio culturale e naturale che si dispiega in essa, un sistema economico diversificato e con servizi altamente qualificati nel settore turistico, il clima mite e le diversità territoriali, contribuiscono a rendere il contesto fisico eccezionale e attraente. Tuttavia, la rapida crescita urbana focalizzata principalmente sull'appetibilità "commerciale" dei luoghi, ha prodotto gravi ripercussioni sulla qualità dei paesaggi.
Le principali riflessioni in merito, sono riassumibili nei seguenti punti (Generalitat

Valenciana, 2011a):

- i processi socio-economici che investono le aree urbane del waterfront, spesso legati al settore turistico, hanno determinato una rapida e intensa crescita infrastrutturale, trasformando e omogeneizzando i caratteri identitari del paesaggio costiero;
- negli ultimi 15 anni solo il 30% del paesaggio regionale è stato protetto attraverso leggi e programmi a tutela delle aree riconosciute di alto pregio naturalistico;
- le aree interne alla regione sono scarsamente abitate mentre il waterfront è densamente popolato;
- l'aumento demografico, previsto del 20% nei prossimi 25 anni, implementa la domanda di acqua (che è una risorsa scarsa a Valencia) provocando impatti negativi alla biodiversità regionale;
- le aree metropolitane costiere, in cui si concentrano le attività economiche e industriali, sono considerate dai turisti come le espressioni più rappresentative della qualità del paesaggio regionale.

A fronte di questa situazione, il Dipartimento del Territorio e del Paesaggio della Regione di Valencia ha ritenuto necessario adoperarsi per un Piano d'azione territoriale del paesaggio che equilibrasse le spinte delle trasformazioni fisiche (conseguenti all'aumento demografico, allo sviluppo infrastrutturale e l'appetibilità turistica) con la conservazione e la valorizzazione delle risorse endogene (ambientali, culturali, sociali, ecc.).

A tal fine, il documento della Convenzione Europea del Paesaggio è risultato una guida fondamentale. Difatti, il primo passo per la definizione di una nuova politica paesaggistica si è fondato sulla consultazione della percezione pubblica per la valutazione, quindi la comprensione e il riconoscimento, dei fattori che influenzano la qualità del paesaggio regionale. Il coinvolgimento della popolazione è stato considerato importante nella misura in cui l'esperienza quotidiana di ogni individuo abbia potuto contribuire a fare emergere una serie di informazioni utili a orientare le azioni di tutela e di sviluppo della regione, nella piena consapevolezza del capitale naturale/manufatto, storico/culturale e umano/sociale endogeno.

Il processo di valutazione della qualità del paesaggio Valenciano (Fig. 3) è durato sei mesi, da marzo a luglio del 2008, strutturandosi nelle seguenti attività:

1. la scomposizione del territorio regionale in otto unità paesaggistiche omogenee;
2. l'elaborazione e la selezione di documenti fotografici ritraenti i paesaggi della regione;
3. l'individuazione di un set di descrittori del paesaggio attraverso i quali condurre la valutazione;
4. lo svolgimento delle attività di valutazione, attraverso un approccio esperienziale, coinvolgendo la percezione pubblica di ciascuna unità paesaggistica;
5. l'analisi dei dati e lo sviluppo di una mappa dei livelli di qualità percepiti del paesaggio Valenciano.

Il territorio regionale, per la sua vasta dimensione, è stato suddiviso in otto sub-regioni, denominate "unità paesaggistiche omogenee": entroterra montuoso di Castellón; area costiera di Castellón; entroterra montuoso e pianeggiante di Valencia; area costiera di Valencia; entroterra collinare e costa collinare di Valencia; area costiera collinare di Alicante; entroterra montuoso e collinare di Alicante; area costiera pianeggiante di Alicante (Fig. 4). Questa scelta è stata motivata anche in funzione alle forti diversità ambientali, culturali e socio-demografiche che avrebbero potuto condizionare la percezione di ciascun intervistato, evitando possibili disaccordi di preferenze e la propensione all'esclusiva

valutazione della spettacolarità visiva del paesaggio (a sfavore degli stimoli cognitivi ed emotivi).

Fig. 3 – Le fasi operative dell'esperienza valutativa

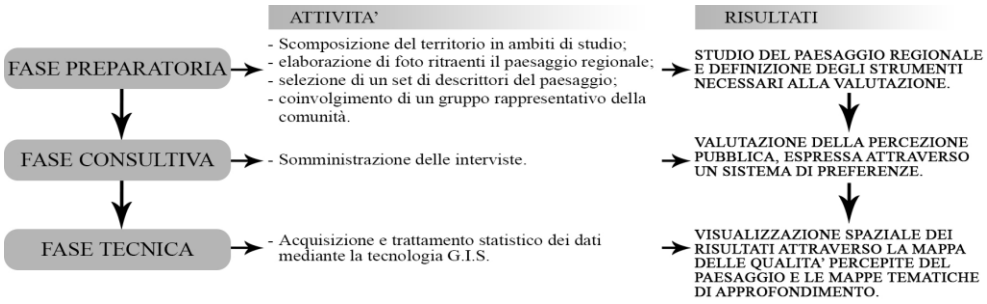
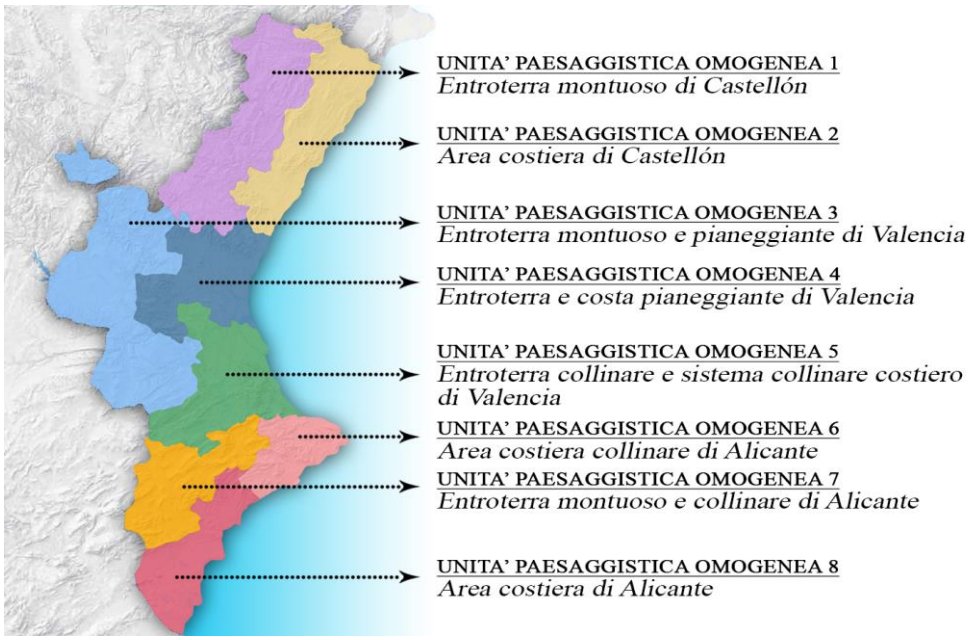


Fig. 4 – La scomposizione del territorio regionale in unità paesaggistiche omogenee



Fonte: Generalitat Valenciana (2011a)

Il primo step preparatorio all' attività valutativa, in collaborazione con l'Universidad Politécnica de Valencia, è consistito nel rilievo dei luoghi mediante l'elaborazione di una serie di testimonianze fotografiche di tutti i possibili paesaggi Velenciani, sia i paesaggi «considerati eccezionali, che i paesaggi della vita quotidiana e i paesaggi degradati»

(Consiglio d'Europa, 2000, art. 1), nelle loro combinazioni, condizioni e usi dei suoli. Il ricorso alla fotografia, nonostante avrebbe potuto suggerire limitati stimoli percettivi, è stato ritenuto necessario per la mole di persone da intervistate in otto aree territoriali diverse e in un arco di tempo ristretto. Lo battuta fotografica ha ritratto 4.500 immagini di paesaggi, scattate in modalità casuale e in diverse ore del giorno, con l'intenzione di non mettere in rilievo la spettacolarità delle componenti ambientali. Da questo vasto repertorio gli organizzatori hanno effettuato una prima selezione, individuando 60 foto rappresentative per ciascuna unità paesaggistiche omogenea.

Tab. 4 - I descrittori fisici del paesaggio Valenciano

Criteri	**Descrittori del paesaggio**
Morfologia urbana	Densità dello spazio urbanizzato
Acqua	Presenza di fonti d'acqua dolce
Vegetazione	Presenza di vegetazione
Varietà della vegetazione	Diversità di vegetazione in termini tipologici, formali e di texture

Fonte: Generalitat Valenciana (2011c)

Tab. 4 - I descrittori artistici del paesaggio Valenciano

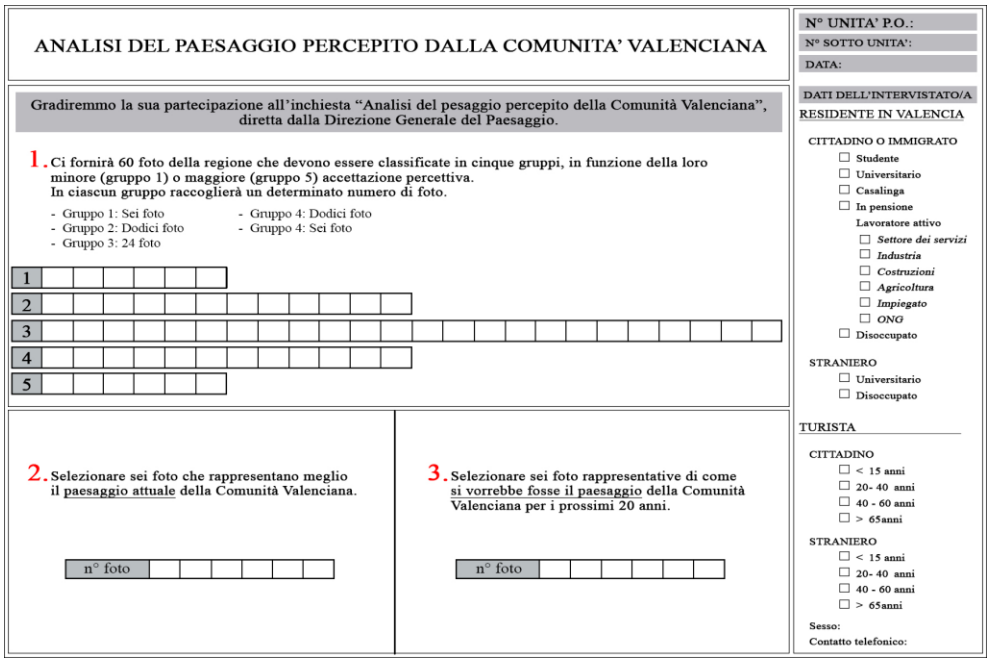
Criteri	**Descrittori del paesaggio**
Carattere naturale del paesaggio	Dominanza del carattere naturale del paesaggio rispetto alle presenze antropiche
Carattere tradizionale del costruito	Riconoscibilità dei valori culturali/architettonici/ artistici nelle costruzioni presenti
Qualità funzionale percepita	Qualità dell'uso dei suoli
	Qualità del carattere costiero
	Produttività del paesaggio
Ordine	Riconoscibilità di un ordine che consente una chiara lettura del paesaggio osservato
Orizzontalità	Capacità di veduta dell'orizzonte
Profondità visiva	Godimento di una visuale profonda, non ostacolata da elementi di disturbo
Punti di riferimento visivi artificiali	Facilità d'individuazione di riferimenti visivi artificiali nella struttura spaziale del paesaggio

Fonte: Generalitat Valenciana (2011c)

Il secondo step preparatorio ha coinvolto, in un laboratorio partecipato, stakeholder e professionisti di vari ambiti disciplinari per l'identificazione di una lista di descrittori del

paesaggio attraverso i quali gli intervistati avrebbero poi espresso le preferenze sulla qualità delle scene paesaggistiche proposte. I 13 descrittori sono stati scelti in relazione ai fattori predominanti, estrinseci e intrinseci, del paesaggio regionale emersi dal dibattito dialogico del laboratorio. Nelle Tabb. 4 e 5, i descrittori del paesaggio sono presentati in relazione ai criteri specifici; questa organizzazione sistematica è frutto di una personale interpretazione.
Successivamente sono state selezionate 865 persone, sulla base dei dati sociologici e demografici messi a disposizione dall'Istituto Valenciano de Estadistica e dalla Conselleria de Turismo, e divise in otto focus-group. Esse, in rappresentanza della popolazione di ciascuna unità paesaggistica omogenea, sono state scelte in relazione alla natura occupazionale (studenti universitari, casalinghe, pensionati, lavoratori, ecc.) e a seconda che siano residenti nel territorio regionale (spagnoli e stranieri) oppure turisti (con la variabile percentuale legata all'influenza del turismo in ogni area).
La valutazione è stata condotta operativamente attraverso la somministrazione di un questionario costruito su tre richieste consecutive (Fig. 5). Ogni intervistato ha dovuto eseguirle denunciando le proprie preferenze, sulla base dei costrutti percettivi elaborati intorno ai 13 descrittori del paesaggio.

Fig. 5 – Modello di questionario somministrato agli intervistati



ANALISI DEL PAESAGGIO PERCEPITO DALLA COMUNITA' VALENCIANA

Gradiremmo la sua partecipazione all'inchiesta "Analisi del pesaggio percepito della Comunità Valenciana", diretta dalla Direzione Generale del Paesaggio.

1. Ci fornirà 60 foto della regione che devono essere classificate in cinque gruppi, in funzione della loro minore (gruppo 1) o maggiore (gruppo 5) accettazione percettiva.
In ciascun gruppo raccoglierà un determinato numero di foto.

- Gruppo 1: Sei foto
- Gruppo 2: Dodici foto
- Gruppo 3: 24 foto
- Gruppo 4: Dodici foto
- Gruppo 4: Sei foto

1 2 3 4 5

2. Selezionare sei foto che rappresentano meglio il paesaggio attuale della Comunità Valenciana.

n° foto

3. Selezionare sei foto rappresentative di come si vorrebbe fosse il paesaggio della Comunità Valenciana per i prossimi 20 anni.

n° foto

N° UNITA' P.O.:
N° SOTTO UNITA':
DATA:

DATI DELL'INTERVISTATO/A
RESIDENTE IN VALENCIA

CITTADINO O IMMIGRATO
- ☐ Studente
- ☐ Universitario
- ☐ Casalinga
- ☐ In pensione
- Lavoratore attivo
  - ☐ *Settore dei servizi*
  - ☐ *Industria*
  - ☐ *Costruzioni*
  - ☐ *Agricoltura*
  - ☐ *Impiegato*
  - ☐ *ONG*
- ☐ Disoccupato

STRANIERO
- ☐ Universitario
- ☐ Disoccupato

TURISTA

CITTADINO
- ☐ < 15 anni
- ☐ 20- 40 anni
- ☐ 40 - 60 anni
- ☐ > 65anni

STRANIERO
- ☐ < 15 anni
- ☐ 20- 40 anni
- ☐ 40 - 60 anni
- ☐ > 65anni

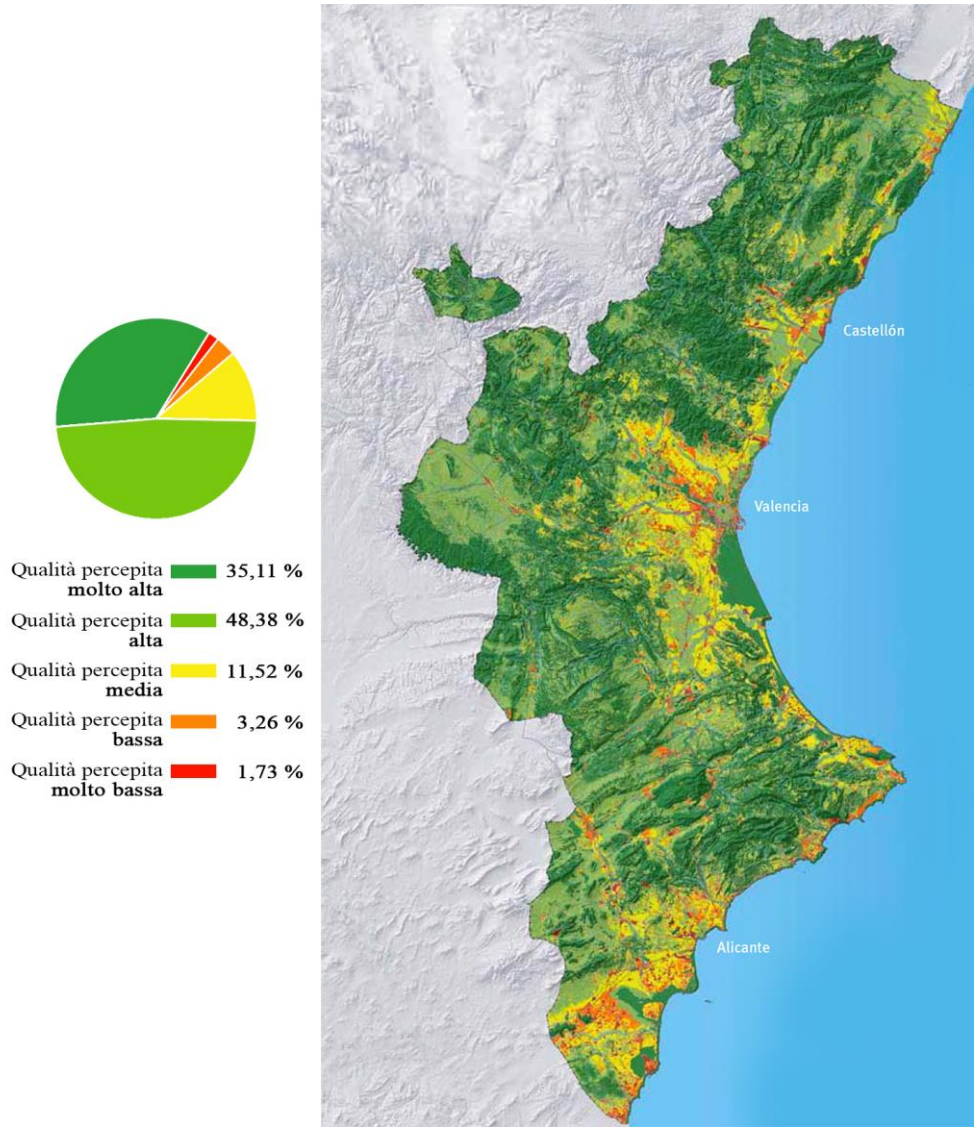
Sesso:
Contatto telefonico:

