

# **Building the Urban Bioregion**

## Governance scenarios for urban and territorial planning

Edited by

Anna Maria Colavitti and Sergio Serra



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# RST

## RICERCHE E STUDI TERRITORIALISTI

COLLANA DIRETTA DA

Filippo Schilleci

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# The system of protected areas as the core element in a new vision of the Metropolitan City of Palermo<sup>1</sup>

*Filippo Schilleci*

## **Abstract**

The process of urbanization is considered as one of the most significant anthropic alterations of the environmental framework, the present study attempts to understand spatial characteristics of urban growth and its impacts on environmental components in Metropolitan City of Palermo. One area where the levels of unbuilt and valuable soil consumption, and the consequent forms of environmental and territorial fragmentation risk compromising not only the landscape-environmental value of the territories involved, but their identity.

Starting from these premises, this contribution explores the reciprocity relationship between built environment and open territory, with the aim of identifying possible territorial rebalancing strategies based on the enhancement of environmental systems.

KEYWORDS: environmental systems, metropolitan area, bioregional approach

## **1. Introduction**

The concept of bioregion comes from the more complex one of bio-regionalism, which Peter Berg (1977; 1978), between the late 1960s and early 1970s, described as a cultural phenomenon with political, economic and environmental consequences, based on the identification and study of natural defined areas, called bioregions, under the principles of ecology. Starting from the observation of the territory, as a place where people live and work, Berg identifies it as a unique and homogeneous sphere where on the one hand all the

<sup>1</sup> This chapter is an extended version of the chapter: SCHILLECI F., GIAMPINO A. AND TODARO V. (2021), "Forms and processes of settlement pressure on natural systems", in LO PICCOLO F., PICONE M., TODARO V., (eds.), *Urban Regionalization Processes*, Springer, Cham.

elements and actions are combined, and on the other the morphology, spaces and inhabitants are integrated.

This definition brings

*[...] attention to the relationship between city and countryside, to their organic connection deformed by the economic-financial logics that reduce the soil and physical components to being normalised supports of market mechanisms [...]* (BUDONI, 2013, 20).

This distortion is detectable by the etymology of the word bioregion itself. To bio-regulate is to govern life, and that of governing it is an action founded on the rules of the natural environment and not on humans' ones. They are geographical units that follow ecological rules, without a pre-established territorial dimension, showing characters of homogeneity. Examples are river valleys or mountain ranges, territories where different ecosystems may coexist (POLI, 2012). Consequently, the territory - from a bioregionalist perspective - cannot be identified based on economic-administrative criteria but should be interpreted and defined as a set of bioregions. This aspect recalls another very important and effective concept of interpretation and design of the territory, that of connectivity and ecological infrastructure (SCHILLECI, 2012).

The current patterns of settlement sprawl have determined an arrangement of the territory that is heavily affected by forms of human pressure (demographic, relative to human settlement, infrastructural, productive). Those forms mainly weigh on valuable farming land, fringe areas of transition among urban agglomerations and natural and semi-natural systems, protected or not. Given these processes, the last 20 years have seen scientific research in the field of urban and regional planning underlining the importance of networks and ecological connections for the overall protection of the territory. Actually, the complexity of the ecological network concept derives from its different components, that is the reticular and the ecological component.

The network concept, that is a system of relations, refers to a systemic approach concerning the whole territorial structure (MOUGENOT, ROUSSEL, 2002) and leaves no doubts at a theoretical level; nevertheless, its implementation is complex, especially in building and maintaining territorial connection between nodes (in this case, ecological nodes) and in integrating different network systems (a network of networks). The adjective ecological in territorial experiences is not always referred to pure ecological processes (biotic and abiotic processes), but rather acquires an evocative value (FRANCO, 2003) and concerns other sectors, from administrative management, to territorial policies, to the participation of society.

