

## URBAN BIOREGIONAL WORLD IN THE MAKING: The Territorialist Approach to Bioregional Planning and Design

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### ABSTRACT

A territorialist approach to urban and regional planning, based on the urban bioregion framework, could be essential in counteracting the current patterns of territorial *maldevelopment* by offering a viable alternative. By illustrating its theoretical and operational principles with the help of case studies from the metropolitan area of Florence, Italy, the paper aims at illustrating the territorialist methodology to reorganise the urban and rural domains, considered as a whole, towards an urban bioregion model. This approach is based on proactive patrimonialisation of territorial heritage through democratic decision-making at the local level, with a goal of local self-sustainable development. Redesigning the territory following the urban bioregion model involves transforming the metropolis into a polycentric system connected to the eco-territorial bioregional network, redesigning the urban edge to limit the urban and facilitate localised interactions with the agro-forestry, and revitalizing rural and mountain regions to valorise their ecological significance and promote new opportunities of cultural and economic renaissance.

**Keywords:** urban bioregion; urban/rural planning; territorial heritage; place democracy.

### A CONSTRUÇÃO DO MUNDO URBANO BIORREGIONAL: A ABORDAGEM TERRITORIALISTA PARA O PLANEJAMENTO E DESIGN BIORREGIONAL

### RESUMO

Uma abordagem territorialista para o planejamento urbano e regional, baseada no conceito de biorregião urbana, pode ser essencial para combater os atuais padrões de maldesenvolvimento territorial, oferecendo uma alternativa viável. Ao ilustrar seus princípios teóricos e operacionais com a ajuda de estudos de caso da área metropolitana de Florença, Itália, o artigo busca apresentar a metodologia territorialista para reorganizar os domínios urbano e rural, considerados como um todo, em direção a um modelo de biorregião urbana. Essa abordagem baseia-se na patrimonialização proativa do patrimônio territorial por meio de processos de tomada de decisão democrática em âmbito local, com o objetivo de um desenvolvimento local autossustentável. Redesenhar o território seguindo o modelo de biorregião urbana envolve transformar a metrópole em um sistema policêntrico conectado à rede ecoterritorial biorregional, redesenhando a borda urbana para limitar a urbanização e facilitar interações localizadas com o agroflorestal, além de revitalizar as regiões rurais e montanhosas para valorizar sua importância ecológica e promover novas oportunidades de renascimento cultural e econômico.

**Palavras-chave:** biorregião urbana; planejamento urbano/rural; patrimônio territorial; democracia de lugar.

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## INTRODUCTION

Cities and settlements around the world well represent the model of cannibalistic (Fraser, 2022) growth and development that modernity pursued and the contemporary age has desperately accelerated. Depredation of nature, unlimited resource extraction from places and bodies, internal as well as external colonisation, emptying of democratic institutions and concentration of power are also depriving territories of their autochthonous values, fallen prey to the infinite self-replication of exogenous living and settling models. The current scenario of *maledesenvolvimento* (Shiva, 1988), i.e. a development which implies (self-)exploitation and leads to (self-)destruction, must be termed unsustainable, in the sense that we, as humanity, can't take it anymore.

And while expanding urbanisations and megalopolises make manifest a rift in the coevolutionary relationship between nature and culture (Norgaard, 1994), cities must also be acknowledged as the condensate of human creativity and sociality, of politics and socio-environmental interaction, where innovative ways of re-engaging in the co-evolution of nature and society, economy and earth care can be experimented. Planning, born as a discipline of imposing a top-down rationality of progress on the territory, is called to take up the challenge of radically rethinking its role and revising its methodologies in the search for a new form of balance. Territorialism emerged in the Seventies as a critique of current forms of development and a quest for an alternative project based on socially and ecologically sensitive dwelling (Marzocca, 2023), to be pursued by assuming the patrimonialisation of the territory as the basis for a form of social and economic endogenous development that rests on a relocalisation of material fluxes and decision making towards community democracy (Magnaghi, 2020a). The aim of recovering the “density” of the territory, as opposed to a territory conceived as empty space or inert support, implied from the beginning questioning the meaning itself of development, pushing it to shift from predated to regenerating the living environment.

The bioregional approach, especially its territorialist revisitation through the concept of the urban bioregion (Magnaghi, 2020b), which stresses a commitment to address the issue of settlements as bounded to the agro-ecosystemic domain, represents a powerful frame to support such a multifaceted shift. A bioregional project, in fact, “refers not only to the domain of spatial planning and regional and urban design but also to a new approach towards the goals and methods in public policy creation, in the field of local and socioeconomic development” (Fanfani; Matarán Ruiz, 2020, p. 12).

The territorialist methodology based on the urban bioregion has been applied to a variety of contexts in Italy within, for instance, the landscape plans of Tuscany<sup>3</sup> (Marson, 2016) and Puglia Regions (Poli, 2011)<sup>4</sup>, or the Strategic Plans of the Metropolitan Cities of Rome<sup>5</sup> and

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<sup>3</sup> “Piano di indirizzo territoriale con valenza di piano paesaggistico – PIT – PP della Regione Toscana (2015)”. Landscape plan scientific coordinator: P. Baldeschi.