Fonte: Generalitat Valenciana (2011c)

La prima richiesta è stata quella di definire una personale graduatoria di preferenze della qualità di 60 paesaggi percepiti (46 foto dell'unità paesaggistica omogenea d'interesse e 14

foto generiche del paesaggio regionale) facendo ricorso alla tecnica di *scaling* di Likert (1932). Le 60 foto sono state valutate attraverso una scala di misurazione ordinale, assegnando a ciascuna di esse un punteggio da 1 a 5, con il seguente significato: 1 corrispondente ad una preferenza molto bassa; 2 ad una preferenza bassa; 3 ad una preferenza media; 4 ad una preferenza alta; 5 ad una preferenza molto alta. Inoltre, è stato richiesto di far corrispondere alle preferenze con punteggio 1 solo 6 foto; alle preferenze con punteggio 2, 12 foto; al punteggio 3, 24 foto; al punteggio 4, 12 foto; e alle preferenze con punteggio 5, 6 foto.
La seconda richiesta è stata la selezione, in ciascuno dei cinque livelli della graduatoria di preferenza, di sei immagini che meglio rappresentano la condizione attuale del paesaggio Valenciano.
Infine, la terza e ultima richiesta ha interrogato l'intervistato sui possibili paesaggi che si vorrebbe fossero rappresentativi della regione per i prossimi 20 anni (per particolari attributi ambientali, culturali, sociali, economici, ecc.), attraverso l'individuazione di ulteriori sei foto.
La fase postuma all'intervista, ha riguardato l'acquisizione delle molteplici preferenze, la loro analisi e la comunicazione dei risultati emersi. La complessa gestione dei dati ha reso necessario il supporto della tecnologia GIS.
Il Dipartimento del Territorio e del Paesaggio già disponeva di un GIS, con cartografie e dati dell'uso del suolo regionale aggiornati al 1998. Su questa base informativa è stato realizzato un database relazionale, in cui a ogni scena paesaggistica (opportunamente geo-riferita sulla cartografia territoriale a disposizione) sono stati messi in relazione i 13 descrittori del paesaggio e tutte le preferenze emerse nelle unità paesaggistiche omogenee. Attraverso un'analisi statistica di regressione multipla, condotta sempre in ambito GIS, è stato possibile individuare la funzione matematica che esprimere il legame tra i paesaggi, le preferenze attribuite e i descrittori.
Considerando la media dei valori delle preferenze, attribuite per ogni descrittore in tutte le unità paesaggistiche, è stato possibile rinvenire a una classificazione dei livelli della qualità percepita del paesaggio Valenciano, espressa in percentuale e ordinata in: "qualità percepita molto alta", "qualità percepita alta", "qualità percepita media", "qualità percepita bassa", "qualità percepita molto bassa".
Ad integrazione di quanto è emerso, gli operatori, che hanno supervisionato l'esperienza valutativa, hanno effettuato una ricognizione *in situ* per rilevare e annotare le possibili discordanze tra le preferenze emerse e la percezione diretta dei paesaggi valutati con qualità molto bassa e molto alta, contribuendo con alcuni aggiustamenti tecnici.
In seguito, grazie allo strumento GIS, è stato possibile visualizzare spazialmente i livelli di qualità percepiti con l'elaborazione di una mappa digitale, che ha approssimato i risultati conseguiti alla realtà fisica regionale (Fig. 6).
La mappa, rappresentata in scala 1:100.000, si è rivelata un interessante strumento per l'individuazione di eventuali difformità tra la pianificazione redatta dai professionisti e le condizioni del paesaggio avvertite dagli abitanti.
È stata riconosciuta la qualità di diversi luoghi di grande pregio ambientale, culturale e sociale, così come sono emerse aree negative, percepite come potenziali danneggiatori dei valori paesaggistici.

Fig. 6 – Mappa delle qualità percepite del paesaggio regionale Valenciano

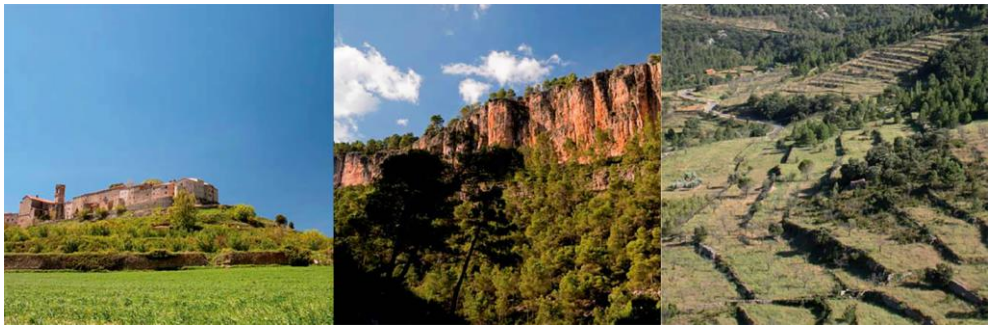


Fonte: Generalitat Valenciana (2011b)

In particolare, si sono ottenuti i seguenti risultati:
- oltre il 35% del territorio regionale è stato percepito con una qualità molto alta, e riguarda i terreni forestali e boschivi, gli arenili, i villaggi e i tracciati di valore culturale/ambientale; localizzati a Castellon, Valencia e a nord di Alicante (Fig. 7);
- quasi il 50% del paesaggio regionale è stato considerato di alta qualità, rintracciabile

principalmente nelle valli agricoli situate nei pressi delle aree forestali;
- oltre l'11% è stato accettato con una qualità media e corrisponde sostanzialmente alle aree agricole che fanno da cintura ai nuclei urbani e metropolitani;
- solo il 5% del paesaggio regionale è ritenuto di bassa o molto bassa qualità. Riguarda gli insediamenti urbani localizzati lungo il waterfront, costituiti da scarsa vegetazione e presenza dominante di strade e parcheggi; le strutture urbane continue, senza spazi verdi e con la difficile identificazione dei centri storici; le zone industriali e commerciali periferiche; le cave; i siti frammentati dalle reti infrastrutturali o deturpati dalla cartellonistica pubblicitaria (Fig. 8).

Fig. 7 – Qualità paesaggistica percepita molto alta



Fonte: Generalitat Valenciana (2011a)

Fig. 8 – Qualità paesaggistica percepita molto bassa

Fonte: Generalitat Valenciana (2011a)

Le diverse possibilità d'interrogazione dei dati geo-riferiti nel GIS, hanno consentito analisi anche più mirate con la visualizzazione di ulteriori mappe spaziali tematiche: le mappe delle preferenze espresse rispetto a ciascun descrittore del paesaggio; la mappa dei territori ad alta qualità paesaggistica; la mappa dei livelli di qualità delle aree prossime alle reti

principali di comunicazione stradale e ferroviaria (con distanza massima di 400 metri); le mappe delle qualità percepite delle aree esterne (con distanza massima di 500 metri) a città con popolazione inferiore a 25.000 abitanti e delle qualità percepite entro tali realtà urbane; le mappe delle qualità percepite nelle principali città della regione.
Inoltre, delle interessanti informazioni emergono dalla mappa delle aree percepite ad alta qualità paesaggistica:

- il 55% del territorio regionale riconosciuto di tale qualità riguarda le aree ambientali o paesaggistiche protette (4.077,5 km^2);
- il restante 45% (3.259,3 Km^2) comprende aree non tutelate dalla pianificazione vigente ma riconosciute, dagli intervistati, di notevole pregio in quanto portatrici di valori ecologici, culturali e sociali condivisi (Tab. 5).

Tab. 5 – I paesaggi valutati con qualità molto alta

Aree tutelate da norme vigenti	**Aree non tutelate**
Arenile a Vinalopò (Alicante)	Carretera a Alcoy (Alicante)
Riserva arenosa (Castellón)	Città di Alicante (Alicante)
Carretera a Vallibona (Castellón)	Marina Baixa (Alicante)
Arenile a Gandía (Valencia)	Scogliera della Marina Baja (Alicante)
Devesa del Saler (Valencia)	Valle di Guadalest (Alicante)
Albufera (Valencia)	Villaggi dell'Alto Vinalopó (Alicante)
	Villaggi del Medio Vinalopó (Alicante)
	Bosco di pini dell'autostrada Mudéjar (Castellón)
	Il villaggio Morella (Castellón)
	Paso del Puerto a Querol (Castellón)
	Carretera tra Llocnou de Sant Jeronim e L'Olleria (Valencia)
	Frutteti tra Llosa de Ranes e Alberique (Valencia)
	Frutteto di Valencia (Valencia)
	Rio Turia a Loriguilla (Valencia)
	Rio Turia a Chulilla (Valencia)
	Vigneti vicino la città di Requena (Valencia)

Fonte: Generalitat Valenciana (2011b)

Le nuove consapevolezze emerse dal coinvolgimento della popolazione regionale, hanno richiamato l'attenzione delle amministrazioni regionali e metropolitane alla redazione di un piano d'azione territoriale del paesaggio che perseguisse tre principali linee d'azione (Generalitat Valenciana, 2011c):

1. la protezione dei paesaggi percepiti di qualità molto alta ma carenti di alcun tipo di tutela;
2. il miglioramento della qualità dei paesaggi periferici alle aree urbane e di quelli attraversati dalle infrastrutture di trasporto;
3. la definizione di un programma d'azione per problemi particolari di alto impatto

paesaggistico.
In generale, la maggior parte delle persone che hanno partecipato all'indagine hanno valutato la qualità del paesaggio Valenciano attraente o molto attraente, inoltre, differenti classi d'età e d'utenza hanno dimostrato di avere una comune visione del territorio, sia allo stato attuale che nelle proiezioni future.
La promozione di occasioni di sensibilizzazione pubblica alla tematica del paesaggio è stato, inoltre, il filo conduttore e l'obiettivo intrinseco di tutta l'esperienza valutativa, affinché il processo formulativo e applicativo del futuro piano d'azione potesse essere sostenuto da una coscienza comune delle finalità da raggiungere.

6. Conclusioni

La qualità non è un concetto assoluto ma è l'espressione di una serie di valori che la comunità riconosce nel paesaggio, attraverso l'esperienza quotidiana fondata sulla percezione.
I metodi di valutazione multidimensionale rappresentano gli strumenti che meglio riescono a indagare questa complessità, interpretando i punti di vista di una comunità e i diversi aspetti in gioco con opportuni indicatori quanti-qualitativi. Tra questi, la valutazione della qualità percepita del paesaggio risulta uno strumento eccezionale di coinvolgimento pubblico per rilevare una serie di informazioni e di valori che gli studi biofisici non riescono a cogliere in quanto, da un lato, «indaga le relazioni di senso che una porzione di territorio intrattiene con il soggetto», dall'altro, mette al centro del processo d'indagine la percezione umana che «si rapporta al mondo circostante secondo modalità non solo quantitative (fisiche, chimiche, ecc.) ma anche qualitative, cognitive, affettive e sentimentalmente connotate» (Región de Murcia, 2011, p. 177).
Emergono due aspetti positivi da questa modalità di coinvolgimento: i decisori politici sono in grado di comprendere i valori che la comunità riconosce in un paesaggio; i processi decisionali e le soluzioni progettuali tendono ad essere accettate in quanto frutto dei bisogni e dei desideri di tutti i gruppi sociali.
La valutazione della qualità del paesaggio Valenciano ha fornito un importante contributo agli obiettivi del Dipartimento del Territorio e del Paesaggio della Regione di Valencia nella misura in cui i risultati delle indagini sulla percezione hanno fatto emergere una serie di consapevolezze condivise del territorio.
L'attività operativa è stata prima di tutto un virtuoso processo educativo che ha contribuito a fomentare atteggiamenti coscienti e responsabili nelle persone attraverso la messa in valore del paesaggio. Il procedimento, invitando alla riflessione collettiva e metodologica, ha evidenziato l'importanza della cura, della salvaguardia e della tutela di tutti i paesaggi in quanto beni comuni della *Comunidat*.
L'analisi delle preferenze ha rivelato l'importanza di molti paesaggi che, seppure non protetti dalle vigenti leggi, sono riconosciuti di notevole qualità in quanto incubatori di valori culturali, storici, identitari e ambientali condivisi. Così come la crescita infrastrutturale nei centri urbani, soprattutto delle aree costiere, è stata considerata come una minaccia ai valori identitari piuttosto che una virtuosa strategia di sviluppo.
La selezione dei descrittori del paesaggio ha dato importanza ai fattori fisici e artistici ovviando ai descrittori legati alla percezione meramente soggettiva; ma nonostante ciò, il coinvolgendo delle persone rispetto alla loro area paesaggistica di provenienza, ha consentito di mettere in gioco la "memoria" sensoriale, cognitiva e emotiva di ogni

individuo nella valutazione preferenziale di ogni scena paesaggistica.
La mappa dei livelli di qualità percepiti del paesaggio e le diverse mappe tematiche elaborate mediante la tecnologia GIS, come strumenti di visualizzazione dei risultati, hanno informato non tanto delle condizioni fisiche del paesaggio ma piuttosto di come la popolazione riconosce e interpreta il sistema di valori tangibili e intangibili che struttura il suo ambiente di vita; risultando un interessante mezzo di comunicazione sociale attraverso il quale una comunità acquista importanza, in quanto rappresentare sé stessa spazialmente (Burini, 2007).

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SHARING KNOWLEDGE TO PROMOTE ACTIVE PROTECTION. CASE STUDY: SASSANO, CILENTO NATIONAL PARK

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Abstract

The paper deals with strategies for built heritage protection, creating conditions of design synergy between citizens, users and administrators. Sharing the constructive knowledge is a prerequisite for tackling settlements' vulnerability, contrasting the imbalance between public and private. The research takes as a case study the historic urban landscape of Sassano in the Cilento National Park. Thirty years later the 80's earthquake, built environments' transformations are linked both to the lack of technical knowledge and to a misuse of public funding for reconstructing. The paper testifies the effort to reverse a trend aiming to erase the constructive identity of landscapes. Acquiring and disseminating architectural and technological knowledge opens the path to development scenarios, arising from the sharing of context-aware protective micro actions.

Keywords: protection, technology, landscape

CONDIVIDERE LE CONOSCENZE PER PROMUOVERE LA TUTELA ATTIVA. CASO STUDIO: SASSANO, PARCO NAZIONALE DEL CILENTO E VALLO DI DIANO

Sommario

Il contributo affronta la questione delle strategie per la protezione del patrimonio costruito, creando condizioni di sinergia progettuale tra cittadini, utenti e amministratori. La condivisione del sapere costruttivo sedimentato è un prerequisito per affrontare la vulnerabilità degli insediamenti. La ricerca assume come caso di studio il paesaggio storico urbano di Sassano, nel Parco Nazionale del Cilento. Trent'anni dopo terremoto degli anni '80, le trasformazioni dell'ambiente costruito vengono ricondotte alla perdita dei saperi e ad un improprio utilizzo dei finanziamenti nella ricostruzione. Il contributo testimonia lo sforzo di invertire una tendenza che mira a cancellare l'identità costruttiva dei paesaggi. Acquisire e diffondere una conoscenza architettonica e tecnologica apre la via a nuove opportunità di sviluppo, nella condivisione in un sistema di micro azioni di protezione.

Parole chiave: tutela, tecnologia, paesaggio

1. Introduction

Before the widespread of a scientific approach to the study of building materials and properties, the concept of constructive quality was tied to technical principles and procedures shared by the whole community (Di Pasquale, 1996). In Western societies, the "rule of the art" was the bridge between users, designers and constructors (Galliani, 2002). Keeping a tight relationship with the hosting community, characters of uniformity and consistency, locally, connoted design choices (Caterina and Gangemi, 1991). Since the nineteenth century, the advent of new scientific foundations for building technologies creates a gap between designer's work the and "masons' magisterium". Practices undergo a radical evolution both in terms of final performances and users' involvement (Di Battista, 2006). Traces of this cultural transformation are deeply testified by built landscapes: especially the internal areas are the result of pressures and interactions of materials, techniques and knowledge (Gurrieri, 2011). In the contemporary scenario of turbulent cultural and societal change, the architectural technology is asked to contribute to built landscapes' prosperity, acting on users' awareness and commitment (UN- Habitat, 2012).