Starting from these premises, this contribution analyzes the urbanisation processes occurring in the metropolitan context of Palermo. One area where the levels of unbuilt and valuable soil consumption, and the consequent forms of environmental and territorial fragmentation risk compromising not only the landscape-environmental value of the territories involved, but their identity. Such dynamics must be countered with a rebalancing action aimed at reaffirming environmental, cultural and identity values through the revalorisation of those territorial components that must necessarily regain recognisability and acquire new structuring value in the future organisation of the territory. In more general terms, in Sicily, the absence of environmental assessment tools and the disconnection between urban and regional planning, and sector planning have determined an inadequate control level off human pressure on environmental systems. Regarding this general framework, this article clarifies and reformulates the reciprocity relationship between built environment and open territory, with the aim of identifying possible strategies to manage the phenomena of urban sprawl in the metropolitan context, a main objective of European territorial policies (EEA, 2006) and of many national policies of the member states.

More specifically, for its characteristics Palermo is particularly suitable for becoming a reflection field where the perspectives on ecological networks could be put into practice.

## **2. Knowledge elements from the territory: the Metropolitan City of Palermo**

The historical-physical identity of the Palermo area has been built on a morphological structure, enclosed in the orographic system (that develops inland) and the coastline, where the coastal plains alternate with the narrow beaches. A territory where the small agricultural villages have been counterpoints to the seaside villages in a system that has always depended on the city of Palermo (DI LEO, 1997; COSTANTINO, 2008). Recent urbanisation processes have kept this functional link with leader cities, on the one hand causing a mostly residential growth of top-tier municipalities and on the other causing an erosion of the coastlines due to the seasonal tourism for the Palermo population.

The metropolitan territory of Palermo is bounded by the sea on the north and by an area of strong and striking contrasts, the landscape of the Madonie, on the east. Going through the territory, one will encounter a great number of different landscapes. The so-called landscape of the plain is linked to the image

of the Conca d'Oro, which was once rich in water, fertile and entirely covered with citrus plantations and vineyards, and which, starting from the post-War period, has rapidly and deeply changed its features under the effect of fast-growing cities. The hills that surround it have harsher features, while the mountain strips greatly differ from the coast landscape.

This quick interpretative glance at the landscape features of the territory, which give the idea of a unicum, of a single even though variegated entity, is distorted by the transformations that have fragmented, if not destroyed, those elements that could ensure continuity, thus creating a loose array of parts (REGIONE SICILIANA, 2005).

On the other hand, the relationship between anthropic and natural landscapes is quite tight and very often marked by conflicts. The morphology of the territory, with a high degree of mountainousness, in fact compresses the urban area on the coastline and limits the penetration effects inland to the strip of municipalities that are closer to the capital city. Therefore, the result is a predominantly coastal urban system with some inland penetrations that emphasize the growth potential of the system to the detriment of environmental and landscape resources as well as a rebalancing of functions and services.

19 out of 82 municipalities of the metropolitan area of Palermo are located along the coastline where contradictory protection and transformation actions take place more frequently than anywhere else. Despite some minor centers of the metropolitan area are much dynamic the main peculiarity of the metropolitan area is its monocentric coastal structure in which Palermo prevails over the rest of the territory.

The coastal territory which is run through, as it happens all over the entire Italian coastline, by linear transport infrastructures and large production plants. In the Sicilian case, these conditions have dramatically boosted uncontrolled and unruly illegal building all along the metropolitan area and consequently worsened environment fragmentation and isolation: the coastal natural areas have been cut off from inland areas. Especially in the eastern part of the metropolitan area of the municipal territory of Termini Imerese, an industrial pole on the coast is an element of fragmentation with great impact on the environment and has deeply changed the coastal landscape of the area.

Moreover, the infrastructural system formed by the motorway, railway, and state road that run along the coastline makes up what is called a multiple linear system of fragmentation and isolates the coastal environment from the provincial inland territory. This condition jeopardizes biodiversity causing progressive death of natural habitats (BATTISTI, 2004), and the landscape diversity of the metropolitan territory.

