

TeMA

Journal of
Land Use, Mobility and Environment

This special issue collects a selection of peer-review papers presented at the 8th International Conference INPUT 2014 titled "Smart City: planning for energy, transportation and sustainability of urban systems", held on 4-6 June in Naples, Italy. The issue includes recent developments on the theme of relationship between innovation and city management and planning.

Tema is the Journal of Land use, Mobility and Environment and offers papers with a unified approach to planning and mobility. TeMA Journal has also received the Sparc Europe Seal of Open Access Journals released by Scholarly Publishing and Academic Resources Coalition (SPARC Europe) and the Directory of Open Access Journals (DOAJ).

INPUT 2014

Smart City

Smart City
planning for energy, transportation
and sustainability of the urban system

SMART CITY

PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM

Special Issue, June 2014

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This special issue of TeMA collects the papers presented at the 8th International Conference INPUT 2014 which will take place in Naples from 4th to 6th June. The Conference focuses on one of the central topics within the urban studies debate and combines, in a new perspective, researches concerning the relationship between innovation and management of city changing.



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EIGHTH INTERNATIONAL CONFERENCE INPUT 2014

SMART CITY. PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM

This special issue of TeMA collects the papers presented at the Eighth International Conference INPUT, 2014, titled "Smart City. Planning for energy, transportation and sustainability of the urban system" that takes place in Naples from 4 to 6 of June 2014.

INPUT (Innovation in Urban Planning and Territorial) consists of an informal group/network of academic researchers Italians and foreigners working in several areas related to urban and territorial planning. Starting from the first conference, held in Venice in 1999, INPUT has represented an opportunity to reflect on the use of Information and Communication Technologies (ICTs) as key planning support tools. The theme of the eighth conference focuses on one of the most topical debate of urban studies that combines , in a new perspective, researches concerning the relationship between innovation (technological, methodological, of process etc..) and the management of the changes of the city. The Smart City is also currently the most investigated subject by TeMA that with this number is intended to provide a broad overview of the research activities currently in place in Italy and a number of European countries. Naples, with its tradition of studies in this particular research field, represents the best place to review progress on what is being done and try to identify some structural elements of a planning approach.

Furthermore the conference has represented the ideal space of mind comparison and ideas exchanging about a number of topics like: planning support systems, models to geo-design, qualitative cognitive models and formal ontologies, smart mobility and urban transport, Visualization and spatial perception in urban planning innovative processes for urban regeneration, smart city and smart citizen, the Smart Energy Master project, urban entropy and evaluation in urban planning, etc..

The conference INPUT Naples 2014 were sent 84 papers, through a computerized procedure using the website www.input2014.it . The papers were subjected to a series of monitoring and control operations. The first fundamental phase saw the submission of the papers to reviewers. To enable a blind procedure the papers have been checked in advance, in order to eliminate any reference to the authors. The review was carried out on a form set up by the local scientific committee. The review forms received were sent to the authors who have adapted the papers, in a more or less extensive way, on the base of the received comments. At this point (third stage), the new version of the paper was subjected to control for to standardize the content to the layout required for the publication within TeMA. In parallel, the Local Scientific Committee, along with the Editorial Board of the magazine, has provided to the technical operation on the site TeMA (insertion of data for the indexing and insertion of pdf version of the papers). In the light of the time's shortness and of the high number of contributions the Local Scientific Committee decided to publish the papers by applying some simplifies compared with the normal procedures used by TeMA. Specifically:

- Each paper was equipped with cover, TeMA Editorial Advisory Board, INPUT Scientific Committee, introductory page of INPUT 2014 and summary;
- Summary and sorting of the papers are in alphabetical order, based on the surname of the first author;
- Each paper is indexed with own DOI codex which can be found in the electronic version on TeMA website (www.tema.unina.it). The codex is not present on the pdf version of the papers.

