

The Sustainable Mediterranean City: Perspectives for Prosperous Urban Landscapes

Dr. Giulia Annalinda Neglia¹

¹ DICAR, Politecnico di Bari, Italy

Abstract

Sustainable, fair and respectful are terms often connected to landscape design, while they can also be regarded to urban design practices, especially when landscape meets interstices or peripheral urban areas, and correlates to sustainable processes of change in cities' social, economic and environmental evolution (SDG 11). When associated to urban form, these terms open avenues of research as well as promising areas of growth in the ability of landscape design to further inform urban morphology design. In particular, when design is connected to urban-territory form analysis, it can reveal patterns of change that can actively contribute to the wider adaptability of cities. This is particularly relevant in the case of many medium-sized Mediterranean city, set in direct connection to natural / territorial structure and pieces of agricultural lands. In this case, landscape analysis and design can help in adopting and implementing integrated strategic plans for sustainable development, resource efficiency, social inclusion, mitigation, safety, accessibility and finally the so-called "resilience".

This paper aims at dealing with the role of landscape design in defining a consistent sustainability for the Mediterranean urban landscape, which has often been lost during the last decades, due to natural and anthropic changes, and where the recovery is needed, in a consistent connection with the urban morphology and the territorial structure, to give also answers to climate change related issues. Spanning from analysis to design, it aims at presenting some landscape design proposals for the urban regeneration, through the reconstruction of the continuity between countryside and city. Territorial and environmental analysis will lead design at transforming interstices and boundaries areas into multifunctional public spaces able to re-knitting the agriculture landscape to the peripheral urban forms, strongly linked to the identity of the places.

Keyword: *Mediterranean landscape, urban agriculture, open spaces design, continuity, ecology*

Introduction

Cities are palimpsests of urban history but also experimental places where to test new living behaviours, which are the result of social and economic changes. As a result, their form is never neutral but always influenced by social, economic, environmental and territorial factors. In particular, the more their form is connected with the territorial and environmental structure, the most they can stay sustainable. On the other hand, the more their structure is unconnected with the environmental, ecologic, physical environment, the most cities must face big issues in remaining liveable and sustainable.

Nowadays, indeed, resilience is not an option, and we need to put at the heart of urban design, the capacity of transforming cities by understandings the complexity of their territorial environment, which is often rich in resources to be considered for a sustainable design.

Moreover, with fast-growing population and cities footprints, together with patterns of consumption, territorial morphology understanding holds a central role in leading the way to sustainable urban design: in a moment when production, social life and public spaces are between the most relevant keywords to define future cities, we need to find in them the new terms of connection with surrounding and interstices territories.

This challenge is particularly keen for landscape architecture because it performs not only on the design of the natural environment, but also on the relationship with the built environment, acting in particular within the interstices where the territorial structure and the urban form meet. The capacity of seeing outside the project characterizes this field, and defines the topics around which its action develops, addressing towards inputs and methods coming from different subjects, including ecology, cultural geography, urban agriculture, and not least the ethic of design, also through raising awareness towards a stronger relationship with environmental resilience.

This paper aims at dealing with the role of landscape design in defining a consistent sustainability for the urban landscape, especially in peripheral areas where a recovery is needed in connection with the territorial structure, and which is based on the reconstruction of the continuity between city and countryside. Spanning from theory of landscape design and territorial analysis, it aims at presenting some design proposals for the urban regeneration of peri-urban areas in Bari, a medium-sized city in the southern Italy, developed in the Studio of Landscape Architecture, at the School of Architecture of the Polytechnic University of Bari.

Theoretic background for urban agriculture and peri-urban ecologic design

Through rich and complex processes, Landscape Architecture embraces contributions coming from ecology, history, visual arts, botany and cultural studies. At the same time, it breaks away from traditional design, resulting in theories and approaches ranging, between the others, around the terms *ecology*, *public spaces*, *ordinary landscapes* and *urban agriculture*.

Among the pioneers of the cross-disciplinary approach ranging around the aforementioned terms are Ian L. McHarg, the leader of the Environmental Planning and Urbanism, John B. Jackson who was one of the first to study the ordinary landscape of the suburbs of American cities, and Laura J. Lawson who has recently shown a new direction in designing and understanding peri-urban spaces.