In relation to the outlined framework, the Metropolitan Area of Palermo has a heritage of natural areas, archaeological sites, biotypes of great importance inducing interpreting its territory not so much through the administrative demarcation, but as part of that broader environmental system that affects the entire region.

In this regard, the texture of areas of high environmental value is represented by twelve natural reserves, imposed by RL 98/1981, and subsequent amendments thereto, from forty-six SCIs and three SPAs and four Special Areas of Conservation (SACs). They have been identified by the implementation of Habitats 92/43/ EC and Birds 79/409/EEC Directives. In addition, they fall back inside two protected marine areas: the Ustica marine area set up with DI of 12.11.1986 and that of the Cape Gallo-Isola delle Femmine established with Ministerial Decree (DM) of 24.07.2002 and one regional park (Madonie) (Fig. 1).

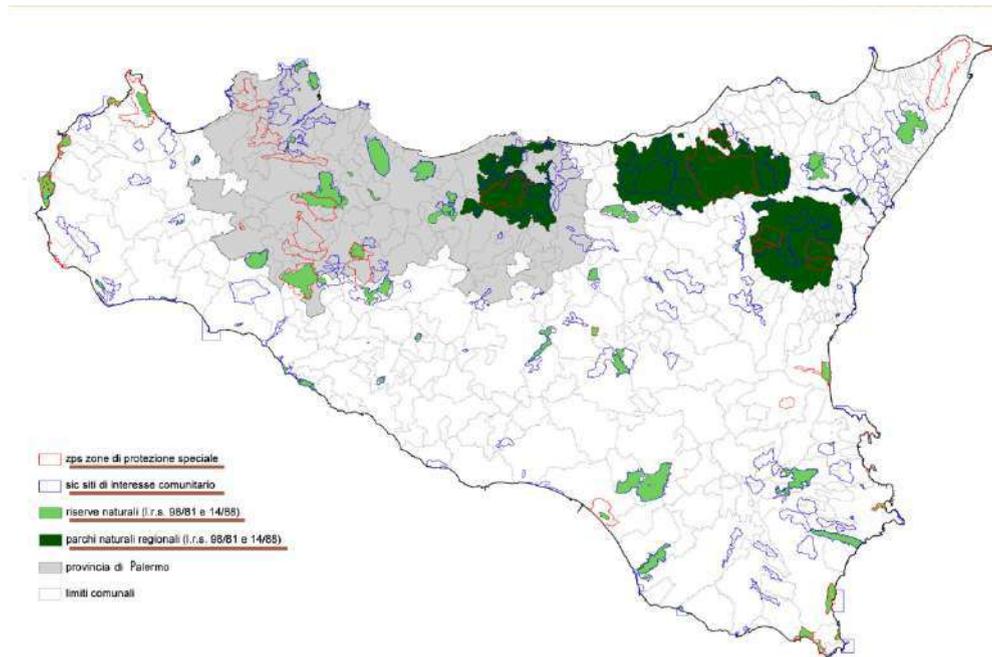


Fig. 1 - The system of protected areas in the Metropolitan City of Palermo (Source: author's elaboration).

In addition to the presence of areas of natural interest, subject to different protection schemes, it is possible to trace an interesting system of valuable agricultural areas (environmental and landscape interest), which contribute to outlining the identity value of this area. In particular, it addresses two prevailing agricultural landscapes: the orchards and the olive groves. The former stretches

along the coastline between Palermo and Trabia, the latter stretches from the internal areas of Altofonte up to the last coastal fringes of Termini Imerese. To these landscapes, the agricultural system of the vineyards that extend from the Western fringes of the Metropolitan Area towards Alcamo (in the province of Trapani) must be added. Unfortunately, in reference to the agricultural landscape it should be noted that in the last decade the Utilised Agricultural Area (UAA) in Palermo has grown from 236,764 ha (2000) to 266,362 ha (2010).

Starting from the knowledge of these systems linked to the territory, both anthropic and natural, it is necessary to create integrated reticular models which, if properly planned and managed, can be configured as the main systems on which to structure policies capable of stimulating new sustainable and compatible territorial transformations.