According to this need, the Laboratory of Recovery and Maintenance at the University of Naples Federico II (L.R.R.M.) is working for the foreshadowing of a knowledge model of the built environment developed to design its recovery. In recent years, the scientific effort went aligning with the indications of the Historic urban landscape Recommendation (UNESCO, 2011). Several experiences have been launched with the aim to broaden the scope of investigation to the challenges imposed, on the built, by the imbalance between public and private, taking into account neglect and abandonment. Extensive studies have been directed toward the understanding of the constructive conception, and the sharing of technological knowledge with citizens, technicians and local administrators according to processes similar to those completed in the past.

In this direction, the L.R.R.M. Lab has been working on knowledge methods and sharing procedures for the Municipality of Sassano, within the project *CilentoLabScape: an integrated model for the activation of a Living Lab in the National Park of Cilento and Vallo di Diano Alburnums*, FARO Program – Funding for Start the Original Research, 2012-2014. The team focused its efforts on ancient settlements' vulnerability, taking into account changes occurred in the technological culture among local workers and building contractors over the last thirty years. As part of the *Cilento Living Lab*, the search experience aimed at defining design strategies to counter the processes of identity loss affecting historic urban landscape, due to a progressive decrease in the ability to interact with the built, and to understand the logic that substantiates choices in the design of constructive elements.

2. Sedimented identities and transition processes

An intense scientific work has been carried out, starting from the 70s in Italy, for the protection of small settlements (Caterina, 1989). Despite the variety of materials, technical solutions, morphologies, uniqueness is the character that connotes them. Resulting from the combined action of natural and human factors in a constant dynamic interaction, the constructive choices taken in these villages, constitute distinguishing features to the landscape. Fielding cultural and operational approaches, several researchers have long worked for the recognition of documentary values, and the affirmation of the collective utility of ancient landscapes (Musso and Franco, 2006). The small settlements are now

acknowledged not only as the product of political, economic and social vicissitudes, but they are recognized as the result of a constant commitment in developing a constructive culture rooted in the territory (Galliani, 1984).
Forty years after the debates promoted by the Ancsa (Gabrielli, 1993), small settlements, especially those of the internal areas, return, today in the programming of EU fund's axis 2014-2020. The definition of "internal areas" contained within the Italian document *Metodi e obiettivi per un uso efficace dei fondi comunitari 2014-2020* «[...] away from centres of agglomeration and service and development trajectories unstable but at the same time equipped with resources that are lacking the central areas, wrinkled with demographic problems but at the same time strongly polycentric and with high potential to attract [...]» (Ministero della Coesione Territoriale, 2012, p. 12). These areas represent true excellences, whose natural and cultural value is not reproducible, because it belongs only to those "places". Recomposing a material culture dangerously compromised by globalization is the commitment with which the scientific community can address today the issue of the built landscape of the internal areas. Basing on the scientific skills already acquired, to promote their identity means to approach under multifocal and multidisciplinary perspectives, the consequences induced by trans-formative processes.
In the awareness of the historical, architectural and urban differences, the principle of gradual growth, connotes all the processes of technological transition for built environments over the past (Grin *et al*., 2010). The evolution of constructive systems and logics has always been a long-term process, entailing markets, user practices, cultural discourses, and policies (Geels and Schot, 2007). The geographical characteristics, climatic conditions, the nature of the territory are the recurring parameters of settlement choices. Over the centuries, thanks to the continuity of materials and techniques for laying, building activity is as a work of continuous expansion and rejoining, "repeating what had already been said" (Benvenuto, 1984). Transformations are intended to complete, reconstruct, expand the existing, meeting users' changing needs (Di Battista, 1990). The activities of modification do not alter the primary idea which allowed the manufacturer to rule materials, overcoming their natural tendency to fall, putting up resistance to the forces of gravity. A predominantly incremental character has always connoted socio technical transitions in terms of built settlements (Markard *et al*., 2012). The reinterpretation of constructive solutions testifies the persistence of material and technical procedures for each element to the building. Skilled workers show the search of formal virtuosity not only for those elements with decorative attitudes. In a technological continuity, buildings affect landscape with a chorality of solutions for walls, roofs, openings, frames, finishes.
During the '900, new technologies distort the growth dynamics of settlements: inserting extraneous performances, they impact on landscape's relationships and characters. Significant role in the transformation processes is played by the overlap between extraneous constructive logics (Nevens and Frantzeskaki, 2013). The most impressive is undoubtedly the interaction between load-bearing masonry and reinforced concrete elements. This trend undergoes a worsening in virtue of the management approach to the built adopted in more recent years, based on corrective actions taken to episodic damages. Due to these technological transformations, buildings once, harmoniously inserted in the landscape textures suddenly lose their main characters of quality and authenticity. Technologies, that always witnessed the communities' identity, contribute to producing the main failures in landscape.

Over the past few decades, the legislation governing the operation on built heritage contributes to overturn the original principle of progressive growth. In this regard, the law n. 219 of 14 May 1981 is emblematic to the internal areas affected by the earthquake of Irpinia (Conversion into law, with amendments, of Decree-Law of 19 March 1981 n. 75 laying down additional measures in favor of populations affected by the event's earthquake of November 1980 and February 1981. Organic measures for the reconstruction and development of the affected areas. OJ 134 of 05.18.1981 – Ordinary Suppl.).
It assigned to the owners of homes damaged, destroyed or to demolish, a contribution equal to the entire cost required for reconstruction, with the possibility of increasing the living area if this had been inadequate for the needs of the household. The law gave the opportunity to the persons entitled to use this contribution for the purchase of another property within the same province, transferring ownership of the damaged building to the City. The law encouraged a gradual transfer of population to new settlements, with the emptying of the historical centres, many of which still today are in a state of neglect. Even for repairing the damaged buildings, the law gave a sum equal to the cost of the works, reserving, however, to evaluate the "cost-effectiveness" of such action, which, if too expensive, would have been converted into demolition and reconstruction. Many buildings in the small settlements of the internal areas, without constructive relevance, undergo transformations pursuant to Law no. 219. The legislation promotes a set of operations carried out on elements such as masonry, roofs or frames, which deny the overall quality of a past built harmoniously inserted in the landscape. The poor quality of materials and techniques is a key factor in the loss of qualities: it causes the distortion of elements' performances, with few improvements in case of earthquake.

3. Case study: the municipality of Sassano

The study area is the territory of Cilento and the network of municipalities in the interior, which has notable features of merit and excellence. The quality of the built are offset by a systematic social and environmental decline. It is reflected in a steady drop in demographic, a little innovative production environment, and a limited tourist attractiveness (Caterina, 2009). The built landscape of small municipalities underwent over the past 40 years, profound changes, very obvious not only to the urban scale, but even under a constructive perspective (Pinto, 2009).
If the 1980 earthquake did not cause extensive damages to structures, very devastating was the subsequent reconstruction carried out with funding from the Law 219/81. A radical transformation of the built structures and finishes is realized, with direct relapses on landscape characters and performances. Structural actions become often, the main causes of unforeseen failures and degradations, involving textures and the continuity of profiles. Their observation has been assumed as a privileged opportunity to take into account technological transformations, put in place over the last twenty years in terms of technical solutions, materials and procedures. In the face of an intense commitment to recovery, the municipalities of Cilento show a widespread loss of quality, which manifests itself both in the state of traditional built, often distorted by improper handling, both in the quality of life. Assuming the small municipality of Sassano (Fig. 1) as case study, the building changes were examined in relation to their ability to induce a loss of construction identity. Policies and technologies of reconstruction after the earthquake, in Sassano, constitutes the starting point for an extensive data selection and acquisition on the residential sector.

Fig. 1 – Sassano

Photo: Paolo Biancamano

The ISTAT census of 2001 showed the presence of 2,314 homes, of which 81, or 8% populated habitable; 18.8% (420) of the houses are not inhabited, unusable or unsafe. The Tab .1 shows the location of housing.

Tab. 1 – Localisation

Place	Altitude	Centre / nucleus	Housing
Sassano	491	Centre	1,037
Caiazzano	457	Fraction	196
Silla	456	Fraction	276
Varco Notar Ercole	460	Fraction	371
Bagno	465	Inhabited nucleus	33
Fontanelle	470	Inhabited nucleus	27
Molinella	453	Inhabited nucleus	16
Ponte Cappuccini	455	Inhabited nucleus	46
Santa Maria	470	Inhabited nucleus	60
Vigne	458	Inhabited nucleus	47
Individual houses			205

Source: ISTAT (2001)

Data highlight that the city center has 1,037 homes, compared with a resident population of less than 1,700 inhabitants (Tab. 1). In percentage terms, there is a strong discrepancy between homes and nonmigratory population: 34% of the population resides where there are 45% of the total built heritage. The historical evolution of the buildings (drawn in the *Explanatory Report and Strategy Document of the Comune di Sassano PUC*) points out that the settlement structure within the municipal area has been established by the first post-war until 1989. After this phase, the development has slowed down. The evolution analysis for built environment, shows a settlement tendency to locate new dwellings in the valley, resulting in the continued urbanization of agricultural areas. Data were collected at the provincial offices of Civil Engineers and Municipal Technical Office of Sassano. Some details have been suggested by building contractors operating on the territory (Tab. 2):

- *Provincial Bureau of Civil Engineering, Salerno,* through the consultation the structural transformations carried out in Sassano were taken into consideration. Particular attention was paid to the two decades between 1982 and 2002, due to the urban transformation produced. Most of the building work consisted of new construction, demolition and reconstruction or renovation. This has been made possible, and indeed encouraged, by the law for the reconstruction of the earthquake Campania, which assigned a contribution reduced by 20% in the case of restoration and a full contribution in case of demolition and reconstruction. A more accurate analysis of the restoration work has been carried out in order to identify the types of intervention. The most common operations are: the renovation of existing wood floors in reinforced concrete, the reinforcement of masonry walls, curbs, re-roofing. These interventions were guided by the belief that the seismic strengthening of the building could be secured only through a change in its static operation, to assimilate as much as possible to that of a reinforced concrete building. The Provincial Bureau of Civil Engineering, allowed us to see 13 building projects with replacement of structural elements.
- *Municipal Technical Office of Sassano (SA),* in the archives six projects were analyzed. The examination was conducted on the most significant ones, which relate to the consolidation and replacement of structural elements for historic buildings located inside the settlement, made with the contributions of the Law 219/81.
- *Building contractors*, reliefs of the techniques used during operations financed with the 219/81 have been taken into consideration. The photographic surveys were required for access to finance during the state of progress of the work.

Tab. 2 – Observed design documents

Interventions 1982-2002	**Number (308) and typology**
Actions	Consolidation with replacement of structural elements (23%)
	Renovation (significant expansion of volumes, substantial transformation of the building, etc.) (21%)
	Demolition and reconstruction (21%)
	Completion (1%)
	New construction (33%)
Building contractors	83
Designers	26
Localization of interventions	Residential area (32%)
	Fractions (24%)
	Rural areas (39%)
	Other areas (5%)

Source: Provincial Bureau of Civil Engineering, Salerno

In the archives of the civil engineering, nineteen projects were examined. They are drawn from seven different designers. Eight construction companies worked. Fourteen projects are

accompanied by construction details that would seem to be reproduced from the same source. The survey of the buildings involved in the consolidation contributed to the reconstruction of the activities carried out. The comparison of project documentation and status of places testifies that the following works have been performed:

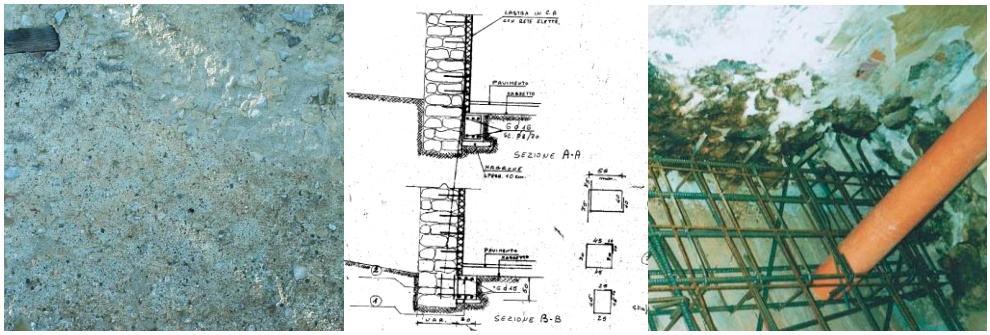
- Masonry foundation (Fig. 2)
  - inserting underpinnings of reinforced concrete around the perimeter of the walls with hooks in the wall and anchor bolts drowned in concrete (12 of 19);
  - replacing the hornet's nest with foundations, in reinforced concrete (3 of 19);
  - no intervention in foundation (4 of 19).
- Masonry (Fig. 3, Fig. 4)
  - reinforced plaster (internal and external) with wire mesh φ 6 with thickness from 3 to 4 cm (14 out of 19);
  - internal partition wall reinforced with wire mesh φ 6-8 with a thickness of 5 to 10 cm with hooks to the existing masonry anchors through injections and armed (4 of 9);
  - injections of blended cement (14 of 19);
  - reinforcements with another material, mainly bricks (2 of 9);
  - no intervention on partitions (1 of 9);
  - replacing of the architraves (wood or stone) of doors and windows with reinforced concrete elements (14 of 19);
  - replacing of the architraves (wood or stone) of doors and windows with steel elements (2 of 19);
  - no intervention on architraves (3 of 19).
- Floors (Fig. 5)
  - replacement of wooden floors with reinforced concrete floors (19 of 19);
  - reinforcement of the wooden floors with steel beams IPE (1 of 19).
- Roofs (Fig. 6)
  - replacing the wooden shell with reinforced concrete slabs (12 of 19);
  - replacing the wooden shell with reinforced concrete curbs (7 of 19).

The descriptions illustrate the measures identified within the analyzed projects. Tables show the construction details, original solutions, the photos of the intervention achieved or in progress, a brief description of the materials used and their compatibility with traditional ones.

4. Discussion: critical issues and future developments

In marking the history of our civilization, the evolution of techniques could be assumed as one of the primary elements of mediation between society and culture, between knowledge and spaces, local economies and vocations. Cultural continuity for centuries connotes the constructive choices made in Sassano, as in many other small settlements. Despite the diversity of specific compositions and distributions of space, resident communities and in particular, those involved with building activities, are the repositories of local identity. Knowledge, in its constructive dimension, resides in communities, and it is generated through collective relationships (Maaninen-Olsson e*t al*., 2008).

Fig. 2 – Prevailing interventions: foundations



a) Original solution *b) Post earthquake - design* *c) Post earthquake - design*

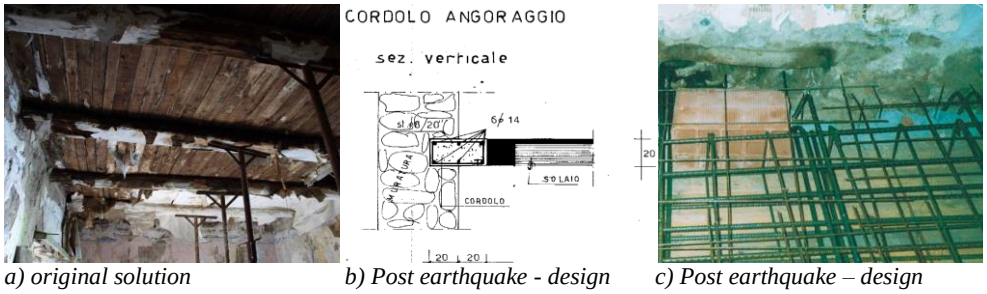
Photos and drawing: Paolo Biancamano

Fig. 3 – Prevailing interventions: masonry

a) original solution *b) Post earthquake - design*

Photos: Paolo Biancamano

Fig. 4 – Prevailing interventions: floors



a) original solution *b) Post earthquake - design* *c) Post earthquake – design*

Photos and drawing: Paolo Biancamano

Fig. 5 – Prevailing interventions: architraves

a) Original solution *b) Post earthquake - design*

Photos: Paolo Biancamano

Fig. 6 – Prevailing interventions: roofs

a) Original solution *b) Post earthquake - design*

c) Original solution *d) Post earthquake - design*

Photos: Paolo Biancamano

Over the past four decades, the architectural technology witnessed a profound change in the channels of research and dissemination for the built. The case of the municipality of Sassano is emblematic: its urban landscape has been affected by radical changes, linked all in all, to the advent of new materials and technologies. The examination of the solutions used in the post-earthquake interventions, brings to light the cultural evolution of the settled community. The following problems arise:

- adding new volumes and superstructures;
- replacing the traditional elements of exterior finish;
- changing the structural design of buildings;
- loosing knowledge about traditional techniques.

Data on the housing stock showed a strong depopulation of the historic part of the town (45% of the built houses 34% of the population) and a constant population of the valley (with further land consumption). In light of these considerations, it is possible to draw a negative balance of the funding policies of the law 219/81, which did not cause noticeable effects, nor social, nor on the level of quality of place and identity. The benefits on structural safety are not easy to interpret, the actions supported and implemented in the study area were also carried out in other territories in Italy. In particular, the earthquakes in Umbria and L'Aquila have been a testing ground for saying that sometimes the consolidation does not produce the desired effect, causing in some cases, even the worsening of the structural design. The difficulty of transferring devoted knowledge to the "non-technical" stakeholder, emerges from this framework. Within the evolutionary dynamics of small settlements, however, designers, construction companies and institutions become the bearers of a lack of perception about landscape qualities.