<sup>4</sup> “Piano Paesaggistico Territoriale (PPTR) della Regione Puglia” (2008). Landscape plan scientific coordinator: A. Magnaghi.

<sup>5</sup> Research project “Studies, research and strategic lines to reorganise the Metropolitan City of Rome into a system of resilient and self-sustainable urban bioregions” (2021-22), coordinated by D. Poli, funded by the Metropolitan City of Rome.

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Florence (Poli, 2023a)<sup>6</sup>, in Europe – see for example the Bioregional scenario of the Aquitaine Region in France<sup>7</sup> – as well as in Brasil, in the metropolitan area of Vitória (ES)<sup>8</sup>. The urban-bioregion methodology is also being investigated and further developed through the national research project BioCode “Bioregional planning tools to co-design life places”<sup>9</sup>.

## THE TERRITORIALIST NEXUS BETWEEN HERITAGE, DEVELOPMENT AND PLACE DEMOCRACY

The conceptualisation of the territory in the territorialist perspective draws from the legacy of figures such as Patrick Geddes, Lewis Mumford and Benton MacKaye. Geddes’ perspective on the territory as resulting from the co-evolution of nature and culture (Geddes, 1970; Mumford, 1981), in particular, is today regarded as a foundational element in the definition of territory (Norgaard, 1994; Magnaghi, 2020a) as the outcome of successive phases of civilisation that, through adaptations, adjustments and selective abandonments have produced complex places endowed with identity and difference.

History, memory, identity, therefore, are co-constitutive elements of the territory, leading to a rediscovery of heritage as a fundamental design element at the territorial scale. The “territorial heritage” is made up of the environmental, urban, rural, and infrastructural and landscape elements which contribute, to their historical permanence and in the way they are perceived by the population, to shape the identity of an area from a material, perceptual and cultural point of view (Magnaghi, 2020a).

Heritage engages in a dialectically with history and is actively embedded in the cultural dynamics of today’s society (Davallon, 2006). Thus, territorial heritage feeds with its materiality the production of collective memory and fixes, in easily recognisable form, the local identity narrative. The definition of what is to be considered as heritage, and therefore what needs to be well-kept and maintained to be at the core of the project, is incremental and non-universal, but built collectively by the community and experts. As a consequence, heritage receives particular attention not only as given data but as the patrimonialisation process that leads a community to select and decide what to value and how to activate it in a territorial project. The territorial heritage is activated through a process we will call ‘proactive patrimonialisation’. It differs from simple patrimonialisation as mere awareness of something being heritage in that, it establishes a relation of mutual reinforcement and enhancement between the territorial resource and the territorial identity. Thus, territorial heritage is not just an object of recognition and protection,

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<sup>6</sup> Research project “The metropolitan city of Florence: a system of polycentric, self-sustaining and resilient urban bioregions” (2017-2018), coordinated by D. Poli, funded by the Metropolitan City of Florence.

<sup>7</sup> Research project “Biorégion Aquitaine” (2012-2015), funded by the Aquitaine Region. The Italian unit was coordinated by Daniela Poli, funded by the Aquitaine Region.

<sup>8</sup> The research “An integrated project to enhance Araçatiba’s heritage and identity” (2023) was conducted by the research unit of the Laboratório de Projeção Ecológica dos Insediamentos (Lapei), coordinated by Daniela Poli, together with the Laboratório Patrimônio & Desenvolvimento Patri\_Lab Universidade Federal do Espírito Santo, (DAU/Ufes), coordinated by Renata Hermann de Almeida.

<sup>9</sup> Research project BioCode – “Bioregional planning tools to co-design life places. Empowering local communities to manage and protect natural resources” (PRIN 2022 PNRR), coordinated by Daniela Poli, funded by the Italian Ministry of University and Research and the European Union. This paper itself has been developed within the frame of the BioCode research project.

but becomes part and parcel of territorial management, transformation and care practices, where its roles range from shaping place consciousness (Becattini, 2015) and reactivating care practices, to growing durable wealth (meant as goods, services, and employment, rather than profit), and providing the basis for self-sustainable local development models. The entrance of the territorial heritage into the spatial plan and territorial project (Poli, 2015a) challenges the very notion of development (Sachs, 2022). To activate the territorial resource - territorial identity nexus through a proactive patrimonialisation, four are the key factors (Poli, 2023b):

- i. one or more territorial heritages must be identified by the community;
- ii. the territorial resource must be activated according to different integrated, cultural, symbolic, economic trajectories;
- iii. the territorial identity must be simultaneously enhanced with the presence of symbolic, cognitive, contextual knowledge activities;
- iv. territorial added value must be generated, which is not exhausted in the use and economic valorisation of the territorial resource, but which sediments new opportunities for the local society.