### **3. Anthropic pressures and identification of “problematic nodes”**

Related to the settled system, it is possible to identify three sub-systems that respectively fall back around three urban focuses of the metropolitan area: Palermo, Carini and Termini Imerese. The area of Palermo is mostly affected by the presence of typical residential scattered development which denies any form of relationship with the road system. The Carini context is characterized by the widespread presence of leapfrogging development, pronged and unclear type without interruption, stretching from the far northern suburbs of Palermo up to the municipalities of Partinico and Balestrate. This area has a high degree of complexity, in relation to the presence of a productive/commercial district running along the SS 113 raising the linear typical shape.

In the Termini Imerese area, unlike Carini, we can see a greater presence of pronged settlements which stands on historical paths of roads connecting the residential areas, while - as happens in the Carini area - the area stretching between the SS113 and coastline, the residential urbanizations assume a linear configuration, as the presence of parallel productive/commercial blocks are found, in this case, to the coast and bordered by infrastructural ways formed by the highway, the state highway and the railway line (Fig. 2). This location results in a fringing fragmentation of wide-range environmental impact which has in fact distorted the coastal scenery of this area, producing high levels of division between the coastline and the natural system characterized by the Riserva Naturale Orientata (RNO, Oriented Nature Reserve) of Mount San Calogero.



Fig. 2 - Spatial pattern of division between the coastline and the natural system in municipalities of Cinisi and Terrasini (Source: Schilleci, Giampino, Todaro, 2021).

In the western part of the same sub context - stretching between the towns of Altavilla Milicia and Trabia - the low-density residential linear strip settlement (originally included between the railway line Ss 113 and the motorway and which later expanded beyond the highway route) has generated increasingly rarefied forms which determines levels of complex fragmentation in comparison with both foothill agricultural surroundings and the natural system in which the SCI Mount Cane, Pizzo Selva a Mare, Mount Trigna falls.

In the framework of Carini, the presence of different forms of urbanization - associated with the productive/commercial block and the infrastructure parallel to the coastline and within the Plain of Carini - determine a single macro system which generates multiple types of fragmentation. In fact, you can find both forms of pressure on agricultural systems, which are nowadays residual ones, and on the highest natural environmental systems.

In relation to the conditions of particular environmental conflict detected, the current environmental heritage protection regime is inadequate. In fact, it mainly responds to a rigid model that pits protected areas against areas with the

same environmental value but unprotected. This condition, in terms of territorial distribution, is found both along the coastal strip and in the internal areas. In general terms, it is therefore increasingly necessary to integrate the current protection model with a view to promoting the establishment of an integrated environmental heritage management system.

#### **4. A proposal for an ecological network for the Metropolitan City of Palermo**

The system of anthropic pressures described has led to the significant alteration of the traditional landscape mosaic and to the accentuation of forms of environmental fragmentation, not only in correspondence with "special" areas of natural interest but, in general, on all the components that characterize the landscape matrix - coastal environment.

Starting from the system of environmental resources and its fragmentation detected in the analyzes, the "construction" of the ecological network of the Metropolitan City of Palermo cannot, therefore, fail to take into account the "environmental" value of the landscape matrix of the entire coastal strip and relate to it in an attempt to reconstitute the aforementioned continuity.

The outlined ecological network hypothesis, therefore, identifies as "nodes" the areas in which there is a particular concentration of areas of environmental interest and valuable agricultural areas. Specifically, there are three "nodes" (Fig. 3):

- Node of the Carini Plain (east of Palermo), consisting of the presence of areas of natural interest (in particular SCI and SPA);
- South-Western node, characterized by the presence of the agro-ecosystem of the vineyard, which extends beyond the limits of the Metropolitan Area in the direction of the Alcamo territories;
- Eastern Node, characterized by the presence of citrus and olive grove agro-eco-systems, which extends beyond the limits of the Metropolitan Area in the direction of the system of areas of natural interest (reserves and SCIs) which ends to the East with the Madonie Park.