In light of these analyses, central issue for the future of small settlements becomes the fore showing of protection strategies involving an aware resident community. Forty years after the debates on the historical centers, active protection is a shared, incremental process that has no more reason to exist in large loans disbursed from above, but in micro actions directly operated by a context-aware community. Active protection is a strategy that connects "knowing with doing", moving from the recognition of the physical, social and economic determinants of settlement patterns. It consists in assisting the community towards a slow technological transition, context aware about the material culture, with the orientation and harmonization support of scientific experts.

Recognizing the participation and negotiation of choices a key role in overcoming internal imbalances and avoiding any risk of globalization, active protection imposes the critical prediction of the costs due to a loss of identity. Forecasting impacts is a 'hinge' between the detection of users' needs and technical solutions. Instance priority becomes the understanding of the relationship between material culture, technology, and attractiveness of sites, in terms of ability to generate growth. Acknowledging the untapped potentials of existing buildings as new driving forces for economies, an active approach to protection links the necessity of ensuring the conservation of resources with the urgency of awaken internal areas. Creating a sense of ownership, sharing responsibilities are the conditions for promoting a reactivation of local circuits.

Based on this vision, architectural technology is involved in redirecting the development and growth of ancient settlement, to return quality and authenticity to landscapes. Through a process of understanding, experts, building contractors working on the territory, administrators, could be accompanied to the re-composition of conflict-induced

destabilizing forces. Sharing knowledge on sedimented identities is supposed to become the flywheel to address the imbalance between public commitments and private roles, counteracting the disappearance of crafts and local traditions. The formation of an extensive network of small and medium-sized artisan enterprises able of managing the slow technological transition towards sustainability could be therefore assumed as one of the main areas of work for a technological culture aimed at the activation of positive processes in internal areas, overcoming negative impacts related to landscaping failures.

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IL RECUPERO EDILIZIO NELL'APPROCCIO DEL PAESAGGIO STORICO URBANO. GLI STRUMENTI PER CONDIVIDERE LE REGOLE

Anna Onesti

Sommario

La qualità del paesaggio è una risorsa e il recupero del patrimonio storico è un'attività in grado di sollecitare lo sviluppo. La condivisione di queste premesse con la comunità locale è indispensabile alla tutela del paesaggio storico urbano. L'articolo parte dall'osservazione di un comune del Parco Nazionale del Cilento e Vallo di Diano e delle trasformazioni per la messa in sicurezza del costruito dopo il sisma del 1980. Introduce quindi una strategia, fondata sull'approccio UNESCO e sull'esperienza dei Living Lab, per condividere con cittadini, istituzioni e tecnici le "regole", ossia criteri tecnici e procedure, per adeguare ai nuovi bisogni il patrimonio storico tutelando la concezione strutturale e i fattori identitari del paesaggio storico urbano. Le comunità locali diventano così parte attiva e responsabile nel contrastare la perdita di identità, attivando processi di sviluppo sostenibile.

Parole chiave: recupero, paesaggio storico urbano, Living Lab

BUILDING RECOVERY IN HISTORIC URBAN LANDSCAPE APPROACH. TOOLS FOR SHARING RULES

Abstract

Landscape quality is a resource and recovery of cultural heritage is an activity that can foster development. Sharing this premises with local communities is essential to the protection of historic urban landscape. The paper starts from the observation of a small town of Cilento and Vallo di Diano National Park and of the transformations due to the anti-seismic works after the 1980 earthquake. It introduces a strategy, based on the UNESCO approach and the experience of Living Labs, to share the rules, i.e. criteria and technical procedures, with citizens, institutions and technicians, in order to adapt historical heritage to new needs, while preserving structural conception and identity factors of historic urban landscape. Local communities become active and responsible part in protecting landscape and counteracting the loss of identity, enabling sustainable development processes.

Keywords: recovery, historic urban landscape, Living Lab

1. Introduzione

La qualità del paesaggio è una risorsa per lo sviluppo sostenibile del territorio. L'analisi di pratiche virtuose sviluppate negli ultimi anni dimostra che, laddove le comunità insediate condividono questo principio, il territorio ha una maggiore capace di calamitare investimenti economici, stimolando la localizzazione di nuove attività. Un paesaggio bello diventa un fattore trainante dell'economia (Greffe, 2005), se la comunità percepisce questo valore e si attiva per tutelarlo. In una dinamica circolare, la bellezza del paesaggio accresce a sua volta il sentimento di appartenenza, il senso di comunità (Fusco Girard, 2004) e incentiva la continuità dei processi di manutenzione, che deriva dal riconoscimento del paesaggio come bene comune.

Diversi sono i centri di piccole e medie dimensioni che hanno avviato processi di rigenerazione dell'economia locale puntando sul rinnovamento dei legami sociali della comunità per la valorizzazione delle risorse e dell'identità locali. Alcune di queste sono riconducibili, ad esempio, alla rete delle *Città Slow* (Città Slow, 2013), nata nel 1998 con l'obiettivo di valorizzare i luoghi del buon vivere e, in Italia, all'*Associazione dei Comuni Virtuosi* (Associazione dei Comuni Virtuosi, 2014a), tra cui spicca il comune di Corchiano (Associazione dei Comuni Virtuosi, 2014b; Martini, 2011, 2013).

Nel promuovere nuove forme di sviluppo legate alla qualità del paesaggio, il recupero edilizio svolge un ruolo fondamentale perché, «riducendo l'obsolescenza nelle sue diverse forme (fisica, funzionale, posizionale, ambientale ed economica), costituisce capacità di attrazione/valorizzazione dei "luoghi", della loro identità e diversità, producendo nuovi valori che combinano antico e nuovo e sono rigeneratori di senso/significato» (Fusco Girard, 2007, p. 151).

La consapevolezza, da parte della comunità, che la qualità del paesaggio è una risorsa e il recupero un'attività in grado di incentivare lo sviluppo diventa indispensabile alla tutela del paesaggio storico urbano, soprattutto in un momento storico in cui sono le micro-azioni diffuse più che le grandi opere a trasformare il territorio.

Il paper affronta la questione della creazione di consapevolezza, riflettendo sulle strategie per la condivisione dell'approccio UNESCO alla tutela del paesaggio storico urbano e soffermandosi sulla concezione strutturale come fattore identitario prioritario.

Nella pratica corrente, i criteri di intervento sul costruito hanno seguito logiche diverse, come si osserva nelle trasformazioni che hanno interessato il caso studio del comune di Sassano, nel Parco Nazionale del Cilento e Vallo di Diano, oggetto del presente articolo.

Le qualità del paesaggio storico urbano sono state erose da interventi impropri, che hanno modificato la concezione strutturale, malgrado fossero mossi proprio dalla necessità di prevenire gli eventi sismici, e da micro-azioni diffuse, spesso incontrollate, spinte dalla necessità di adeguare le prestazioni degli edifici.

Nei piccoli centri, in particolare, si interviene sul costruito attraverso micro-azioni poco controllabili, per lo più realizzate in economia, senza il supporto dei tecnici, che incidono sul paesaggio, alterandone i fattori identitari . Il risultato è che il costruito tradizionale versa in condizioni di degrado, i luoghi urbani hanno perso significato e la popolazione si è progressivamente spostata verso le frazioni nuove, con una cospicua perdita di valori economici, sociali e culturali delle aree storiche (Onesti, 2013).

Da una prima analisi emerge con forza come finora sia mancata la condivisione delle "regole", intese quali criteri di tutela seguiti dagli organi istituzionali nel controllo delle trasformazioni del paesaggio (Franco, 2013), il cui potere discrezionale è spesso percepito

dalle comunità come un ostacolo al soddisfacimento dei propri bisogni (Onesti, 2013).
La partecipazione delle comunità è oggi un elemento chiave nella condivisione delle regole, come evidenziato nelle Raccomandazioni UNESCO, che suggeriscono di puntare su questo aspetto per redigere nuovi strumenti per la conservazione degli insediamenti storici (UNESCO, 2011).
Per superare le criticità riscontrate, il paper, che descrive una ricerca *in progress*, propone di costruire nuove regole per il recupero adottando l'approccio del paesaggio storico urbano dell'UNESCO e gli strumenti del Living Lab, secondo una dinamica *bottom-up*, fondata sull'interazione dell'*expertise* con la comunità locale in riferimento a micro-azioni locali. In questo modo si cerca di raggiungere due risultati: costruire regole incentrate sulle specificità locali e garantirne, attraverso la condivisione, l'osservazione e la diffusione.
In questa ricerca, è cruciale il ruolo della tecnologia, che accompagna i processi di recupero suggerendo soluzioni, confrontando esigenze e prestazioni (Caterina, 1989) e mettendo in luce le potenzialità d'uso del costruito (Pinto, 2004), in una visione sistemica e complessa che vede i processi di recupero intrecciarsi con i processi di gestione del paesaggio.
Il dibattito sulla trasformabilità del patrimonio storico e sull'integrazione del nuovo nel paesaggio è ancora aperto e la ricerca della giusta scelta tra conservazione e trasformazione, da valutare "caso per caso", è sempre più il nodo centrale del recupero (Viola, 2012), che oggi non può prescindere dal confronto con le comunità locali.

2. Il recupero del patrimonio storico urbano

Le Raccomandazioni UNESCO sul Paesaggio Storico Urbano del 2011 restituiscono una nuova centralità alla conservazione del patrimonio urbano, interpretandola come «strategia per raggiungere l'equilibrio tra crescita urbana e qualità della vita su base sostenibile» (UNESCO, 2011, art. 3).
L'indirizzo dettato dalle Raccomandazioni è di integrare i criteri di conservazione del patrimonio all'interno dei più ampi obiettivi di sviluppo sostenibile, adottando un nuovo approccio che inquadri le aree storiche all'interno dei loro più vasti contesti urbani.
L'approccio del paesaggio storico urbano, che integra conservazione e sviluppo, patrimonio storico e qualità di vita, passato e futuro, introduce il "principio di relazionalità" considerando prioritaria l'attenzione alle interrelazioni, ai collegamenti e alle connessioni sia tra elementi fisici che tra valori (Fusco Girard, 2013).
L'interrelazione tra forme fisiche, organizzazioni e connessioni spaziali, caratteristiche naturali ed ambientazione, valori sociali, culturali ed economici, restituiti in una visione unitaria è dunque l'elemento centrale dell'approccio UNESCO per definire linee di tutela del paesaggio storico urbano.
La stessa attenzione alle relazioni già da anni informa l'approccio al patrimonio storico della tecnologia del recupero, soprattutto quando si focalizza l'attenzione sugli aspetti strutturali. Le relazioni dinamiche tra materiali, struttura, forma e valori dell'edificio state al centro degli studi che hanno approfondito gli aspetti del sistema resistente. Nel costruito storico tutti gli elementi tecnici partecipano in modo diverso all'equilibrio della struttura, in virtù delle soluzioni costruttive, dei materiali, del dimensionamento. Secondo quest'approccio la concezione strutturale è «l'idea guida secondo cui è articolato il sistema strutturale nel suo insieme e negli elementi componenti, organicamente e gerarchicamente» (Galliani, 1987, p. 785).
Il recupero impone la permanenza della concezione strutturale, non solo attraverso il

ripristino delle strutture esistenti ma anche con l'inserimento di nuovi elementi portanti, che non devono contraddire la logica originaria del sistema resistente (Galliani, 1987).
Questa concezione, maturata per il singolo edificio, è stata trasposta al sistema insediativo e adottata per ricomporre all'interno di un quadro unitario l'insieme di fattori, condizioni e modi che hanno consentito alle comunità locali di dominare la materia dando forma ai sistemi insediativi tradizionali.
Come nel caso dell'edificio, il sistema strutturale dell'aggregato si assimila ad un organismo più che ad un meccanismo: il singolo elemento non può essere studiato come un "ingranaggio", isolandolo, ma deve essere interrelato agli altri e all'insieme secondo una logica da riconoscere localmente, caso per caso.
Per tutelare il singolo edificio, garantendo livelli sufficienti di sicurezza sismica, occorre tutelare l'insieme, verificando il comportamento strutturale del complesso.
Ampliando tali considerazioni all'insediamento si comprende come, in coerenza con l'approccio UNESCO, per la tutela del paesaggio storico urbano sia indispensabile la salvaguardia della concezione strutturale dei singoli edifici e degli aggregati.
Tuttavia la permanenza della concezione strutturale rimane ancora oggi una pratica disattesa dalla maggior parte degli interventi di messa in sicurezza del costruito.
Gli studi sulle tecniche costruttive antiche e la riscoperta delle soluzioni elementari di prevenzione sismica (Di Pasquale, 2001), le sperimentazioni dei gruppi di lavoro coordinato da Antonino Giuffré (1993), unitamente agli esiti del disastroso terremoto dell'Umbria del 1997, hanno portato ad una maggiore fiducia nelle potenzialità di resistenza al sisma delle tecniche costruttive premoderne e la riappropriazione delle tecniche di consolidamento più leggere, spesso derivate dalla rilettura dei manuali antichi (Gurrieri, 2001).
Sulla base di queste considerazioni, non si possono stabilire, come in passato, soluzioni e criteri d'intervento generalmente validi, se non per linee generali; le regole d'intervento dovrebbero, più correttamente, essere stabilite a livello locale e legate alle specificità delle tecniche costruttive e dei materiali locali ed alla vulnerabilità del sito.
La mancanza di strumenti adeguati a garantire la protezione a lungo termine dei valori urbani è segnalata nella *Relazione preliminare* della Raccomandazione UNESCO, in cui si sottolinea che, malgrado molti Paesi abbiano stabilito leggi e regolamenti adeguati alla tutela delle aree urbane del centro storico, costruendo un apparato di regole a disposizione dei professionisti della conservazione, esiste un profondo tra i principi sviluppati e le realtà concrete.
Lo sviluppo di nuovi principi, nuovi approcci e nuovi strumenti per fronteggiare le sfide della conservazione, auspicato nella relazione preliminare, è ripreso nella parte della raccomandazione relativa agli strumenti che, viene sottolineato, devono essere sviluppati coinvolgendo gli stakeholder e facilitando la mediazione e la negoziazione tra interessi e gruppi in conflitto (UNESCO, 2011, art. 24).
Il Consiglio Superiore dei Lavori Pubblici, attraverso una Commissione istituita per studiare in maniera specifica gli aspetti strutturali negli insediamenti storici, ha recepito l'approccio UNESCO alla conservazione, come si evince dallo *Studio propedeutico all'elaborazione di strumenti d'indirizzo per l'applicazione della normativa sismica agli insediamenti storici* (Consiglio Superiore Lavori Pubblici, 2012).
Anticipare gli effetti di un possibile evento sismico significa, infatti, «evitare il danno ambientale (paesaggistico), culturale (perdita di beni storico-architettonici) e sociale

(perdita di valori identitari), derivante dal danneggiamento irreversibile dei manufatti componenti, dei tessuti e delle morfologie urbane, oltre che garantire la vita delle persone che vivono e frequentano per vari motivi l'insediamento storico» (Consiglio Superiore Lavori Pubblici, 2012, p. 15).

3. Verso la condivisione delle regole: esperienze di partecipazione

Lo sviluppo di politiche e strategie di conservazione che implicano la stretta partecipazione delle comunità locali è esplicitamente sollecitato dall'UNESCO, e prima ancora dalla Convenzione Europea del Paesaggio (Consiglio d'Europa, 2000) considerando che le tradizioni, le discipline e le pratiche in materia, quali aspetti dell'identità locale, sono parte integrante del paesaggio storico urbano (UNESCO, 2011).

La partecipazione dei cittadini ai processi decisionali è un processo virtuoso che stimola la creatività della comunità e innesca dinamiche circolari di cooperazione, contribuendo a rinforzare la sua resilienza (Fusco Girard, 2013).

I processi di democrazia partecipativa riavvicinano le comunità al paesaggio, stimolando la rigenerazione delle relazioni sociali e la riappropriazione dei beni comuni e dell'identità (Magnaghi, 2012).

Un elemento di novità introdotto dalla Raccomandazione UNESCO è la costruzione di capacità (*capacity building*) che auspica il coinvolgimento degli stakeholder nella comprensione dell'approccio del paesaggio storico, allo scopo di definire a livello locale le strategie e gli obiettivi, le cornici d'azione e gli schemi di mobilitazione delle risorse (UNESCO, 2011, art. 25).

L'adozione di tale criterio nel settore del recupero edilizio si prospetta come una possibilità per superare il divario riscontrato tra le regole, disattese negli interventi più diffusi, e la pratica.

Il paesaggio storico urbano, riconosciuto come "bene comune", rappresenta anche per il recupero del patrimonio storico, «un modello innovativo e intelligente di sviluppo locale, basato su tre principali forme di economia: l'economia della conoscenza, l'economia della conservazione del patrimonio culturale e l'economia civile» (Cerreta e Malangone, 2013, p. 2).

Diverse sono state, negli ultimi anni, le esperienze di partecipazione finalizzate al coinvolgimento delle comunità e dei portatori di interessi nei processi decisionali relativi sia alla gestione dei paesaggi che ad altri ambiti disciplinari (Bobbio, 2004).