From the 1960s Ian L. McHarg explored perspectives for sustainable relationships between man and environment, in order to create socially and ecologically appropriate design. In *Design with Nature* (McHarg, 1969) he introduced the concept of “ecological planning”, that is an ecological interpretation of the environment, in search of solutions for sustainable design. Stressing the role of the term *with*, he opened a cooperation between humans and natural environment, aimed at an ethical evaluation of the

project, and linked in a coherent aesthetic expression. In search for a structural relationships with settlement, climatic and environmental relations, he also pushed towards the definition of “cluster development”, or rather of an urbanization of residential settlements in a vast natural area, connected to gardens.

In the early 1950s, while English landscape architects coined the term *subtopia*, to define the process of unraveling urban landscapes towards the countryside with the consequent loss of demarcation between urbanity and agrarian spheres, John B. Jackson was among the first to understand the extent of these changes by studying the ordinary landscape of the American suburbs. Considering the landscape as the result of an anthropic action, in the dialectical relationship between man and nature, he saw humans as operating subjects, which culturally define their individual characteristics, also codifying aesthetic values (Jackson, 1997. See also Muratori, 1967). In a time where marginal landscapes were still deplored, Jackson’s contribution to landscape Architecture lies in the finding, in the space of relationship between rural countryside and large cities, or in the band of the urban sprawl, the new places for the American society (Jackson, 1994).

Finally, a new direction in understanding and designing peri-urban spaces was recently shown by Laura J. Lawson. Her psychological-environmental, historical and cultural studies of shared agriculture spaces in urban areas, aim at demonstrating that urban gardens are not just a resource for food production, but also potential catalysts for community development. Therefore, they must be resilient and flexible in order to meet the manifold needs that a society requires. Her manifesto-book *City Bountiful: A Century of Community Gardening in America* (Lawson, 2005), by describing the different social types of the American community gardens since the late nineteenth century, makes it clear that urban gardens are not an innovation of our time, but they are instead part of a strategy to improve the urban conditions during the phases of economic and social crisis: regularly appearing in the form of gardens inside unused plots, gardens in public buildings backyards, gardens for recovery during the war or from the Depression, or as social gardens in our day. This systematic presence of such forms of urban agriculture within the urban environment not only raises questions of environmental sustainability, but also denotes the need for a constant relationship between agriculture and the practice of urban design. Finally, while other movements, such as the “City Beautiful” at the turn of the 20th century, have rethought the physical layout of the city through major plans of morphological reform, the “City Bountiful” also requires a transformation in the way we think of our cities in terms of resources and social action. Urban agriculture must indeed take on a permanent role in defining the architecture of the city, becoming an integral part of the structure of public or shared open spaces.

What we can still learn today from these pioneers experiences and theories is that in the project for public spaces of the contemporary city we need to play with the economic and cultural value, as well as social

functions, of natural areas and agriculture, to recognize the interconnections that they have with the context, transforming them into lasting resources for the quality of urban life. Accordingly, we will be able to connect the terms *sustainable*, *fair* and *respectful* to urban design practices, especially in the cases when we will be acting in the areas where landscape meets interstices or peripheral urban spaces, and correlates to sustainable processes of change in cities' social, economic and environmental evolution (SDG 11).

This is particularly important today because, when associated to the need of recovery or re-building urban form, these terms open avenues of research as well as promising areas of growth in the ability of landscape design to further inform urban morphology design.

Finally, when landscape architecture is connected to urban-territory form analysis, it can reveal patterns of change that can actively contribute to the wider adaptability of cities, between the others in the areas of ecology, ordinary landscapes and urban agriculture.