SMART CITY PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM Special Issue, June 2014

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Naples, 4-6 June 2014

The logo for the INPUT 2014 conference. It features the word "input" in a lowercase, sans-serif font, with the "i" and "n" connected by a red line that forms a stylized shape. Below "input" is the year "2014" in a larger, bold, sans-serif font. The "0" in "2014" is also connected to the red line above it.

RE-USE/RE-CYCLE TERRITORIES

A RETROACTIVE CONCEPTUALISATION
FOR EAST NAPLES

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ABSTRACT

In the vast majority of cities all over the world, urban growth takes place in peri-urban spaces. City models are in deep crisis facing the disappearance of differences between city and countryside. The urban sprawl of settlements in Italy, and also in Europe, is quite different from sprawl phenomenon and suburbs basically referring to American cities. Urban sprawl is characterized by one-family houses, dispersed in the countryside and by large industrial enclaves close to infrastructures networks. Italian situation can be interpreted as a peri-urban model instead of sprawl condition. The rural-urban fringe derives from the erosion of the countryside due to the abandoned residential settlements and the industrial patterns. In the contemporary Italian urbanized landscape, urban and rural realms merge, creating complex "hybrid" types of space, consisting of residential areas, commercial zones, agricultural land, recreational and nature areas. The rural-urban fringe, an area between the city and the countryside, is characterised by spatial and functional heterogeneity and by a large amount of drosscapes, "in between spaces", abandoned industrial buildings and sites and underused spaces without development programs. This article addressed three main questions: Are there alternatives to closure and abandonment? Is it possible to consider the recycling of *drosscapes* as a new paradigm in opposition to the crisis of international finances and city models? Can the networking of residual rural-scape represent the new strategy to regenerate urbanized landscape?

KEYWORDS

Recycling, drosscape, hybrid space, rural-urban fringe

1 INTRODUCTION

1.1 CONTEMPORARY FORMS OF METROPOLITAN SPACE

The paper topic are landscape recycling tools related to land consumption, using *open spaces* as a starting tool for regeneration. This approach can lead to relevant results: on one hand, to give again centrality to brownfields and disused areas, the "remains" and "wastes" of territorial system, legitimized for the first time by Lynch's *Wasting Away* (1990); on the other hand, as in the *Third Landscape* by Gilles Clément (2003), to assign a systemic role to disused space, pointing out the "awaiting" condition as an opportunity not related to future transformations, but to practical "takeovers" and ecological "reconnections".

Openness relates to the ecological function of communities within their everyday territory, identifying their characters as a base for the *commons* of the city, building a sense of identity and belonging within the *urban metabolism*, as firstly Jane Jacobs assumed (1961).

As Tim Jackson (2010) points out, the economic crisis gives us an unrepeatable opportunity to invest in the change: open networks (land, energy, transports, water, waste and food), and the built heritage, are the raw materials capable of transforming urban spaces, through the overcoming of sectional interests and the restoration of physical and social connections in the urban areas. In this perspective, *urban ecology* is interpreted as a contextual relation between community and inhabited *open space*: the new paradigm of recycle, confirming the centrality of common goods, gives the chance to use strategies based on what already exists, enhancing the solidarity and the common values, starting from wastes and remains of a parasitic vortex, which has transformed our territories.

On the other hand, it's undeniable that, after a century of uncontrolled and unquestioned growth, of blind faith into prosperity and economic wellness, the contemporary city is oscillating nowadays between the fear of *indefinite expansion and dispersion/disintegration* (Secchi 2005). Today cities are *shrinking* (Oswalt 2006) -while urban-planning debates focus on the growth of the megalopolis, many of the world's existing population centers are watching their citizens (and functions) walk away. Between globalization, deindustrialization, suburbanization, the transition to post-Socialism, high unemployment and, in some cases, wider national population losses, the phenomenon is growing.