L'approccio metodologico della ricerca si confronta, in particolare, con alcune sperimentazioni, i cui esiti vengono assunti come riferimento da trasferire nella specificità del settore disciplinare del recupero: dalle esperienze spontanee dei Patrimoni di Comunità a quelle, regolamentate dalla Convenzione Europea del Paesaggio, degli Osservatori del Paesaggio fino all'istituzionalizzazione della rete europea dei Living Lab.

Le procedure ed i modelli innovativi della individuazione e valutazione dei Patrimoni di Comunità dell'IUCN (International Union for Conservation of Nature), contrastano la tendenza dominate nell'ultimo secolo di considerare le persone e la natura come entità distinte, tanto da proibire alle comunità locali l'uso stesso delle risorse del proprio patrimonio. Ribaltando questo approccio, l'IUCN ed i Patrimoni di Comunità esplorano approcci e modelli che vedono la conservazione del paesaggio pienamente compatibile con le comunità umane che lo hanno generato.

L'esperienza dei Patrimoni di Comunità, denominati ICCAs (Indigenous Peoples' and

Community Conserved Territories and Areas), riguarda gli «ecosistemi naturali o modificati dall'azione umana, che comprendono una biodiversità di rilievo e mantengono importanti funzioni ecologiche ed associati valori culturali, conservati in modo volontario da popoli indigeni o comunità locali attraverso norme consuetudinarie o altre modalità efficaci» (Borrini-Feyerabend, 2005, p. 10).
Il legame storico inscindibile tra comunità e territorio fa sì che la comunità sia responsabile delle scelte relative al territorio e, quindi, sia l'artefice, spesso inconsapevole, della conservazione della biodiversità e dei valori.
In Italia i Patrimoni di Comunità sono complessi territoriali, forestali e agricoli, come il Bosco della Partecipanza di Trino, la Valle d'Ampezzo, il territorio della Partecipanza Agraria di Nonantola, appartenenti a comunità locali che li gestiscono secondo usanze tradizionali (Bassi, 2012).
La relazione tra comunità e paesaggio, che raggiunge livelli unici di simbiosi in queste esperienze, realizza da secoli una gestione partecipata del paesaggio, governata da regole antiche e condivise, e finalizzata ad uno sviluppo sostenibile *ante litteram*.
L'attività dell'IUCN consiste nel sostenere i Patrimoni di Comunità, dando forza e garantendo la specificità delle loro modalità di gestione, fondate sull'autogoverno.
Questo modello spontaneo, che si tramanda di generazione in generazione, è esemplare per la partecipazione e la condivisione delle regole e può essere trasferito in contesti più ordinari, facendo leva sugli elementi di forza della comunità: la coesione, l'orgoglio di appartenenza, la condivisione dei valori identitari.
Significative nella ricerca di forme di partecipazione delle comunità ai processi di gestione dei paesaggi sono, inoltre, le attività degli Osservatori per il Paesaggio, sorti dopo l'adozione della Convenzione Europea con funzione di integrazione e coordinamento tra i diversi soggetti coinvolti.
L'attenzione alla partecipazione delle popolazioni locali muove dalla definizione di paesaggio della Convenzione Europea, «una determinata parte di territorio, così come è percepita dalle popolazioni, il cui carattere deriva dall'azione di fattori naturali e/o umani e dalle loro interrelazioni», che comprende il territorio nella sua totalità, includendo «sia i paesaggi che possono essere considerati eccezionali, che i paesaggi della vita quotidiana e degradati» (Convenzione Europea del Paesaggio, 2000, art. 1, comma a).
Nella definizione di paesaggio del Codice dei Beni Culturali, che riprende l'enunciato della Convenzione Europea, è rimasta esclusa la frase «così come è percepita dalle popolazioni» e la valutazione della qualità paesaggistica è rimasta delegata esclusivamente alle competenze esperte sulla base di criteri discrezionali (Organismi periferici del Ministero per i Beni Culturali e Paesaggistici ed Enti locali).
Attraverso le attività messe in campo a livello locale, gli Osservatori cercano di ribaltare questa visione, riassegnando alle popolazioni locali un ruolo di responsabilità nella gestione del paesaggio.
In particolare, alcuni osservatori (Di Battista, 2012) hanno messo in atto una serie di iniziative per sperimentare un approccio multidisciplinare al paesaggio, tra cui risaltano le azioni rivolte a leggere la percezione degli scenari e il gradimento della popolazione locale, ritenute necessarie al coinvolgimento della popolazione nelle scelte decisionali.
Ampliando verso altri settori la ricerca di esperienze di riferimento in tema di partecipazione, il riferimento di maggiore peso è costituito dai Living Lab, definiti dalla rete europea ENoLL (2013a) quali «ambienti di innovazione aperta, in situazioni di vita

reale, nei quali il coinvolgimento attivo degli utenti finali permette di realizzare percorsi di co-creazione di nuovi servizi, prodotti e infrastrutture sociali».
Ai fini della tutela del paesaggio storico urbano, essi costituiscono «un modello di innovazione territoriale […] incernierato sull'economia sociale e sulla governance della comunità» (Concilio, 2013), applicato con esiti significativi in alcuni settori disciplinari.
Attraverso il Living Lab le singole iniziative di partecipazione vengono messe a sistema, componendo un mosaico di buone pratiche, che diventa l'organismo di riferimento nella gestione del paesaggio.
Esemplare è l'esperienza della Riserva naturale di Torre Guaceto, in cui il tentativo di stabilire in modo partecipativo i criteri di gestione delle aree agricole ha dato origine a un processo di sperimentazione collettiva fondato sulla condivisione della conoscenza, che ha innovato non solo i criteri di tutela ambientale ma anche la struttura stessa delle norme di tutela, mentre gli individui coinvolti hanno creato una rete cooperativa che ha recuperato il legame con l'identità del territorio (ENoLL, 2013b).
Proprio l'esperienza di Torre Guaceto, che nasce dalla necessità di stabilire regole di gestione dell'area agricola tali da non arrecare impatti alla riserva naturale, sviluppata lungo la costa, e di diffondere tali regole tra gli artefici dell'attività agricola, suggerisce di adottare lo strumento del Living Lab per il recupero edilizio.
I due approcci, apparentemente distanti, hanno diversi aspetti in comune: la centralità della conoscenza pratica, difficilmente condivisibile dai non addetti, e la natura tecnica delle norme da definire, da rifondare sul recupero e l'innovazione di saperi antichi; un certo corporativismo degli addetti, diffidenti verso il sapere esperto; la stretta relazione con il territorio per la capacità di incidere sulla qualità del paesaggio.
La possibilità di adottare un approccio Living Lab per il recupero, peraltro, è perfettamente in linea con l'approccio del paesaggio storico urbano al tema della tutela del patrimonio storico; al centro della discussione sono posti i saperi, le regole, i processi, che diventano l'elemento su cui la comunità ritrova la sua identità, ricreando una fitta rete di relazioni sinergiche e cooperative e costruendo nuove capacità individuali e collettive. Inoltre, la molteplicità degli stakeholder coinvolti nella definizione delle regole è garanzia di un approccio pluralistico e multidimensionale al tema, che necessita di criteri di scelta chiari e razionali.
In definitiva, attraverso il Living Lab è possibile acquisire una conoscenza comune sui temi del recupero per sperimentare, attraverso la co-progettazione, nuovi criteri d'intervento, quali strategie, procedure, soluzioni tecniche, contribuendo a costruire una rete di conoscenza diffusa.

4. Il caso studio di Sassano

L'indagine su Sassano, un comune di circa 5.100 abitanti, nasce quale contributo *in progress*, del *L.R.R.M. - Laboratorio di Riqualificazione, Riuso e Manutenzione*, al progetto *CilentoLabscape*, teso alla sperimentazione di un modello di gestione del Paesaggio Storico Urbano per contrastare le vulnerabilità e le fragilità del paesaggio del Parco Nazionale del Cilento e Vallo di Diano, sollecitando l'individuazione di soluzioni innovative che coinvolgano i saperi, le regole ed i processi.
Il nucleo storico di Sassano si sviluppa in posizione soprelevata rispetto al Vallo – per motivi intuibili dal toponimo stesso *Sasso Sano* – con una maglia stradale irregolare e un tessuto piuttosto compatto, prevalentemente ottocentesco, fatto di residenze signorili lungo

la direttrice centrale ed edifici minori nelle adiacenze (Fig. 1). La popolazione, che inizialmente abitava solo in questo sito, si è progressivamente dislocata verso la parte pianeggiante, dove sono sorti nuovi nuclei abitati con un'edilizia moderna, priva di identità, e disposta in modo frammentario.

Fig. 1 – Il paesaggio di Sassano (SA)

Foto: Anna Onesti

Nonostante la riduzione di popolazione, dovuta all'emigrazione verso centri maggiori che ha interessato tutti i comuni delle aree interne, il tessuto storico ha subito pesanti trasformazioni, con la costruzione di nuovi edifici avulsi dal contesto, prevalentemente di sostituzione, e la "ristrutturazione" di quelli esistenti, consistente in ampliamenti, sopralevazioni, rifacimenti degli elementi costruttivi e degli elementi di finitura.
Il fenomeno si è sviluppato particolarmente negli anni successivi al sisma del 1980, ed è stato determinato dagli effetti della ricostruzione molto più che dal sisma stesso, che, a Sassano, non aveva provocato danni particolarmente ingenti.
Il patrimonio abitativo, risparmiato dal sisma, è stato aggredito dalla ricostruzione, attraverso un sistema di contributi economici erogati a pioggia secondo la Legge 219/1981, *Conversione in legge, con modificazioni, del decreto legge 19 marzo 1981, n. 75, recante ulteriori interventi in favore delle popolazioni colpite dagli eventi sismici del novembre*

1980 e del febbraio 1981. Provvedimenti organici per la ricostruzione e lo sviluppo dei territori colpiti.

La Legge per la ricostruzione assegnava ai proprietari di abitazioni distrutte o da demolire un contributo pari all'intera spesa occorrente per la ricostruzione, con la possibilità di incrementare la superficie abitativa qualora questa fosse stata insufficiente alle esigenze del nucleo familiare. Di fatto, con tale norma, gli interventi di demolizione e ricostruzione venivano privilegiati rispetto agli interventi di tipo conservativo.

Inoltre, la Legge dava agli aventi diritto la possibilità di utilizzare il contributo di cui sopra per l'acquisto di un altro alloggio nell'ambito della stessa provincia, trasferendo al Comune la proprietà dell'edificio. Attraverso questa norma, con il progressivo spostamento della popolazione verso le frazioni "nuove", si è favorito lo svuotamento dei centri storici, molti dei quali ancora oggi versano in stato di abbandono.

La Legge assegnava, inoltre, per gli interventi di riparazione un contributo di importo pari al costo delle opere di riparazione degli edifici danneggiati, con la facoltà di valutare la "convenienza economica" di tale tipo di interventi, che, se troppo onerosi, sarebbero potuti rientrare nella casistica degli interventi di demolizione e ricostruzione.

Nonostante l'apporto considerevole di risorse economiche e la facilitazione nelle procedure, che costituiscono un salto di qualità senza precedenti per gli interventi sul patrimonio edilizio esistente, il recupero del patrimonio si è tradotta in una ristrutturazione sommersa, che non ha apportato alcun contributo alla cultura del recupero.

L'analisi delle trasformazioni di Sassano, indispensabile alla comprensione delle criticità dei processi avviati e propedeutica alla programmazione degli strumenti di supporto al recupero, si è concentrata sulla lettura delle modalità d'intervento attuate sul costruito, comparata con l'individuazione dei finanziamenti erogati e la valutazione delle trasformazioni del paesaggio storico.

L'analisi delle trasformazione è stata condotta prevalentemente attraverso l'esame delle pratiche edilizie depositate presso gli archivi del Genio Civile della Provincia di Salerno, che consentivano l'approfondimento degli aspetti strutturali nel ventennio dal 1982 al 2002.

Il primo dato significativo riguarda la sproporzione tra gli interventi nuovi o fortemente trasformativi (opere di nuova costruzione, demolizione e ricostruzione e ristrutturazione con ampliamenti) e gli interventi di riparazione o consolidamento, pari ad appena il 23% del totale.

I nuovi edifici, prevalentemente di sostituzione, presentano finiture manifestamente moderne ma risultano privi di qualità e non si armonizzano in alcun modo con le preesistenze (Fig. 2). Esemplificativo è il caso dell'edificio sorto nella piazza principale, in sostituzione di uno più antico, i cui proprietari, di ritorno dal Venezuela, avevano voluto rendere più comoda e moderna la propria abitazione, cogliendo probabilmente l'occasione per ostentare ai concittadini la nuova condizione di benestanti.

Gli edifici nuovi o di ricostruzione presentano tutti una struttura in calcestruzzo armato, come emerge dall'analisi delle pratiche archiviate presso il Genio Civile, mentre hanno perso ogni legame con gli elementi del costruito tradizionale, ad eccezione del manto di copertura in tegole laterizie, riproposto in modo anche nella nuova edificazione.

Per quanto riguarda gli interventi di consolidamento, analizzando nel dettaglio gli elaborati a corredo delle pratiche, si è constatato che le opere più frequenti consistevano nel rifacimento di tetti e solai in legno, sostituiti da elementi latero-cementizi, nella realizzazione di cordoli perimetrali in calcestruzzo armato, nel rinforzo delle pareti in

muratura con la giustapposizione di pareti armate.
È significativo che tali lavori, guidati dalla convinzione che il miglioramento sismico dell'edificio si potesse ottenere solo attraverso la modifica del suo funzionamento statico, da assimilare quanto più possibile a quello di un edificio in calcestruzzo armato (Giuffré, 1988), abbiano adottato particolari tecnologici estrapolati dai manuali più diffusi, senza prestare una reale attenzione alla natura dei materiali e delle tecniche costruttive, né alla concezione statica del fabbricato, che veniva così profondamente alterata (Figg. 3 e 4).

Fig. 2 – Edilizia di sostituzione

Foto: Anna Onesti

È stato considerato che l'adozione di interventi che utilizzano soluzioni invasive ed incompatibili con gli immobili preesistenti, oltre che poco efficaci in termini di sicurezza ed eccessivamente onerose, provoca almeno tre tipi di danni: agli edifici stessi, alla conservazione dei caratteri storico architettonici e all'economia (Borri *et al.*, 2001).
La conservazione della concezione strutturale è stata disattesa nella maggioranza degli interventi, provocando la perdita di qualità di elementi tangibili e intangibili del paesaggio storico urbano con l'abbandono delle lavorazioni tradizionali e la conseguente perdita del sapere costruttivo locale.
Nell'ultimo decennio qualcosa è cambiato, almeno nell'impegno del Parco Nazionale del

Cilento e del Vallo di Diano. La ripartizione dei fondi strutturali, assegnati dall'Ente nel periodo 2000-2006 (De Vita *et al*., 2009), documenta che la maggior parte delle risorse sono state destinate ad interventi di tutela del costruito e del paesaggio, con una serie di opere disseminate in tutto il territorio del Parco.

Fig. 3 – Degrado degli edifici storici

Foto: Anna Onesti

Tali interventi, riclassificati nei grafici allegati (Figg. 5 e 6), consistono prevalentemente in opere puntali di tutela dell'edificato pubblico, con il recupero edilizio e il consolidamento statico di edifici storici, il restauro di diversi monumenti vincolati, il recupero di alcuni siti di archeologia industriale (prevalentemente mulini situati lungo i corsi d'acqua), la riqualificazione circoscritta di alcuni ambiti urbani, il restauro di singoli beni archeologici, in opere di tutela del paesaggio naturale, con il restauro paesaggistico di siti vincolati, il monitoraggio, la manutenzione e la riqualificazione di aree naturalistiche e opere a rete relative a infrastrutture e impianti. Altri fondi, raggruppati in un'unica voce, sono stati impiegati per strumenti normativi, di pianificazione, studi e per la comunicazione, oltre che per finanziamenti alle piccole e medie imprese operanti nell'artigianato o nel turismo. È significativo constatare che solo una quantità minima di fondi, pari ad appena il 2%, è stata destinata a nuove opere edilizie, che formano una classe a parte.

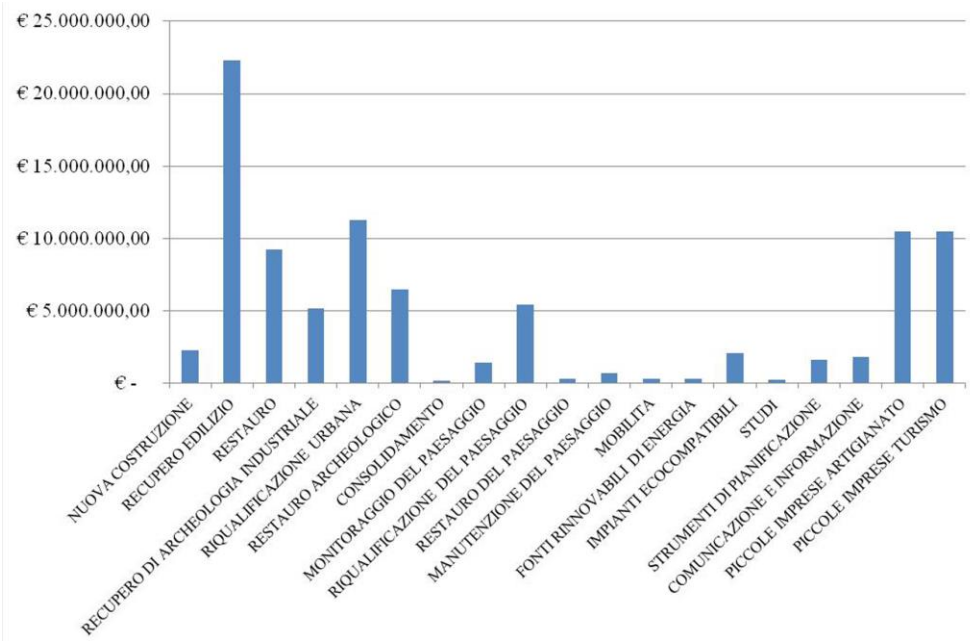
Benché spinti da intenti di tutela, tuttavia, tali interventi, prevalentemente pubblici e limitati ad ambiti ristretti, non hanno avuto effetti sulla qualità del paesaggio storico urbano.
Se messi a sistema con le dinamiche del sistema insediativo, questi interventi avrebbero potuto innescare un recupero diffuso del costruito tradizionale, ponendosi come modelli per interventi privati, o avrebbero potuto agire da motore di sviluppo economico, stimolando la fruizione degli ambiti urbani circostanti.