In relation to the linear or area elements for the ecological-functional connections between nodal areas, the guidelines identified have a dual nature:

- Ecological corridors, with a prevailing North-South direction (sea-mountains). In particular, it concerns the director that connects the Carini Plain Node with the natural system of the Sicani Mountains (to the West) and the director that connects the Eastern Node with the natural system of

the Sicani Mountains (to the South) and with that of the Madonie (at East). In addition to these, the function of "pure" ecological corridor carried out by the Oreto river in Palermo, which connects the sea with the crown of mountains surrounding the city, should be underlined;

- Agroecosystems, with a prevailing West-East direction. They take on particular importance at the western and eastern extremes of the Metropolitan Area in correspondence with the main valuable agricultural systems identified (vineyards, citrus groves and olive groves). These systems can perform environmental connection functions to support the natural reference system, in many cases also performing stepping stone functions.

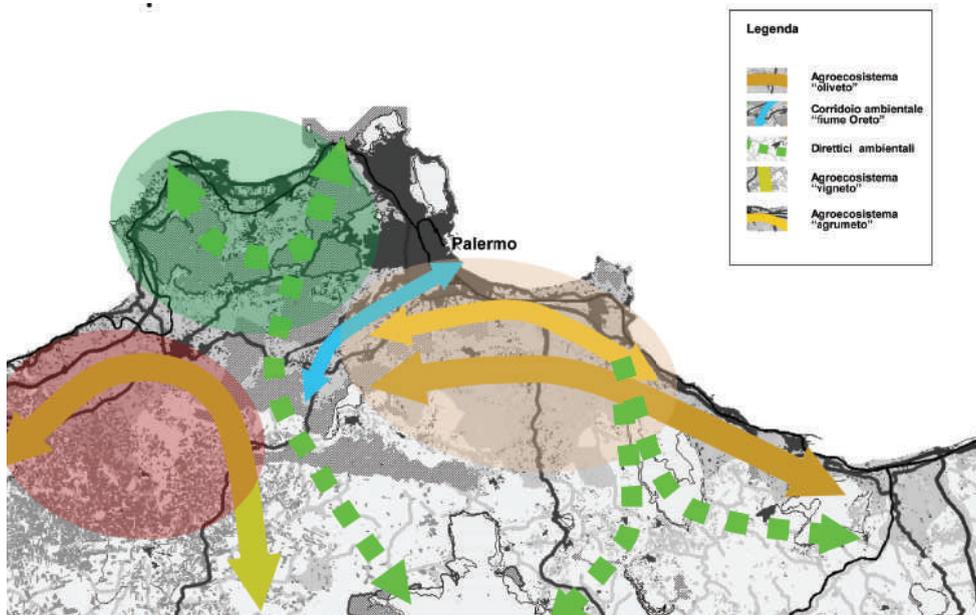


Fig. 3 - Hypothesis of an ecological network in the metropolitan area of Palermo (Source: Schilleci, 2008, 171).

## 5. Conclusion

In relation to the conditions of particular environmental conflict detected, the current environmental heritage protection regime is inadequate. In fact, it mainly responds to a rigid model that pits protected areas against areas with the same environmental value but unprotected. This condition, in terms of

territorial distribution, is found both along the coastal strip and in the internal areas.

In general terms, it is therefore increasingly necessary to integrate the current protection model with a view to promoting the establishment of an integrated environmental heritage management system. It is necessary to find the territorial specificities that the settlement pressure has not changed, just as it is necessary to reconstruct the conditions of environmental continuity (ecological network) at local and territorial level (FORMAN, 1995; FORMAN, HERSPERGER, 1997; GAMBINO, 1997; FILPA, ROMANO, 2003). This perspective makes the coordination of safeguarding policies even more necessary between the bodies responsible for the management of areas of environmental interest and the municipal administrations in the direction of activating alternative protection paths to the traditional constraint-type ones, which directly affect the policies and on territorial governance instruments (SCHILLECI, 2005).