Methodological approach

The possibilities given by this approach based on landscape instead of urban design are notable especially because fringes and outskirts of contemporary cities are characterized by a strong mixture between built-up fabrics and pieces of agricultural or natural landscapes that permeate them. Therefore, in planning and design management of peripheral and interstices areas, urban and rural environments cannot be separated anymore. To this end, we need to move the discourse on urban design away from the traditional dichotomy of architecture and nature, urban and rural areas, and improve, conversely, a well-managed urbanization and urban-rural linkages (UN-Habitat, 2019), with the aim of bringing opportunities for the urban environment and helping in reducing development gaps between city and surrounding territories. Moreover, since sustainability and resilience are multi-faceted terms, they must be regarded as referred not only to the urban morphology and the architectural forms (technologic sustainability), but also to the local environmental issues, as well as to the natural components of a site (self-sustainable sustainability). If we'll be able to ground urban design on this approach, we'll finally reach the SDG 11, which is to correlate to sustainable processes of change in social, economic, formal and environmental urban evolution.

To this aim, in the landscape and urban design of peripheral and interstices areas it is particularly keen to also consider the economic and cultural value, together with the social functions, of agriculture and natural areas, and to recognize the interconnections that they have with the context, with the aim of transforming them into lasting resources for the quality of life in the urban environment.

This paper aims at showing some design possibilities aimed at re-proposing high degree self-sustainable urban environments for peripheral sites of a medium size Mediterranean city, functioning thanks to wise techniques of local resources control, and appropriate, in their architectural forms, to the territorial characteristics. Based on the topic of the formalization of the agricultural landscape, as a main

reconnecting principle between city and surrounding territory, projects are aimed at transforming urban interstices and boundaries into multifunctional public spaces, where natural and agricultural landscape is re-knitted to the peripheral urban forms, and where the new urban vision is strongly linked to the identity of the surrounding territory. It also aims at discussing advancements in understanding urban environments in connection with the surrounding territory, and at developing new comprehensive design approaches and paradigms to transform neglected and underdeveloped sites into new hubs for the urban life.

A new vision for public spaces. Projects for Bari

Within this framework, an integrated urban-landscape design can play an important role in the definition of the peri-urban environments, by linking urbanized areas and rural sites. To be sustainable, both urban and rural areas must indeed develop in tandem, to also improve livelihoods and foster an inclusive growth. In particular, in development plans, to harness the potential that their combined synergy generates, peri-urban and rural fragments should not be treated as separate entities, but instead they should be “connected” with the aim of transforming them into the hubs of the new, or of a renewed urban landscape. An integrated territorial design can indeed link environmental and formal aspects with social needs and functions, by also including in public areas food security and inclusivity. It can also strength urban-rural connections and reconnection to bridge gaps in interdisciplinary research and to keep urban and territorial morphology at the core of the development of peri-urban spaces.

An example of possible development of urban-rural linkages is given by the city of Bari, a southern Italian medium-sized city and the capital city of the Apulia region, set where the natural structure of a number of so called “lame”, which are wide and shallow karst furrows, orographic depressions that were once small streams of water, reaches the coastline. Some sections of the “lame” are low and sinuous, others are steep with rocky stratification. Many natural cavities, which have returned remains of the protohistoric era, show the karst nature of the territory. Some of them have been transformed with quarries dug by man.

Their widespread presence on the regional and urban territory is quite high: in the metropolitan area of Bari, the terminal sections of nine main “lame” are recognized, which have an undoubted environmental value, both for their landscape, geological and naturalistic characteristics but also for their historic and archaeological features (including the presence of e.g. several medieval farmhouses, churches, traditional agricultural techniques or dry stone walls), which are part of the local heritage and must therefore be protected and enhanced.

For a long time, the presence of the “lame” influenced the urban growth of Bari, until modern times when their natural layout was deeply changed by engineering transformation, which moved their course. Accordingly, these territorial structures were transformed into urban engineering works that have rising difficulties in dealing with the increasingly frequent outcomes of climate change. The carsick landscape of the “lame” is therefore a changing and dynamic landscape, which suddenly become a wet landscape when

it rains, that is more and more often as a result of climate changes. Indeed, normally dry, during more abundant rainfall they can overflow.

Inside the “lame”, urban countryside innervates the sparse urban tissues of the suburbs where, for hydro-geological reasons, it is difficult to settle. Their valley bottom is, indeed, only seemingly empty of a water, which is instead still visible not only during the floods, but also through the presence of the rich vegetation growing there, vegetable gardens and orchards, and which differs from the surrounding arid landscape of olive groves and vineyards.