The exterior areas of cities have seen in the past the concentration of docks, industries, manufacturing activities, etc. This has been due to a lot of factors, such as their proximity to accessible routes, the abundance of empty lands, a consolidated absence of institutional policies, etc. Such a trend led also to the positioning of all the activities shut out from the classy city centre, such as pumping stations and dumping grounds, thus affecting for decades the resident population, causing social exclusion and economical gap in comparison with higher standards of the inner parts of the city. This phenomenon increased in recent times with the closure of many factories, the re-location of docks and the consequent loss of jobs and land values, in addition to the economic and social crisis. Since the Sixties the big cities, with the coming of the post-industrial era and the loss of meaning and use of old industrial developments, show up rows of empty spaces, brownfield areas and neglected sites. The city once in expansion, starts *shrinking* to its *limits*, filling them with new functions and meanings.

In whole Europe, after the de-industrialization the urban growth came to a standstill: the city shrinks to its *limits*, uncovering its *wastelands* and *drosscapes*. The *in-between* landscapes stood at the margins, *awaiting a societal desire to inscribe them with value and status* (Berger 2006, 29)

This way, limits of the city are no more perceived or conceived as simple and plain *lines*: they are among different conditions and situations, belonging to various regions in the same time, shaped by local meanings

from different sources. *Liminal space, but also 'liminal' as a space* (Zanini 2000). Liminality is a psychological concept by the anthropologist Victor Turner: it refers to the mental state of initiates during a transition ritual. *Liminal spaces are thresholds*, surrounded by dissolving boundaries. Limits are *thresholds* too: they are no part of the inner city, but neither of its outskirts. They're *spaces of transition* between the interior and the exterior of the contemporary city, places where *liminality depicts a "no man's-land" open to everyone* (Zukin 1991, 269)

The sprawl city usually creates abandoned and empty spaces as well, that derive from unplanned, poorly designed and unmaintained open spaces and vegetation. The drosscapes in the sprawl city are the composite of many landscape fragments, such as empty properties, strips, lots and a large amount of different in between spaces. Sometimes these lands are left intentionally empty until it is possible to develop them. Since many of these drosscapes are on the margins of these new sprawl cities and are waiting for a new valuation, they are often described as liminal too.

In the last few years the financial and economic crisis changed the perception of economic and social values and called for a transformation of the territory. Reclaiming brownfields has thus become crucial for a future socio-economic development.

These vacated and deprived lands stand as a claim for the contemporary city. For ages sectional urban policies forgot to address liminal spaces; contemporary age need to re-think the remains of industrial era, its physical and social decay, combined with a global process of critical analysis of *shrinkage* effects above vast areas.

Drosscapes by definition evocate the idea of a recycling area, and they represent a new paradigm that emphasizes the productive integration and re-use of "waste landscapes". Drosscapes are places with disappearing rules, even laws: forgot by the city, and by its administration and urban policies, abandoned to a development of their own; in a way, independent from the common process of life and growth of contemporary city, which is fast and competitive, while limits are slow and almost self-sufficient, almost self-governed. The silences of authorities, the lacks of urban planning and policies, are transforming fast environment, remains of the *production city*, into *suspended landscapes*, waiting for a different shape and meaning.

The biggest issue about the re-cycle of urban drosscapes is that the concept of waste sometimes is highly subjective and it is not based on homogeneous value system. However, the situation is quite clear in presence of the combination between contaminated sites and industrialized areas. For instance, in the area East of Naples, sites that were previously used for chemical and petroleum plants have been closed for a future re-use, due to their high toxicity.