The regional situation is rendered all more serious by: the poor diffusion of territorial and vast area planning (the Regional Master Plan has never been endorsed, and just one out of nine provincial capital has endorsed the Territorial Provincial Plan); the difficulty of integrating territorial policies and specialized planning tools, falling within the competence of different agencies (regional and provincial councillorship, Monuments and Fine Arts Office, port agency, free association of municipalities, etc.); the difficulty of a complete and efficient application of the environmental assessment tools regarding projects, masterplans and programs, such as Environmental Impact Assessment (EIA), Strategic Environmental Evaluation (SEA), Environmental Incidence Assessments (EInCA). With reference to the case of metropolitan City of Palermo, although it suffered very much about the anthropic pressures exerted mainly by the growth of the settled system, the heritage of the natural interest areas reported to the context of Palermo, still maintains significant levels of identity and awareness whose value is given, however, to the individual plans and therefore is not protected nowadays adequately and organically. In this territorial context, in fact, it has been approved neither territorial plans (SCHILLECI, 2005), particularly at metropolitan level, nor existing protection tools related to areas of natural interest.

The close relationship between natural and anthropic system, especially if it is related to urban contexts, requires a territorial planning released by sectoral traditional approaches, to move towards integrated and broad planning and organization able to govern the complex territorial dynamics that are related to settled forms and open spaces. In the attempt to provide directions for planning/programming tools and for the future territory government law for

the control of settlement sprawling and the reduction of its impact on the environmental systems, the investigation has shown that the design solution for the sprawl territories is not to be found in banal action of building compaction, but it needs to be a unitary project, made of different elements, where the spaces of emptiness are close to compact ones, in a systemic logic supported by an intermodal transportation forms.

In fact, a possible strategy of control of the urban pressure can be implemented by establishing a system of environmental connections which relates the green areas of the city with the territorial suburban ones in such a way as to project the metropolitan contexts sustainable towards patterns of land -use planning (SCHILLECI, 2008). This strategy underpins a dual functional value: ecological value, so that one can systematize areas of natural interest to make possible the natural biological exchanges between them and the already existing species; anthropic value, so that one can enhance the system of consumption of such areas for social and recreational purposes.

Starting from these considerations, in relation to the addresses for urban planning, it is possible to identify some elements for the definition of a territory plan on metropolitan contexts (BRYANT, 2013), that it cannot disregard:

- recognition, within the individual areas of urban growth, settlement rules that respect and strengthen the territorial matrix (specifically it is constituted by the potential elements of ecological-environmental link and agricultural areas of advantage) resulting in structuring value;
- pursuit of a compact city model and the concentration of its future growth along the nodes and the present infrastructures, which will attract future settlement demand, with structural effects in the overall organization of the territory and able to reduce disorderly growth;
- pursuit of a model of territorial development in ecological, social and productive balance, with its territory, based on the development of the specificity of the individual local nodes (MAGNAGHI, 2010).

In this frame, within urban planning, the territorial project of sprawl territories will be based on the definition of settlement expansion models able to acknowledge, respect and strengthen the territorial matrix as a structuring element, with structural order resulting in territorial organization to avoid messy development. All these questions impose a reflection on the existing tools to address such territories.