Along their course, the “lame” are overlooked by fragments of the sparse urban fabric of the suburbs, where buildings float in areas where the urban form has been lost, and needs to be regenerated. This defines an apparently disordered urban and metropolitan landscape, which is instead rich of potential components to be enhanced and reconsidered within an ecologic urban vision.

Today, indeed, the urban and regional planning of the metropolitan area of Bari is aimed at adopting and implementing integrated strategic plans for sustainable development, resource efficiency, social inclusion, mitigation, safety, accessibility, by also including these complex ecosystems into the future urban vision.

Within this framework, we need therefore to develop landscape design aimed at transforming interstices and side areas of the “lame” into multifunctional public spaces, with the aim of re-connecting the agriculture landscape to the surrounding urban forms, strongly linked to the identity of the places.

To this aim, during the academic year 2019-2020, within the activities of the Landscape Design Studio at the 4th year of the School of Architecture of the Polytechnic University of Bari, were developed some design proposals for the urban landscape regeneration of peripheral areas of Bari, where projects have been designed by dealing with the role of landscape design in defining a consistent urban sustainability and by giving continuity between the countryside and the city.

Accordingly, urban gardens and agricultural parks were envisioned as the epicenters of the renewed urban sociality of the peripheral areas, not as a mere resource for food production nor as mere catalysts for community development, but as sufficiently resilient and flexible urban spaces able to satisfy the various needs that society requires. This approach is particularly relevant for the landscape design of small and medium size towns of the southern Mediterranean, which have been historically conformed and layered in a strong connection between city and countryside, between natural and built environment and in which the term orchard always coincided with the term garden, with its strong aesthetic and expressive value: here similar architectural forms and sustainable techniques were used in the agricultural fabrics, to reach the true sustainable behaviour of the “oasis”.

The “productive gardens” (Neglia, 2018) were designed as part of a sustainable development strategy inherent in the practice of urban design. Weak, therefore, and of little architectural interest if understood as mere community social action, projects give instead shape to urban agriculture and public spaces with their important role for the definition of the urban form, as it traditionally was in the Mediterranean regions, where they were one of the cornerstones of the network of open spaces that made up the

complexity of the urban structure. Here urban agriculture, formalized in the shape of the “productive gardens” has always given economic and cultural value to places, by also transforming agriculture into one lasting resource for the quality of the urban life.