Fig. 4 – Interventi sul costruito

Foto: Anna Onesti

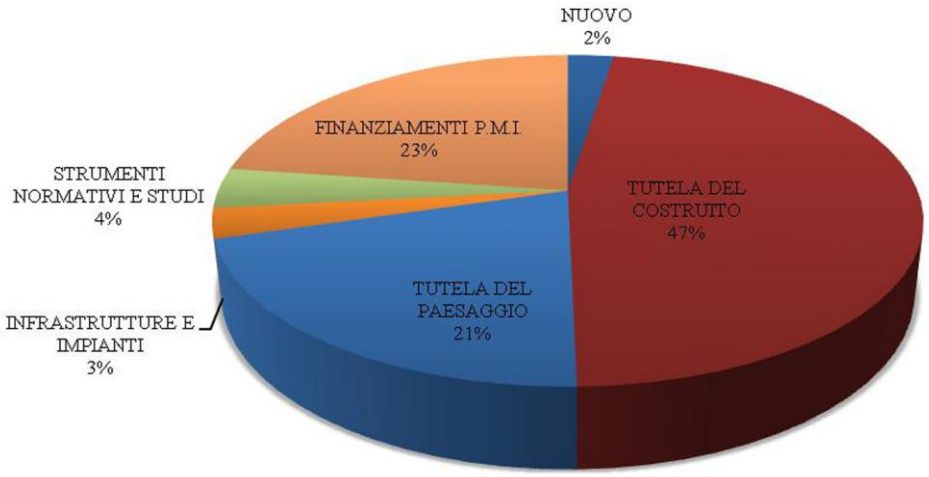
La mancata attenzione al principio di relazionalità, e quindi alle interrelazioni, ai collegamenti e alle connessioni, sia tra elementi fisici che tra valori, la carenza principale di questi interventi, che non riescono ad incidere sulla tutela del paesaggio storico urbano.
Una riflessione sulle modalità d'attuazione di tali opere offre altri spunti, significativi ai fini della ricerca. Ai finanziamenti tradizionali, basati sull'erogazione di fondi a singoli Enti Pubblici per opere puntuali, dovrebbe sostituirsi un modello innovativo, che nasce dalla collaborazione dal basso tra imprese e associazioni del terzo settore e, e vede la partecipazione degli enti locali limitata ad un contributo percentuale, collegato alla valutazione complessa dei risultati raggiunti in termine di interesse pubblico.

Fig. 5 – Investimenti dell'Ente Parco nel periodo 2000-2006



Fonte: rielaborazione da De Vita et al., 2009

Fig. 6 – Distribuzione degli investimenti dell'Ente Parco nel periodo 2000-2006



Fonte: rielaborazione da De Vita et al., 2009

5. La sperimentazione

Sulla scorta degli approfondimenti dell'approccio UNESCO al paesaggio storico urbano e degli strumenti partecipatori, l'istituzione a Sassano di un Living Lab per il recupero sembra essere una possibile strategia per condividere con cittadini, professionisti, imprese ed enti locali le "regole", intese come criteri tecnici e procedure, per adeguare alle nuove esigenze il patrimonio storico urbano preservandone la concezione strutturale (Onesti, 2013).

Il Living Lab per il recupero si prospetta come una soluzione valida per condividere un sapere tradizionalmente esperto, risolvendo le criticità riscontrate nell'osservazione del caso studio e disegnando un modello metodologico esportabile in altri contesti.

La ricerca intende dunque sperimentare la costruzione di un laboratorio locale partecipato, in cui le regole del processo di recupero possano essere diffuse e condivise da tutti gli attori del processo.

L'attività del laboratorio si estrinseca nell'organizzazione di workshop, conferenze, dibattiti e occasioni informali d'incontro che vedano coinvolti: cittadini, proprietari e abitanti dell'insediamento storico; rappresentanti degli organi di governo del territorio (Amministrazione Comunale, Ente Parco, Comunità Montana, Soprintendenza, ecc.); docenti, ricercatori e studenti universitari; liberi professionisti; imprese edili e maestranze locali; imprese e rappresentanti del mondo produttivo; istituti bancari locali; associazioni del terzo settore operanti nel territorio.

Il Living Lab intende operare attraverso la costruzione di *focus* tematici, che prendono in esame singoli aspetti del paesaggio storico, in modo da identificare criticità circoscritte da risolvere trasformando i conflitti in sinergie e costruendo un mosaico di comportamenti virtuosi che, nell'insieme, disegna uno scenario futuro accettato da tutti e regolato da regole condivise.

Piuttosto che prospettare nuovi criteri d'intervento, secondo un approccio *top-down*, la metodologia che si intende sperimentare allestisce dei tavoli di lavoro a cui partecipano i diversi soggetti, ciascuno portatore di interessi e visioni, che disegnano insieme, con un approccio *bottom-up,* nuovi scenari condivisi da tutti.

Ciascuna attività si fonda sull'interazione tra diversi gruppi sociali e mira al trasferimento dei "saperi" dei singoli gruppi in un serbatoio di conoscenza comune e condivisa, preliminare alla sperimentazione collaborativa di nuove regole.

La prima attività programmata dal Living Lab è un workshop tematico finalizzato a comprendere le trasformazioni del paesaggio storico urbano e a prefigurare uno scenario di sviluppo, ponendo una particolare attenzione agli aspetti strutturali.

Il workshop è sviluppato secondo tre temi di discussione e condivisione:

1. identità e trasformazioni del costruito;
2. tecnologia per la tutela: manutenzione e valorizzazione;
3. comprendere i bisogni e disegnare nuovi scenari.

La comunità locale, sia "addetti ai lavori" ed esperti locali che cittadini comuni, viene sollecitata a riconoscere le azioni sul costruito che hanno creato degrado o qualità del paesaggio, accompagnandolo dal racconto delle "storie" celate dietro le azioni sul costruito, che possono disvelare un patrimonio di conoscenza da indagare e mettere a sistema.

I partecipanti al workshop sono stati guidati, inoltre, nel mettere a fuoco i maggiori effetti delle azioni sul costruito sul paesaggio, riconducibili alla perdita dell'identità, e delle specificità del paesaggio, che rischiano di trasformare Sassano in un "luogo comune".

6. Conclusioni e prospettive future

La ricerca identifica nella consapevolezza della comunità locale la chiave per promuovere la qualità del paesaggio storico urbano come risorsa e il recupero come attività in grado di incentivare lo sviluppo.
La crisi economica, che ha colpito in modo particolare il settore dell'edilizia, vede un rinnovato interesse verso il costruito, che rischia di essere aggredito da azioni e micro-azioni diffuse, con la perdita dei fattori identitari del patrimonio e delle qualità del paesaggio storico urbano.
La concezione strutturale è uno dei fattori identitari più a rischio, come dimostra l'osservazione del caso studio: a Sassano, come in molti piccoli centri della Campania, gli interventi di messa in sicurezza del patrimonio dopo il sisma del 1980 hanno prodotto più danni, in termini di perdita dei caratteri costruttivi, del sisma stesso.
La conservazione della concezione strutturale, che dal singolo edificio viene estesa all'aggregato, è un aspetto centrale della tutela del paesaggio, in quanto costituisce l'idea stessa che tiene in piedi l'insediamento, il fulcro di tutte le interrelazioni tra elementi materiali e immateriali che compongono il paesaggio storico urbano.
La condivisione di questi principi con le comunità locali è la chiave per convertire la conservazione del paesaggio in un'attività di sviluppo. Le regole per la tutela non possono essere imposte dall'alto, com'è accaduto finora, ma devono essere condivise dalla comunità, costruendole in un processo dialogico in cui il sapere esperto si affianca al sapere locale.
I Living Lab rappresentano oggi la sede e lo strumento per questo incontro che, partendo dalla condivisione dei valori, costruisce una nuova innovazione fondata sull'esaltazione delle specificità locali e sull'apporto della ricerca esperta.
Il lavoro intende quindi continuare nella sperimentazione intrapresa, aprendosi verso due filoni di ricerca, strettamente connessi: il ruolo dell'*expertise* tecnico nei processi partecipati per il recupero e la ricerca di nuove forme di informazione tecnica.
L'expertise tecnico ha un ruolo cruciale nei processi partecipatori in quanto, oltre a favorire il coinvolgimento di tutti gli stakeholder, agendo da facilitatore, contribuisce a creare sensibilità verso i temi della tutela del paesaggio, orientando i bisogni dei "non tecnici" e costruendo nuove consapevolezze in chi ha una formazione specifica.
La ricerca di diverse forme di comunicazione, che consentano a tutti di comprendere le diverse problematiche, esprimere la propria percezione e comunicare i propri bisogni, sembra essere indispensabile. Sotto la spinta delle dinamiche partecipative e delle innovazioni introdotte con l'avvento del *web 2.0*, anche l'informazione tecnica sta evolvendo verso forme di comunicazione, caratterizzate dalla multidimensionalità e da un costante processo di feedback e aggiornamento. Si può prefigurare uno scenario in cui, attraverso la diffusione delle ICT (Information and Communication Technologies), si ritorni, pur con strumenti completamente diversi, ad un rapporto di condivisione del sapere costruttivo dal maestro all'allievo, tipico dell'artigianato italiano.

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VIBRANT PLACES: CLARIFYING THE TERMINOLOGY OF URBANISM IN THE U.S. CONTEXT

Emil Malizia

Abstract

The preferred development outcomes of smart growth, New Urbanism, transit-oriented development, traditional neighborhood/green development, active design and walkable urbanism may be called vibrant places which are compact, connected, mixed use, walkable and transit oriented. Vibrant places can be either vibrant centers or vibrant communities depending on the predominance of work space in the former or residential neighborhoods in the latter. Together vibrant centers and communities offer an alternative regional spatial structure of transit-connected nodal development. The metro region would consist of transit-oriented vibrant centers in an approximate rank-size distribution and vibrant communities located around urban core centers and suburban town centers. This regional spatial structure would support the emerging knowledge-based economy in the U.S., reduce vehicle miles traveled, promote public health, use public infrastructure more efficiently and consume much less land.

Keywords: vibrant places, smart growth, regional development

LUOGHI PIENI DI VITALITÀ: CHIARIRE LA TERMINOLOGIA DELL'URBANISTICA NEL CONTESTO STATUNITENSE

Sommario

I risultati principali della "crescita intelligente", la Nuova Urbanistica, lo sviluppo incentrato sul trasporto, lo sviluppo dei quartieri tradizionali e verdi, il progetto attivo e l'urbanistica a "misura di pedone" possono essere definiti luoghi vitali, compatti, connessi, ad uso misto, percorribili a piedi ed incentrati sul trasporto. I luoghi vitali possono essere anche centri vitali o comunità vitali che dipendono rispettivamente dalla prevalenza degli spazi dedicati al lavoro e dei quartieri residenziali. Insieme, centri e comunità vitali offrono una struttura spaziale regionale alternativa di sviluppo reticolare. La regione metropolitana sarà caratterizzata da centri vitali connessi al trasporto in una distribuzione basata sulla dimensione, dalle comunità vitali localizzate intorno ai centri urbani principali ed agli agglomerati suburbani. Questa struttura spaziale regionale, negli Stati Uniti, sarà di supporto alla nuova economia della conoscenza, riducendo le distanze, promuovendo la salute pubblica, utilizzando le infrastrutture in modo più efficiente e con minore consumo di suolo.

Parole chiave: luoghi vitali, crescita intelligente, sviluppo territoriale

1. Introduction

The era of suburbanization which began after WWII in the U.S. may be coming to an end. During this time period, the lion's share of development was captured outside core urban areas. Metro regions served as the basic functional units of the economy, automobiles became the dominant mode of transportation, central cities declined, and growth continued to move outward consuming large amounts of peripheral land. The typical spatial structure of U.S. metro areas was formed by radial and circumferential interstate highways, large areas devoted to single-use residential development, and commercial development oriented to highway interchanges whether as suburban office parks, regional shopping malls, industrial zones or institutional campuses.

Although trends since the new millennium have been clouded in the U.S. by two recessions, terrorism, continuing wars, and dysfunctional state and federal governance, the economic basis for regional competitive advantage in the U.S. appears to be changing. To oversimplify, the U.S. economy of the early 20th century made things in factories located in cities. The post-WWII economy was dominated by large corporations and commercial anchors occupying facilities in suburban areas. The new U.S. economy is increasingly knowledge based and entrepreneurial, consisting of industries providing professional, information, health and business services. Research functions as the basic resource that entrepreneurs transform through innovation into new enterprises (Murphy, 2011). The city is again the "petri dish" that best cultivates both economic opportunity and economic development (Glaeser, 2011). More precisely, metro areas of different sizes and viable urban places within them are the spawning grounds for economic growth and development.

2. A short history of place making

Criticisms of the low-density, auto-oriented suburban model in the U.S. which was labeled "sprawl" development began long ago (Jackson, 1985). The *Charter for New Urbanism* was posed as an alternative way to develop, one that was much more socially beneficial, environmentally compatible and equitable (Calthorpe and Fuller, 2001). Smart growth, transit oriented development, traditional neighborhood/green development and active design promote similar ideas about development (Ewing *et al*., 2011). Compact, mixed-use, walkable places were discussed, designed and at times developed. Compact means higher net densities. The mix of land uses brings diversity of activities. Density and diversity make walking attractive, and the walking experience engenders meaning and social attachment to place. These ideas have been applied internationally, for example, in Great Britain (Adams and Tiesdell, 2013), in China (Song and Ding, 2009; Song *et al*., 2012) and in many other countries (see Global Urban Development network).

The growing interest in developing compact, mixed-use, walkable places has been spurred by the interaction between the evolving knowledge-based economy and demographic changes in the U.S. People in their 20s and 30s appear to prefer to live in cities rather than in suburbs. Employers and entrepreneurs who want to succeed in the knowledge economy need to attract and retain talent. Therefore, they increasingly prefer space in places where their employees can work and play and possibly, work, play, live, shop and learn. In such places, employers benefit from employees who work longer and sometimes smarter, quit less frequently, and, at times, are more innovative (Acs, 2006; EPA, 2012; Florida, 2010).

Although the principles of smart growth and New Urbanism address the region, city and neighborhood scales, most attention has been focused on neighborhoods, villages and town

centers (Bohl, 2002). To reduce auto dependence and encourage more desirable forms of regional and project-level development, Ewing and Cervero (2010) have advocated "five Ds" – density, diversity, design, destination accessibility and distance to transit. Real estate developers in the U.S. have become less interested in single-use projects and have begun to embrace projects that are mixed-use (more than one use in one building) and multi-use (different uses in close proximity) (DeLisle and Grissom, 2013).

Leinberger (2008) addresses these principles with the concept of "walkable urbanism" posed as a more viable alternative than drivable suburban. He presents five scales of region-serving walkable places: downtown, nearby urban, suburban town, suburban redevelopment and greenfield town and provides examples for 30 large U.S. metro areas (Leinberger, 2007).

Peter Calthorpe, one of the founders of New Urbanism, reemphasizes the importance of the regional scale from the economic, ecological and social capital perspectives. He approaches the region as a collection of connected neighborhoods (Calthorpe and Fuller, 2001). Leinberger (2008) provides a more useful framework by distinguishing region-serving centers from areas that are primarily residential. Although his distinction is helpful, the existence of mixed-use or multi-use in all places has generally obscured the need to define more carefully the different functions of compact, walkable transit-oriented places within the metro region.

3. Clarifying the terms

I propose the term "vibrant place" to capture the intended outcomes of compact, mixed-use walkable places. Vibrant places afford social interaction, communication, physical activity, meaning/identity, learning, chance meetings as well as rest and contemplation. Vibrant places include public parks and civic facilities and spaces as well as housing and commercial space. The specific attributes of vibrant places have been described in considerable detail (Crankshaw, 2009; EPA, 2012; Haughey, 2008; Kapp and Malizia, 2013; Paumier, 2004).

Vibrant places serve two basic functions. They are either primarily places of employment or primarily places of residence. I define "vibrant centers" as employment oriented places that also contain housing. This definition is less vague than Leinberger's regional centers. I define "vibrant communities" as collections of residential neighborhoods that also contain employment. This definition is clearer than Calthorpe's discussion of neighborhood aggregation in the regional context.

Most employment in vibrant centers is exporting services and goods from the region. Employment in vibrant communities is primarily providing local goods and services including public services to households. Local services are also provided to employers located in both types of places. Households living in vibrant centers often work there. Most households live in vibrant communities and need to commute to jobs in vibrant centers.