1.2 IN-BETWEEN SPACES / RE-CYCLING STRATEGIES

The paradigm of recycle is a good way to start reducing land consumption, especially relating to the landscape we built in the past. This reduction is not a contraction of urban growth, but an afterthought of urban culture and lifestyles, thus implying the necessity to re-consider even parts of the city which gradually lost their meaning and shape. The reference is a model of *smart city*, capable of material recovery of existing values and built environment, especially in presence of brownfield areas. These areas have a great potential, through the improvement of the existing resources: soil, water, land uses, nature and ecological relations, culture and local urban values, not last the material remembrance of industrial architecture. These resources entail specific actions: ecological rules redefinition, ecosystemic preservation, planned compatibility with new functions, etc. The fewer changes that are made and the less energy that is required

to make them, the more effective a recycle strategy will be. You can change something without necessarily requiring a major intervention.

Therefore re-cycle refers to new life cycles of materials, products, spaces and buildings that completed their planned life cycles. It is strongly connected to the concept of reducing and re-using. But in addition to reducing and re-using tools, re-cycle implies different dimensions and multiscalarity. It is dynamic and strategically adaptive, aimed to environmental sustainability (e.g., reduction of land consumption, carbon dioxide emission, in site materials reuse, etc.). In addition, while recycling creates new economic opportunities, it also enhances social inclusion, due to its bigger attention to the production process and its indirect consequences. The purpose of a good re-cycling project is to harmonize the life cycle of varied landscape sets, which are decaying at different speeds, following the 3R system, Reduce/Reuse/Recycle. Germany adopted this perspective during the 2006 Venice Architecture Biennale, in the exhibition called the "Convertible City. Modes of Densification and dissolving Boundaries", underlining regulations to limit the uncontrolled growth, and again during the 2012 Venice Architecture Biennale, with the exhibition called "Reduce. Reuse. Recycle", with practical and operational tools of recycle and re-use. In parallel, in 2012 Italy hosted at the MAXXI Museum (Rome) the exhibition, called "RE-CYCLE. Strategies for architecture, the city, the planet", which presented recycle in transversal and interdisciplinary approaches, through interventions on buildings, cities, landscapes, together with works of media, in Italy and all over the world.

2 CASE STUDY: URBAN REGENERATION IN THE EAST NAPLES AREA

2.1 EAST NAPLES: FROM PIANA CAMPANA TO CAMPANIA FELIX

The metropolitan territories of Naples, called "Piana Campana", are composed by a high-density conurbation between the cities of Naples, Caserta and Salerno. This sprawling urban area is located at the margins of the compact cities and has a chaotic structure derived also from illegal processes. Density and dispersion of settlements are mixed in this territory. Historical centres are connected with each other through a continuous urban pattern, where hybridization exists between urban and rural scape. Naples metropolitan region is a multipolar structure, but not an actual network, based on efficient mobility systems.

Campania Region has not an acclaimed tradition of spatial planning on regional and municipal levels. It is made of a combination of results born from several sectional policies (infrastructures, production settlements, shopping malls, etc.), not integrated in the landscape planning. Residential settlements are separated from urban public spaces, as for example parks, public facilities, open public spaces, etc.

This phenomenon generated a territorial fragmentation with spontaneous and low quality urban patterns.

In the Piana Campana region there are a lot of spaces "*in transition*", like the eastern part of Naples itself. East Naples is a combination of "waiting-spaces", because they are still waiting for a project; they could be considered also as drosscapes (Berger 2006), born in different periods, spaces that ended their lifecycle: "dead spaces" with a strong power for urban regeneration. This urban fringe could represent a strategic element to re-discover the tradition of agriculture in Campania "Felix" (designation of the ancient rural landscape due to the large amount of harvesting obtained each year).

This work focuses on the re-use of under-used or no-longer-in-use spaces and on the possible alternatives to closure and abandonment. The recycling of drosscapes represent a new paradigm to escape the international crisis, re-imagining the future in a cyclical way.