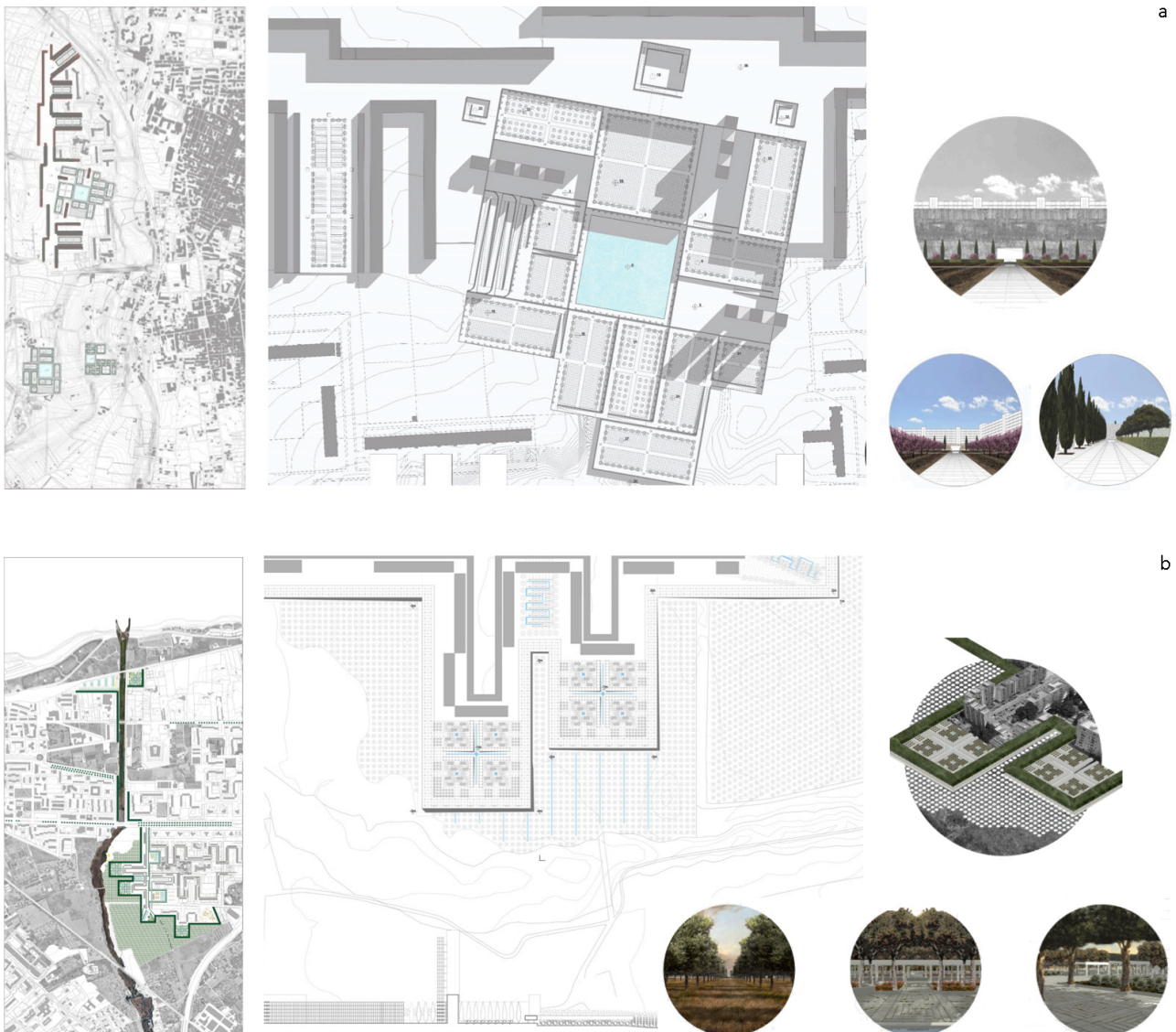


Figure 1. Politecnico di Bari – CdLM in Architecture – Landscape Design Studio – AA. 2019-2020, Prof. Giulia Annalinda Neglia; a) Project of a terraced citrus grove in a floodable quarry connected to Lama Picone. Students M. Pavone, V. Picciarelli, C. Ventrella; b) Project of a olive and citrus groves along Lama Valenzano. Students R. Armenise, G. Capurso, C. Chiumarulo.

In the design approach developed here, “productive gardens” are places of artificialization of the nature in architecture and of a close relationship between similar and congruent spatial arrangements. Moreover, in a region where the natural territorial structure is characterized by the presence of the “lame”, which orient the agricultural and settlement structures along their ephemeral courses, it is precisely the presence of these natural signs on a territorial scale to favor the accumulation of water rain, and to allow the development along their course of the “productive gardens” linked to the settlements.

Their design is part of a systematic research on the form of the gardens of the small - medium centers of southern Italy, and the Mediterranean more in general, where the need for a multifunctional value of the public space does combine with the typical structures of agriculture, by re-establishing the roots of a sustainable landscape on the linkages between urban form and territorial morphology, as well as on the rules of the Mediterranean countryside.

Conclusions

The case study and design proposal presented here show that is necessary to enrich the general theories on urban sustainable design with a specific focus on productive gardens as a new linking public areas between settlement and territory, architecture and nature, to develop projects whose spatiality is given by a measured relationship between urban and rural forms, and appropriate to the climatic, cultural, local territorial components.

Therefore, in the process of searching for new paradigms for public spaces in urban areas, the Mediterranean productive garden can return to be a true centrality, a place of agriculture but, at the same time, of aggregation, delight and entertainment.

In this renewed organic approach between the design of the green areas and of the urban fabric, the peri-urban landscape will no longer be divided between urban and agricultural fragments, but here green infrastructure and agriculture will be the new centers of the urban life.

Accordingly, we can consider the possibility of transforming our suburbs in a sustainable way, by re-founding their physical and perceived image on the urban-rural linkages, with the aim of reporting in a coherent way the rules of the countryside in the urban environment.

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