Case studies of compact vibrant places provide rich examples of walkable alternatives to sprawl development. For example, Campoli (2012) presents twelve case studies of vibrant walkable places within the following urban areas: Denver, Miami, Pasadena, Albuquerque, Toronto, Brooklyn, San Diego, Vancouver, Columbus, Ohio, Alexandria, Virginia, Portland, Oregon and Cambridge, Massachusetts.

Vibrant centers and communities can be better understood and analyzed with measurable indicators of their features. The following metrics help clarify them:

- compact/dense development: floor-area ratio, jobs per acre, households per acre;
- mixed use/multi use: two or more uses in each building, different land uses in close proximity, public and civic spaces, portion of employees also living nearby;
- walkable: design elements including intersection density, average block size, street pattern, safety features;
- destinations: Walkscore and Bikescore (distances to frequently visited destinations);
- transit-oriented: distance to public transit, quality/frequency of transit services;
- parking: maximum amount instead of minimum amount, decks instead of surface lots.

These metrics can be used to estimate the levels of vibrancy in different places.

4. The metro context

Once vibrant places are distinguished as either vibrant centers or vibrant communities, the conceptual challenge is to organize them in space in order to understand more fully the potential of vibrant places. A hypothetical metro spatial structure would consist of nodes of urban development, each representing a vibrant center. All vibrant centers would be connected by transit (heavy rail, light rail or bus rapid transit). Vibrant communities would be located around vibrant centers.

Depending on the population size of the metro area, we can envision one central business district, one or more urban/industrial center, and two or more town centers, each one accommodating the export sector, households and local services. The size of these vibrant centers could approximate a rank-size distribution. Primarily residential vibrant communities would contain the lion's share of metro households and the related household-serving employment. Like vibrant centers, vibrant communities could populate 3-4 density categories recognizing that households trade off space and access differently. Access-oriented households would seek core areas whereas space-oriented households would prefer suburban areas.

Well-established planning principles would come into play to shape "hypo region." With gross floor-area ratios no greater than 2.0, vibrant centers would create sufficient demand to support rail transit, either light rail or heavy rail depending on population size and the number of places. Vibrant centers and vibrant communities would be arrayed in corridors that achieve an attractive balance between jobs and households. Such development would clearly use public infrastructure very efficiently and result in places with relatively small carbon footprints. But perhaps the most impressive result is the relatively small amount of land needed to accommodate the population. The connection between greater density and more open space is logical and obvious; however, most Americans oppose denser development without recognizing that low-density development is the true enemy of open space preservation. Hypo region would convincingly demonstrate that greater density is the best way to preserve open space. For example, a U.S. metro region with 1.5 million people that had consumed over 700 square miles (over 1,800 square kilometers) of land by the year 2000 would have needed only 218 square miles (565 square kilometers) to form a region of six vibrant centers and 34 vibrant communities (Malizia and Song, 2014).

Vibrant places that serve as alternatives to low-density, decentralized development still need to accommodate automobiles. Ones owned by households in vibrant communities could be stored on individual lots. Autos owned by households living in vibrant centers would need to utilize structured parking (decks). Structured parking would also store autos required for the business and civic activities conducted in vibrant centers.

Households would use automobiles for trips between vibrant centers, from vibrant communities to vibrant centers or to travel to and from the region. Arterial roads and related infrastructure would be required but far less than with low-density suburban development. Local streets in a grid pattern would be "complete streets" that also served pedestrians, bicyclists and bus riders. About 30% of the land in vibrant places would be allocated to support local trips.

Compact nodal development connected by rapid transit would enable many workers to commute by train and walk, bike or bus from origins or to destinations. With these transportation options, auto ownership of about one per household would be adequate instead of more than two per household which is the current level in the U.S. (Malizia and Song, 2014).

Although this hypothetical metro structure is primarily designed to support higher productivity in the emerging knowledge-based economy, the collateral benefits would be legion. The most important include smaller carbon footprint/less greenhouse gas emissions, much more open and undisturbed land, greater public health benefits from more physical activity/less obesity, less new urban infrastructure, better use of existing infrastructure, higher levels of safety and security, and potentially greater creativity and social cohesion.

5. Conclusion

This article presents a clear and simple way to describe the preferred development outcomes of smart growth, New Urbanism, transit-oriented development, traditional neighborhood/green development, active design and walkable urbanism: vibrant places. It distinguishes two different types of vibrant place depending on the predominance of work space or living space: vibrant centers or vibrant communities. The metro region could consist of vibrant centers of different size: the central business district, urban/industrial centers or town centers, and vibrant communities located around the urban core centers and suburban town centers. This regional spatial structure favors non-auto transportation within and between vibrant places. Together vibrant centers and communities offer an alternative regional spatial structure of nodal development connected with rapid transit that is sustainable from the economic development, social and environmental perspectives.

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IDENTITÀ MARITTIMA E RIGENERAZIONE URBANA PER LO SVILUPPO SOSTENIBILE DELLE CITTÀ DI MARE

Massimo Clemente

Sommario

Le città di mare sono state oggetto di studi e approfondimenti durante gli ultimi cinquanta anni, anche se molto spesso con riferimento limitato al recupero delle aree portuali dismesse e alla riqualificazione dei waterfront urbani.
Il gruppo di ricerca *Città e Architettura* del Consiglio Nazionale delle Ricerche, dal 2009, ha sviluppato un percorso di ricerca fondato su un diverso approccio al tema: guardare le città "dal mare" per rinnovare culturalmente e metodologicamente la pianificazione e la progettazione urbana nelle aree urbane costiere.
La visione marittima ha permesso una rivisitazione dei processi di recupero del waterfront. L'obiettivo è definire metodologie e strategie innovative per valorizzare l'identità marittima come strumento chiave per la rigenerazione urbana sostenibile della città di mare.

Parole chiave: identità marittima, sviluppo sostenibile, rigenerazione urbana

MARITIME IDENTITY AND URBAN REGENERATION FOR SUSTAINABLE DEVELOPMENT OF CITIES BY THE SEA

Abstract

Cities by the sea have been the subject of many studies and investigations during the last fifty years. However, the interest has been focussed on the recovery of abandoned port areas and the redevelopment of urban waterfronts.
The research group *Cities and Architecture* of the National Research Council has developed a different research approach to the topic, since 2009. In particular, we propose to look to the city "from the sea" in order to renew cultural and methodological planning and urban design in coastal urban areas.
This maritime vision has allowed a review of the recovery processes of the waterfront. The objective is to define methodologies and innovative strategies to enhance the maritime identity as a key tool for the sustainable urban regeneration of seaside cities.

Keywords: maritime identity, sustainable development, urban regeneration

1. Visioni dal mare per le aree urbane costiere

Vedere le città di mare "dal mare" offre prospettive originali ma è un privilegio di cui non tutti possono godere. Non tutti possono staccarsi dalla terraferma e muoversi sull'acqua del mare, su una nave o su una piccola imbarcazione da diporto, a motore o a vela.

In un tempo remoto, l'uomo intuì che poteva allontanarsi dalla terraferma su qualcosa che galleggiasse sull'acqua come il legno. Probabilmente, trovò un grande tronco d'albero e con rudimentali strumenti di pietra scavò e ottenne una primitiva canoa, in grado di galleggiare e navigare. Così si staccò dalla riva e vide la costa da una prospettiva insolita e originale come non avrebbe mai potuto immaginare.

La terraferma apparve diversa e l'uomo scoprì un nuovo mondo, straordinari paesaggi e pesci di cui nutrirsi durante navigazioni sempre più lunghe, per raggiungere nuove terre e popoli sconosciuti, apparentemente diversi ma profondamente uniti dal mare.

La conquista del mare ha svolto un ruolo nella storia dell'umanità di importanza quasi pari alla scoperta del fuoco. La storia dell'umanità può essere letta da un punto di vista marittimo, considerando l'evoluzione delle navi e delle tecniche di navigazione. Analogamente, la storia della città di mare può essere interpretata attraverso la storia marittima che apre nuove visioni sulle architetture, gli spazi e le funzioni urbane.

La conformazione e l'identità degli insediamenti umani costieri sono il risultato della sintesi tra cultura urbana e cultura marittima, quella sintesi densa di valori semantici definita da Josef Konvitz "urban maritime culture" (1978).

Queste suggestioni sono alla base della proposta di un approccio marittimo all'analisi e alla progettazione delle città di mare, con specifico riferimento ai processi di rigenerazione urbana (Lane, 1997; Clemente, 2011).

La città di mare ha una particolare connotazione semantica perché dialoga con gli elementi marini. La città, con le sue architetture, è proiettata sul mare e sembra staccarsi dalla terraferma, come se volesse galleggiare e navigare. In effetti, il distacco avviene realmente, dai moli dei porti dove le navi che navigano possono immaginarsi come pezzi di città che si staccano e si dirigono verso altre città portuali. Allo stesso modo, le navi e la marineria hanno ispirato molti edifici, soprattutto sulla costa e vicino al mare.

In questo modo, la nave diventa un elemento di mediazione tra la terraferma e il mare, un ponte virtuale tra coste urbane lontane delle quali realizza una continuità. Le vie del mare diventano lo strumento non solo dei commerci marittimi ma, soprattutto, delle influenze culturali che uniscono le città portuali nel segno della comune identità marittima.

Le città di mare sono il luogo della complementarità e del contrasto degli elementi naturali ovvero l'acqua e la terra che s'incontrano e si scontrano. Allo stesso tempo, le città di mare (in particolare, quelle portuali) sono il luogo della diversità culturale e dell'identità marittima comune.

2. Navigando tra cultura marittima e cultura urbanistica

L'interpretazione marittima delle aree urbane costiere ha aperto nuovi scenari di ricerca per la conoscenza, la pianificazione urbanistica e la progettazione architettonica sensibile al mare. In questi scenari, dal 2009, il nostro gruppo di ricerca si è impegnato con studi e proposte sul rapporto tra mare e città.

Nel dicembre 2011, è stato pubblicato il volume *Città dal mare. L'arte di navigare e l'arte di costruire le città* in cui si illustravano i risultati della prima fase del progetto di ricerca. È stata messa a punto una metodologia specifica per l'analisi multidisciplinare delle città e

delle architetture in prossimità del mare e, più in generale, delle aree urbane costiere.
Successivamente, la metodologia è stata verificata con riferimento a quattro tipologie di città d'acqua. In particolare, l'approfondimento di città portuali emblematiche in Spagna, Francia, Germania, Stati Uniti e Canada ha condotto ad una prima ipotesi di linee guida per un approccio marittimo consapevole nei piani e nei progetti per le aree urbane costiere (Clemente, 2011).
La seconda fase è stata dedicata alla diffusione e al confronto con la comunità scientifica nazionale, gli *stakeholder* e i *policy maker*, affrontando casi studio italiani (Napoli, Genova, Trieste, Salerno ed altri).
Si sono tenuti due eventi scientifici di approfondimento, nel Centro Congressi di Villa Doria d'Angri, significativamente affacciato sul Golfo di Napoli:

– *Il mare e la città - Cultura urbana e cultura marittima per lo sviluppo sostenibile delle aree urbane costiere*, 27-28 settembre 2012;
– *Il mare e la città 2.0 - Partecipazione e condivisione per lo sviluppo locale sostenibile a Napoli*, 19-20 aprile 2013.

Il primo evento ha messo insieme soggetti molto diversi, superando le perplessità iniziali degli studiosi di discipline apparentemente lontane, sulla base del comune interesse per il mare: biologi marini, ingegneri navali, urbanisti, architetti, armatori, agenti marittimi, operatori turistici, costruttori, regatanti, istituzioni competenti del governo delle aree costiere.

Fig. 1 – Vele nel Golfo di Napoli per l'America's Cup World Series

Foto: Massimo Clemente

Il secondo evento ha portato all'attenzione il mare come risorsa con riferimento al caso specifico della città di Napoli del suo Golfo, in concomitanza con le regate della tappa napoletana delle World Series per l'America's Cup (Fig. 1). La comunità urbana era stata animata da un forte e a tratti aspro dibattito sull'opportunità di organizzare un evento così costoso e complesso a fronte dei tanti problemi di Napoli. In molti ritenevano che non fosse il modo giusto di intervenire per il rilancio della città in quanto, da un lato, non si affrontavano i reali problemi di Napoli e del suo mare e, dall'altro lato, il forte investimento di soldi pubblici avrebbe avuto effetti limitati.
Le attività convegnistiche hanno favorito un vivace scenario di confronto dialettico che è proseguito nei mesi successivi ed è ancora in corso. I diversi portatori d'interesse della costa metropolitana sono invitati a confrontarsi con il nostro approccio e le nostre proposte teoriche e metodologiche per applicarle a Napoli e agli altri centri urbani del Golfo.
In particolare, stiamo sollecitando la comunità napoletana, le associazioni scientifiche e quelle economiche che si occupano della trasformazione del litorale urbano del Golfo di Napoli, da Pozzuoli a Castellammare di Stabia. L'ambizioso obiettivo è una visione dal mare della città metropolitana che sia condivisa dagli studiosi, gli *stakeholder* e dai *policy maker*.
Per favorire la diffusione delle idee e il confronto, è stata anche lanciata una call for paper sui temi delle attività convegnistiche, in collaborazione con la Rivista internazionale di cultura urbanistica *TRIA - Territorio della Ricerca su Insediamenti e Ambiente* edita dall'Università di Napoli Federico II.

3. Dal recupero del waterfront alla valorizzazione dell'identità marittima

Le città portuali sono state un tema centrale nel dibattito architettonico e urbanistico degli ultimi decenni. In particolare, l'attenzione di studiosi, pianificatori e progettisti si è concentrata sul recupero e riuso di strutture e aree portuali dismesse.
Il processo iniziò negli anni Cinquanta del secolo scorso, quando l'avvento dei containers ha rivoluzionato il commercio e il trasporto marittimo, ponendo una forte domanda di adeguamento e riorganizzazione delle strutture portuali.
Infatti, la diffusione dei containers modificò notevolmente le modalità di movimentazione delle merci nelle aree portuali che, di conseguenza, risultarono inadatte alla nuova organizzazione del commercio e del trasporto marittimo. Inoltre, in anni più recenti, la globalizzazione dei mercati ha ulteriormente trasformato il trasporto marittimo, così come l'intero sistema del commercio nel nuovo contesto economico mondiale.
La dimensione delle navi è andata via via crescendo, a cominciare dalle superpetroliere per il trasporto marittimo di petrolio. Anche le navi container sono diventate sempre più grandi, così come le navi da crociera, dando origine al fenomeno del gigantismo navale. La dimensione crescente delle navi ha richiesto lo sviluppo di adeguate strutture portuali che, molto spesso, non si sono potute realizzare all'interno dei porti esistenti in città storiche per oggettivi vincoli fisici dimensionali e, talvolta, per vincoli culturali di tutela delle architetture portuali, nei casi di comunità marittime più sensibili e consapevoli.
In questo modo, molte aree e volumi in vicinanza del mare si sono svuotati, configurandosi come un problema e, contemporaneamente, come una risorsa da valorizzare attraverso piani e progetti di recupero, riqualificazione e riuso (Fig. 2). Nonostante i porti e soprattutto l'acqua siano quasi sempre fortemente inquinati, gli immobili e le aree offrivano interessanti margini di ritorno economico degli investimenti perché si trattava di aree molto

centrali e dal notevole potenziale valore immobiliare, in relazione ai costi di trasformazione e ri-funzionalizzazione.

Fig. 2 – Nave museo nel vecchio porto di Amburgo recuperato come spazio pubblico

Foto: Massimo Clemente

Il punto critico degli interventi di recupero nelle aree portuali dismesse è la reale e profonda attenzione all'identità marittima e la capacità di affrontare il problema con una visione "dal mare". La mancanza di un approccio marittimo può influenzare molto negativamente piani e progetti per il recupero dei waterfront nelle città portuali e, più in generale, nelle aree urbane costiere.

La prospettiva marittima nella visione urbana è mancata, troppo spesso, ai politici, ai tecnici e alla stessa comunità dei cittadini. Il recupero del waterfront, allora, è stato affrontato alla stregua del recupero delle altre aree produttive dismesse, senza particolare attenzione all'identità marittima dei luoghi e delle comunità.

Il tema del recupero del waterfront affonda le radici nel passato, negli anni Cinquanta, quando i primi importanti interventi di trasformazione delle aree portuali si realizzarono negli Stati Uniti d'America e, in particolare a Baltimora e a Boston.