## References

- BATTISTI C. (2004), *Frammentazione ambientale, connettività, reti ecologiche. Un contributo teorico e metodologico con particolare riferimento alla fauna selvatica*, Provincia di Roma, Assessorato alle politiche ambientali, Agricoltura e Protezione civile, Roma.
- BERG P. (1977), "Strategies for Reinhabiting the Northern California Bioregion", *Seriatim: the Journal of Ecotopia*, vol. 1, pp. 2-8.
- BERG P. (1978 - Ed.), *Reinhabiting A Separate Country: A Bioregional Anthology of Northern California*, Planet Drum, San Francisco.
- BRYANT M.M. (2013), "Urban landscape conservation and the role of ecological greenways at local and metropolitan scales", *Landscape and Urban Planning*, vol. 76(1-4), pp. 23-44.
- BUDONI A. (2013), "Caratteri del territorio e linee di azione per scenari di futuro della Bioregione Pontina", in BUDONI A., MARTONE M., ZERUNIAN S. (a cura di), *La Bioregione Pontina: esperienza, problemi, linee di ricerca per scenari futuri*, SdT Edizioni, Firenze, pp. 19-46.
- COSTANTINO D. (2008), "Periferie metropolitane e forme insediative a Palermo", *Planum: J Urbanism*, vol. 17, pp. 1-12.
- DI LEO P. (1997), "Area metropolitana di Palermo", *Città e Territorio. Bollettino del Dipartimento della Città e Territorio dell'Università di Palermo*, vol. 3, pp. 72-79.
- EEA (2006), *The Urban Sprawl: The Ignored Challenge*. Report No: 10/2006. Joint EEA-FOEN, Copenhagen, Denmark.
- FILPA A., ROMANO B. (eds) (2003), *Pianificazione e reti ecologiche*, Gangemi, Roma.
- FORMAN R.T.T. (1995), *Land Mosaics*, Cambridge University Press, Cambridge.
- FORMAN R.T.T., HERSPERGER A.M. (1997), "Ecologia del paesaggio e pianificazione, una potente combinazione", *Urbanistica*, vol. 108, pp. 61-66.
- FRANCO D. (2003), "Paesaggi sostenibili e biodiversità: motivi, obiettivi e opportunità di realizzazione delle reti ecologiche", *Genio rurale*, 10.
- GAMBINO R. (1997), *Conservare innovare*, Utet, Torino.
- MAGNAGHI A. (2010), "Il progetto degli spazi aperti per la costruzione della bioregione urbana", in MAGNAGHI A., FANFANI D. (eds), *Patto città campagna. Un progetto di bioregione urbana per la Toscana centrale*, Alinea, Firenze, pp 35-64.
- MOUGENOT C., ROUSSEL L. (2002), "Ecological network and local authorities sociological instruments", *Nat Environ*, vol. 126, p. 30.
- POLI D. (2012 - a cura di), *Agricoltura paesaggistica. Visioni, metodi, esperienze*, Firenze University Press, Firenze.
- REGIONE SICILIANA, ASSESSORATO TERRITORIO E AMBIENTE (2005), *Relazione sullo stato dell'ambiente in Sicilia*, Regione Siciliana, Palermo.

- SCHILLECI F. (2005), “Il contesto normativo in Sicilia. Una difficile pianificazione tra ritardi e resistenze”, in SAVINO M. (ed), *Pianificazione alla prova nel mezzogiorno*, FrancoAngeli, Milano, pp. 189-208.
- SCHILLECI F. (2008), *Visioni metropolitane: uno studio comparato tra l'Area Metropolitana di Palermo e la Comunidad de Madrid*, Alinea, Firenze.
- SCHILLECI F. (2012 - a cura di), *Ambiente ed ecologia. Per una nuova visione del progetto territoriale*, FrancoAngeli, Milano.

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The book focuses on bioregionalist theories and experiences as an alternative way of reading and designing local contexts, based on the recovery of the co-evolutionary relationship between human settlements and territories to achieve a self-sustainable and non-hierarchical system of urban and rural centers, according to Alberto Magnaghi's vision. The work has developed a broader discussion among researchers from different European backgrounds about the ways in which processes related to bioregionalism, looked at in a transdisciplinary way, can lead to interesting applications and analytical insights, that are useful for reviewing and strengthening community self-organization and reflecting on the constitutive foundations of the relationship between communities and their territories. The collaboration between the French school of Bordeaux, the Tuscany school and the Cagliari school gives back a diversified overview of materials and references for the possible application of the bioregionalist model. The contributions discuss many issues related to the governance of metropolitan areas and the management of the urban-rural relationship with suggestions for interpretation and design in a bioregionalist perspective, the themes of urban green, land vulnerability, and agricultural supply chains in rural and peri-urban spaces and new food economies in metropolitan areas.

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