Fig. 1 Esat Naples: aerophotogrammetry and land use

The Piana Campana region is crossed by Regi Lagni, eighteenth-century canals, designed by engineer Domenico Fontana. The general aim of the project was the reclamation of marshes near Acerra city. These territories were taken away from water: for this reason, water can be considered as a primary landscape element here. Therefore, water represent a key landscape element for the East area of Naples as well, but today drosscapes occupy the 40% of all the territory. The area is almost totally urbanized, and territory is nearly completely consumed. There are industrial abandoned enclaves, urban abandoned settlements in the peri-urban spaces and technological machines. The rural-scape is fragmented and eroded by urban low density dispersion, by greenhouses and by other kinds of hybrid spaces as parking lots, logistic platforms, are underutilized or not utilized areas.

East Naples has an advanced process of abandonment in comparison with other regional territories in Italy. The lifecycle of the urban and environmental system (industry, "blue network", marsh) are largely consumed or in a crucial point of crisis. The planning at the municipal level (P.R.G. 2004) does not focus on the strategies to stimulate new lifecycle for the drosscapes and does not take in consideration the residual rural-scape and the others "in between spaces".

2.2 THE CYCLICAL MARSHES IN THE AREA EAST OF NAPLES

In the Augustus time, the Romans restored the Campania Region creating a large centurial grid. In this territory, at the end of the Empire, the marsh re-appeared. In the 1610 there was the Regi Lagni reclamation by Domenico Fontana. It reduced the importance of the Sebeto river for this region and reduced its character of marsh. The integral reclamation in the second half of the nineteenth century prepared the soils for the industrial settlements that included the reclamation machine inside its structure.

Today the closure of factories caused a new appearance of water on the surface of the ground, like in the time of the marsh. That's why water is a primary key element for a landscape themed design project in the East area of Naples.

The green core of the rural-scape in this part of the region is the object of this research. Waterscape, even if largely underground, is a main project theme, capable of overlap itself on the sectional previsions of the local plan. The project strategy is to re-discover and re-propose the specific moment prior to the crisis of

East Naples historic model: the marsh (1400), the reclamation of the countryside (1890), the industrial city (1966), the “waiting city” (2014).