Inizialmente, il problema del waterfront fu posto a New York City, dove il degrado del porto fu oggetto di numerose interrogazioni pubbliche alle autorità locali. La crisi sociale e morale, conseguenza della contrazione delle attività portuali ispirò il film *Il fronte del porto*. Grazie all'interpretazione straordinaria Marlon Brando e alla regia di Helya Kazan, il

film vinse otto premi Oscar e influenzò fortemente l'opinione pubblica, favorendo l'azione dei politici a favore dei porti in crisi, anche se inizialmente non a New York City.
A Baltimora, nel corso degli anni Cinquanta, furono restaurati l'Inner Harbour e il Charles Center, mostrando anche una discreta attenzione all'impatto regionale dell'intervento e una certa sensibilità al rapporto della città con il mare (Baltimore County, 1959), tanto che il modello d'intervento è ancora valido (Wallace, 2004).
Negli stessi anni, l'obiettivo del piano di Boston era *realizzare la ricostruzione del lungomare in un modo che fosse simbolico del rapporto storico di Boston con il mare* (Boston Redevelopment Authority, 1964, p. 5, trad. dell'autore). Nei documenti originali si riscontra l'attenzione all'identità marittima, anticipando la sintesi tra cultura urbana e cultura marittima che oggi appare come lo strumento più efficace per la rigenerazione della zone urbane costiere (Clemente, 2011).
Nel corso degli anni, il numero di progetti di recupero e riqualificazione dei waterfront portuali ed urbani è progressivamente cresciuto. Parallelamente, l'approccio alle città di mare si è evoluto ed è cresciuta l'attenzione all'identità marittima che oggi appare ineludibile.
Se analizziamo approcci e pratiche, possiamo individuare una prima fase, fino agli anni Ottanta, in cui l'interesse si concentra sulle aree portuali marittime e fluviali caratterizzate da fenomeni di contrazione e riorganizzazione funzionale per la rivoluzione indotta dai containers nel trasporto marittimo. La decadenza economica e fisica delle aree e delle strutture portuali offre l'opportunità di ridisegnare ampie porzioni di città in prossimità del mare e di sperimentare una varietà di approcci teorici e metodologie operative (Falk, 1975; Moss, 1976; Committee on Urban Waterfront Lands, 1980; Hoyle e Pinder, 1981; Hoyle *et al*., 1988; Wrenn, 1983; Hall, 1991; Bruttomesso, 1993; Breen e Rigby, 1996; Gordon, 1996; Malone, 1996; Meyer, 1999).
Negli anni Novanta, aumenta la consapevolezza delle tematiche ambientali nelle aree costiere e la domanda di partecipazione della comunità urbana ai processi di rinnovamento del waterfront. L'obiettivo dei progetti si sposta, dal porto, alla città e alla regione costiera, soprattutto nell'approccio e nella ricerca dei geografi (Vallega, 1992, 2001; Hoyle, 1996; Billé, 2008; Stocker e Kennedy, 2009; Coastal and Waterfront Smart Growth, 2009; Green, 2010).
La nuova tendenza che si afferma dal 2000, dà maggiore attenzione alla prospettiva marittima dei problemi e favorisce il consolidamento di una metodologia condivisa a livello internazionale (Marshall, 2001; Dovey, 2005; Bruttomesso, 2006; Brown, 2009; Salmona, 2010; Clemente, 2011). In Italia, abbiamo avuto una serie di interessanti ricerche e progetti, anche se ben poco si è realizzato (Greco, 2009; Savino, 2010; Viola e Colombo, 2010; Aa.Vv., 2012).
Negli ultimi anni, infine, il tema si è definitivamente affermato a livello internazionale e si è diffuso un approccio più ampio che considera, insieme alla fascia che affaccia sul mare, anche le aree cerniera che collegano il waterfront al resto della città (Desfor *et al.*, 2010; Clemente *et al.*, 2012a).
Peraltro, anche nei più recenti interventi, il rapporto con il mare non è sempre centrale e non si valorizza pienamente l'identità marittima dei luoghi. Mancano strategie specifiche e una visione "dal mare" che dia consapevolezza dell'identità marittima come strumento chiave per la rigenerazione urbana sostenibile della città di mare.
Il tema, quindi, è aperto ed è di grande attualità: se nelle città vive la maggior parte della

popolazione mondiale, nelle città di mare si concentra gran parte della popolazione urbana a livello globale.

4. La rigenerazione marittima delle città di mare

Le comunità che abitano le città costiere hanno una specifica identità che le unisce indissolubilmente al mare e alla cultura marittima, alle tradizioni marinaresche, alla navigazione e, più in generale, a tutte le attività legate al mare. L'identità urbana marittima è una prospettiva originale per una comprensione approfondita delle città di mare e, andando oltre gli approcci tradizionali, le prospettive "dal mare" rivelano caratteristiche e vocazioni, gli spazi e le funzioni urbane assumono nuove valenze (Fig. 3) (Clemente, 2011).

Fig. 3 – L'architettura dell'Ozeanum e la nave a vela Gorch Fock a Stralsund in Germania

Foto: Massimo Clemente

L'approccio marittimo offre nuovi scenari di conoscenza e d'interpretazione delle aree costiere ed apre strade utili a perseguire l'obiettivo della sostenibilità nei piani, progetti e programmi per lo sviluppo locale delle comunità urbane marittime. La visione "dal mare", infatti, ci aiuta a mettere meglio a fuoco le tre dimensioni della sostenibilità nelle città di mare e a individuare le strategie più efficaci per perseguirle nella prospettiva marittima.

La dimensione ambientale riguarda la fascia costiera che comprende sia il mare sia la terraferma. La linea di costa è il luogo dell'incontro e dello scontro tra due elementi naturali

che sono molto diversi tra loro, è la cerniera tra l'habitat marino e l'habitat terrestre. L'obiettivo della sostenibilità ambientale, nelle città di mare, deve essere perseguito attraverso un'azione integrata, nell'acqua e sulla terraferma, per la tutela, la conservazione e la valorizzazione di questo particolare habitat e luogo di transizione.
La dimensione economica marittima è il motore dello sviluppo della città di mare e, in particolare, delle città portuali perché favorisce la crescita produttiva, l'occupazione lavorativa e, di conseguenza, il benessere della comunità urbana. La filiera economica marittima va dalla pesca al turismo balneare, ma il settore con il maggiore impatto è quello del trasporto via mare. La rete dei collegamenti marittimi genera sviluppo economico perché le rotte delle navi collegano i luoghi di produzione e i mercati di vendita.
La dimensione sociale riguarda la comunità urbana della città di mare che deve essere messa in grado di godere della risorsa mare, in termini sia ambientali sia economici. Il mare, in primo luogo, deve essere accessibile alla vista e, clima permettendo, i cittadini devono poter accedere alla balneazione e alla navigazione. Il mare deve essere l'elemento fondativo identitario del paesaggio urbano e della vita quotidiana dei cittadini. L'identità marittima è la base della memoria collettiva che prende forma nell'architettura e nei luoghi della città di mare. Un aspetto interessante della sostenibilità sociale nelle città portuali è quella dimensione multiculturale favorita dalle reti che uniscono popoli e città di mare (Clemente e Oppido, 2011).
Le comunità marittime hanno un rapporto particolare con il mare, rapporto che prende forma e si racconta nelle architetture e nei luoghi urbani, in particolare in prossimità dell'acqua. La città di mare è un mix di cultura marittima e di culture urbana: la sua memoria collettiva racconta la vita di uomini e donne che navigano sul mare e di altri che, parallelamente, vivono e lavorano sulla costa.
Le diverse identità urbane si esprimono negli edifici, negli spazi e nelle funzioni urbane, ma il rapporto con il mare è un fattore invariante, allo stesso tempo materiale e semantico. La cultura marittima ha interrelato e unito tutte le comunità marittime, attraverso lo spazio e il tempo, nelle diverse regioni del mondo e nelle successive fasi della storia umana, dall'antichità fino all'età contemporanea.
L'acqua copre circa i tre quarti del pianeta ed è un substrato liquido dal quale le città costiere sembrano emergere. Se vogliamo veramente capire le città di mare, dobbiamo spostare il nostro punto di vista dalla terra al mare e partire dalla cultura marittima per approfondire la cultura urbana che si esprime nella città di mare.
Questa nuova prospettiva "dal mare" favorisce una lettura originale di ciò che gli uomini hanno realizzato antropizzando e urbanizzando le coste, creando porti sicuri, navigando per conquistare terre lontane e per fondare nuove città e nuovi porti. Diventa naturale, allora, considerare la città di mare come espressione urbana di quella comunità la cui identità è stata costruita in rapporto al mare, generando una fusione armonica di cultura urbana e cultura marittima.
Nel nostro approccio, consideriamo la città di mare nel senso ampio come habitat di comunità fortemente legate al mare, dal piccolo villaggio di pescatori alla metropoli portuale oceanica, dal centro turistico balneare alla città portuale fluviale. In queste diverse situazioni urbane c'è sempre un fattore comune: le forme urbane e architettoniche trasmettono la memoria collettiva di un'unica grande comunità del mare e, allo stesso tempo, esprimono l'identità locale specifica di ogni città di mare.
Nel corso della storia e alle diverse latitudini, gli uomini hanno trasformato l'habitat

costiero, adattandolo alle loro necessità materiali e spirituali. Questi processi di adattamento sono avvenuti come estrinsecazione della cultura comune che unifica tutti i popoli di mare e come espressione della memoria collettiva che ogni generazione marinara ha trasmesso a quella successiva.

Le configurazioni delle città di mare sono molto varie e questo potrebbe contrastare con l'ipotesi di elementi comuni che definiscono un modello astratto di città sul mare "tipo". Tuttavia, l'astrazione di un modello può aiutare a definire procedure conoscitive delle aree urbane costiere e a individuare strategie efficaci per il buon governo delle trasformazioni urbane e territoriali, tutelando e valorizzando l'identità marittima.

L'approfondimento di questa visione "dal mare" richiede il superamento della tradizionale separazione tra le discipline e la collaborazione tra architetti, urbanisti, ingegneri navali, progettisti, economisti, storici, filosofi e così via. Non è solo una questione d'integrazione di temi diversi, piuttosto, si tratta di combinare diversi punti di vista e approcci.

Possiamo considerare la nave come un luogo urbano di transizione e di mediazione che collega la città al mare. Allo stesso modo, nelle città di mare, le forme architettoniche e urbane sono generate da processi creativi ispirati, direttamente o indirettamente, al mare e alla cultura marittima. Per questo, si può dire che l'arte di navigare e l'arte di costruire le città non sono distanti, sono simili e comparabili (Clemente, 2011).

Prima della separazione tra la città e il porto, a causa della forte specializzazione di quest'ultimo, la città-porto era l'habitat unitario, senza soluzione di continuità, della comunità marittima urbana. Navigando, l'uomo si avvicinava alla costa, dove l'acqua del mare incontra la terra. La nave entrava in porto e attraccava alla banchina. La città di mare si rivelava nella sua vitalità: i marinai e le donne in attesa del loro ritorno a casa, i pescatori, gli esploratori, gli abili artigiani e i carpentieri di bordo. Le navi apparivano come estensione della città sul mare e la proiezione della spinta degli uomini verso l'ignoto.

Oggi il porto è un filtro, una camera di compensazione in negativo che separa, in modo netto, l'esperienza sul mare dall'esperienza urbana.

La storia dell'Europa è profondamente marittima e, più in generale, il mare e la navigazione possono essere una chiave di lettura della storia dell'Occidente: le antiche civiltà fluviali della Mezzaluna fertile, la mitologia legata ai popoli del mare, i Greci, i Fenici, i Romani, la concorrenza tra cristiani e i musulmani per la supremazia nel Mar Mediterraneo, la scoperta dell'America, le grandi esplorazioni, la colonizzazione europea del "mondo conosciuto" (cioè, conosciuto da noi Europei) e così via. Ai nostri giorni, anche la globalizzazione può essere interpretata come un fenomeno strettamente legato al mare, alla navigazione e al commercio marittimo tra le principali città portuali di tutto il mondo.

La storia delle città di mare è assolutamente suggestiva, soprattutto se si considera attraverso la prospettiva della comunità di mare (Kokot *et al.*, 2008). Forme e spazi esprimono e trasmettono la memoria collettiva con la sua magia e la bellezza.

Questo approccio spinge ad una rivisitazione dei processi di recupero del waterfront che, in numero sempre maggiore, si sono avuti nel corso degli ultimi cinquant'anni nelle più importanti città portuali in tutto il mondo.

L'obiettivo è quello di definire metodologie e strategie innovative per migliorare la qualità urbana, nelle città di mare, attraverso la valorizzazione dell'identità marittima. Si possono individuare esempi positivi e altri negativi da cui ricavare elementi metodologici: punti di forza e di debolezza per la progettazione urbanistica e architettonica. Approfondimenti specifici sono stati sviluppati, dal nostro gruppo di ricerca, su alcune città emblematiche tra

cui New York, Valencia, Liverpool, Barcellona, Marsiglia, Belfast, Anversa (Clemente, 2011).
Gli uomini modificano la linea costiera trasformandola e adattandola alle loro esigenze e oggi, come nei secoli passati, gli architetti più attenti riescono a interpretare il rapporto con il mare (Fig. 4). In molte città nei mari del mondo, edifici e spazi pubblici contemporanei, interagiscono con il mare, interpretando la memoria collettiva del rapporto tra comunità e mare (Clemente *et al.*, 2012b).

Fig. 4 – Imbarcazioni da diporto in banchina nelle acque di Boston, Massachusetts

Foto: Massimo Clemente

Nel corso delle ricerche sin qui sviluppate sono emersi alcune tematiche che potrebbero essere approfondite e diventare il fondamento di una possibile metodologia.
Il primo approfondimento che si vuole portare avanti è sul rapporto tra forma urbana e mare, tra architettura e navi. Gli accostamenti sono apparentemente forzati, soprattutto se affrontati con un approccio rigidamente mono-disciplinare ma, evidentemente, promettono risultati affascinanti e suggestivi. Nella storia e nella contemporaneità, si possono incrociare i processi evolutivi delle tipologie navali e delle tecniche di navigazione con il destino delle città portuali, le trasformazioni della costa, la forma urbana, gli spazi e le funzioni delle città di mare.
Il secondo tema è il parallelismo dei processi evolutivi e di trasformazione urbana che unisce le città portuali. Il commercio marittimo e gli scambi culturali favoriscono una sorta

di destino comune per le città di mare. La storia marittima racconta il collegamento identitario tra le città del Sud Europa e quelle del Nord Africa nel Mar Mediterraneo. Così come la Lega Anseatica era la formalizzazione della comune identità delle città portuali nei Mari del Nord Europa.
Un terzo punto emerso dalle nostre ricerche è il mare come laboratorio per la sperimentazione delle nuove tecnologie prima della loro applicazione sulla terraferma. Le navi e la navigazione erano il campo di applicazione e verifica delle nuove tecniche costruttive, delle scoperte fisiche, delle invenzioni ingegneristiche, delle nuove forme di comunicazione. L'avanzamento sul mare era seguito dall'applicazione sulla terraferma per realizzare edifici innovativi e infrastrutture più moderne, per il progresso umano e l'evoluzione della città. In verità, solo nel Novecento l'aeronautica ha superato la navigazione come campo privilegiato della sperimentazione e dell'innovazione tecnologica.
L'incontro tra l'arte di navigare e l'arte di costruire la città genera curiosità e voglia di approfondire. La navigazione è un'arte antica che esprime il forte e controverso rapporto dell'uomo con gli elementi naturali: la terra, il mare, il vento.
La profonda comprensione del rapporto tra l'uomo, il mare, le navi e la navigazione è il fondamento più logico e naturale su cui costruire piani e progetti di rigenerazione urbana nelle aree costiere.

5. Conclusione e sviluppi futuri

Le rotte marittime collegano le città di mare e le comunità che le abitano, instaurando non solo interazioni funzionali ma, soprattutto, relazioni culturali e semantiche. Nel corso dei secoli, le navi hanno trasportato da un porto all'altro, insieme alle merci, la cultura e i valori dei popoli del mare. Oggi, quei valori possono essere il punto di partenza di un approccio sostenibile ai processi di trasformazione degli insediamenti urbani costieri.
La tradizione marittima può essere lo strumento per consolidare la cultura urbana nelle città di mare e l'identità marittima può ispirarne la progettazione urbana e architettonica. Le città di mare sono un laboratorio privilegiato per interrogarsi sul destino della metropoli moderna e di individuare modelli di sviluppo innovativi (Clemente *et al.*, 2013).
Lo sviluppo e l'approfondimento del rapporto tra città e mare può essere raggiunto attraverso l'interpretazione di un dialogo terra e acqua, tra architettura e imbarcazioni, nelle forme e nei contenuti identitari, nella comune memoria collettiva dei popoli del mare.
Si possono, allora, fissare alcuni concetti chiave per costruire una *research agenda* capace di traghettare le suggestioni e riflessioni sulle città di mare verso una metodologia di pianificazione, progettazione e attuazione dello sviluppo sostenibile nelle città portuali e, più in generale nelle aree urbane costiere.
L'analogia dei processi evolutivi nelle città collegate da scambi marittimi commerciali e culturali è il primo strumento interpretativo su cui costruire procedure di analisi e valutazione comparativa. L'avanzamento del progresso tecnologico sul mare (navi e navigazione) e sulla terraferma (architettura e città) può essere attualizzato e proiettato verso il futuro delle città di mare, sviluppando il rapporto dialettico tra l'arte della navigazione e l'arte di costruire la città in senso propositivo e programmatico. La profonda comprensione del rapporto tra l'uomo e il mare, in fondo, è la chiave della sostenibilità delle città di mare e l'interazione tra città, mare, architettura e navi è la sintesi dell'identità marittima urbana.
Su tali basi, si propone il superamento degli orientamenti più tradizionali al ri-disegno degli

insediamenti urbani costieri e, in particolare, al recupero dei waterfront, andando oltre gli approcci mono-disciplinari. L'interdisciplinarità marittima può essere lo strumento strategico per conseguire nuove visioni e elaborare piani per la rigenerazione identitaria e sostenibile delle città di mare con il coinvolgimento pieno e consapevole delle comunità marittime.

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