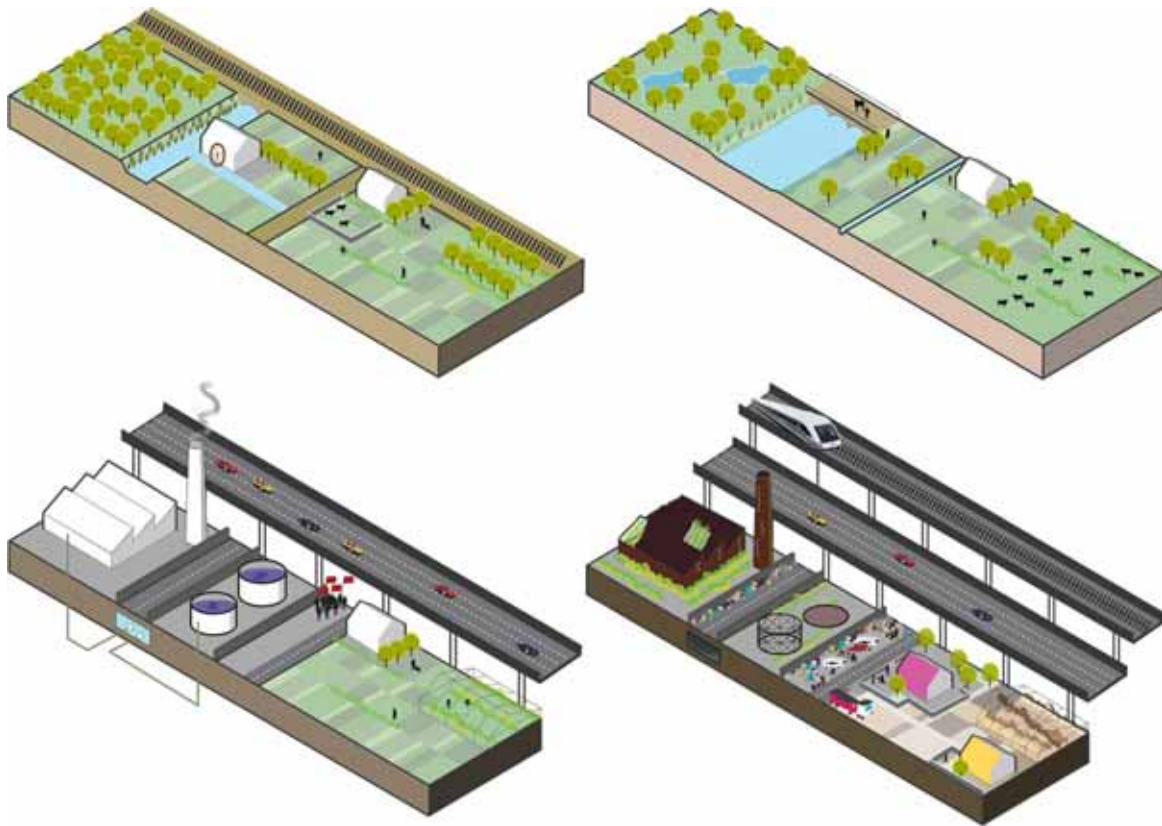


Fig. 2 Retro-active conceptualisation

This is a retro-active conceptualisation and a construction of an *inverse* palimpsest. Instead of *writing*, the idea is to *erode* signs and *erase* the “ground noise” of hybrid landscapes (dispersed settlements, “in between spaces”, rural-urban fringe, etc.), to re-interpret the residual tracks and invisible testimonies, to look for hidden project images.

Time is another main element of the project. Different temporal cycles exist in this region and they are the object of the project: time as a shape and time as a cycle.

Recycle paradigm in East Naples relate to its past lifecycle, following an archaeological perspective, discovering ancient worlds. All these worlds are important for the project and they live together in the same time: the industrial past co-exists with marshes; the residential future is connected to urban agriculture.

The residual rural-scapes, object of the project, are marginal areas ignored by real estate investors. Therefore these kind of spaces are extremely interesting and represent an important economic and ecological resources. These residual spaces, wastes, micro-areas abandoned could be immediately re-used to create a network to connect the urban fabric through temporary uses, re-green canals and creates green way. The project aims to support the re-creation of a “Third Landscape” (Clement 2003) as a biological necessity.



Fig. 3 the rural scape in East Naples

3 CONCLUSION

When both built environment and infrastructures had ceased to be at the core of the urban development, landscape and open spaces values appear to be the only way to give urban and social order to cities. Therefore, landscape is not only a reference, but an actual design key element, showing relevant characters:

- first of all, the liminality, i.e. a uniqueness, a peculiar attitude to transition; no use and no development has to be considered as definitive and immutable, in order to save its dynamism, urban metabolism and social mix;
- secondly, the historical and environmental characteristic, in need to be correctly evaluated: it doesn't mean to slide into indiscriminate preservation, but just to preserve its individuality, through the 3R system;
- finally, the accessibility, its closeness to the city core, whose relationships encompasses various scales, interweaving the local planning with the spatial strategies.

The aim of the research was to identify new strategies to inhabit peri-urban areas regenerating wastes following a resilient strategy, as an opportunity to create new high quality open spaces, green and mineral spaces through recycle techniques. In such a perspective, urban farm land, parks and infrastructures are regarded as potential factors to produce waste recycling to improve open spaces.

In the Italian context, the case of East Naples within the wider case of the Piana Campana could be an interesting laboratory to experiment new challenges, using re-cycle networks as new planning strategies.

NOTES

§ 1 by L. Amenta, A. Attademo and S. Castiello. § 2. by L. Amenta and E. Formato. § 3 by L. Amenta and A. Attademo.

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IMAGES SOURCES

Figg.1, 2, 3, 4: by L. Amenta, S. Castiello, C. Di Marco.

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