In this recognition and activation of the territorial resource-identity dynamic, social involvement, supported and performed by public action (Brunori; Marangon; Reho, 2007; Meloni; Farinella, 2013) plays a primary role. Such an active involvement is not limited to common forms of participation, but takes the form of social co-production, a precondition for the reactivation of a territorialising relationality between the settled community and the natural matrices. Where planning supports the establishment of interested coalitions of actors (Pasqui, 2017) that broaden the scope and reach of local self-government through territorial care projects, territorial heritage becomes a 'collectively appropriated good' (Linck, 2012) on which to co-construct a shared territorial project. Territorialist planning moves beyond a form of planning that simply acknowledges the importance of bottom-up projectuality, towards one where the territory is actively produced as a life place for its inhabitants, marking the shift to forms of co-construction and co-management where planning takes on a social as well as technical role (Barbanente, 2019; Cellamare, 2019).

## THE URBAN BIOREGION

The rediscovery of the territory and the recognition of its heritage structures do not entail an historical reconstruction as an end, but rather require new forms of planning aimed at re-establishing a coevolutionary balance between the biophysical environment and the human settlement. Bioregional planning emerged in the Seventies in the United States (Berg; Dasmann, 1977; Berg, 1987) as an approach aimed at counteracting the pervasivity of the urban explosion by pursuing a recomposition of the world of life on a larger scale than that of the city. Alberto Magnaghi, in shaping a territorialist approach to bioregional planning, introduced the conceptual reference, interpretative tool and operative framework of "urban bioregion" (Magnaghi, 2014). In his perspective, it represents "the appropriate conceptual reference for a territorial project which is designed to integrate the economic (referred to the local territorial system), political (self-government of inhabited areas and work places), environmental (territorial ecosystem) and living (functional and inhabited areas of a group of cities, towns and villages) components" (Magnaghi, 2020b, p. 35).

His concept of urban bioregion describes a local territorial system whose main elements are (a) a reticular settlement system characterised by synergistic rather than centre-periphery relations, (b) hydro-geomorphological and environmental systems that coevolve with the settlement and the agro-forestry systems, and (c) forms of self-government of the living environment by the local community, aimed at assuring the self-sustainability of the territorial ecosystem and the wellbeing of the inhabitants. Such wellbeing does not derive from the extraction of resources and profit but rather from a wealth-producing enhancement of territorial heritage and a tendency to the closure of the territorial metabolic cycles. The urban bioregion integrates the wider hydro-geomorphological and environmental systems, which play the role of material precondition for its very existence, and therefore comprises the rural and inner areas as well as the city, as part of a complex but ultimately unitary (and living) territorial eco-system. In fact, the urban bioregion framework jointly addresses the urban, periurban and rural domains, overcoming the urban/rural divide by considering the settlement and territory as a whole (Fanfani, 2020). At the same time, an urban bioregion is not an isolated system, only internally connected. On the contrary, through the support of socio-territorial networks, territorial relations are rebalanced to form systems of bioregions, which differ from the current hierarchical globalisation model in that they are characterised by synergistic relations and horizontal cooperation, within a frame of substantial self-determination and tendential self-reliance (Thayer, 2003).

Thus conceived,

[...] an urban bioregion, in which every large city or “cluster” of small and medium cities is in ecological, productive and social equilibrium with its own territory, is an alternative to the strength and power of a metropolis: indeed urban bioregions are more powerful than metropolitan centre-periphery systems and diffused post-metropolitan systems because they produce more durable wealth by enhancing and networking their “peripheral” nodes in multi-polar exchanges (Magnaghi 2020b, p. 38).

The primary material on which to build a project of urban bioregion is the body of environmental and territorial knowledge that has been accumulated over the course of its history, shaping the distinctive landscape and identity of the region, its long-lasting territorial heritage. The recognition and study of such long-lasting structures provides the rules on which to co-define the peculiar way the territorial heritage has to be enhanced and a local development model formulated, in order to assure the reproduction of the life-producing matrices of the territory.

## A REASSEMBLY OF THE METROPOLIS: THE CITY AS A NODE OF THE ECO-TERRITORIAL BIOREGIONAL NETWORK

The urban bioregion proposed by Alberto Magnaghi can be regarded as a powerful conceptual and operational tool to transcend the metropolis form and tackle the complexity of the issues that traverse through an integrated approach. Given that the urban bioregion does not equate to the urbanised area, but is formed by a polycentric settlement system in dialogue with its wider territory, one of the challenges is to identify its boundaries. Indeed, the bioregion’s boundary is not predetermined, but emerges from the intersection of the different life matrices that run through it, and define four types of bioregional spaces (Poli, 2020):

- i. the bioregional basin, alluding to the watershed metaphor, refers to the ecological, food, water, energy dimensions that nourish the city thanks to its capacity to enhance biodiversity, produce food and energy, provide and regenerate water, with a tension to internally close the metabolic cycle;
- ii. the proximity bioregion, the polycentric settlement context around the city with its agro-forestry territory, accommodates the urban-rural interchange and is the proper context of direct self-government of the communities that self-recognise and engage in caring for the common good;
- iii. the bioregional public space, the distinctive space of the proximity bioregion which is generated in intermediate territories located within or along the margins of large urbanisations, takes on the role of a public space on a territorial level, 'a large agro-urban square' organised by nodes and networks where the different urban fronts face each other;
- iv. the bioregional city, the proper urbanised area, regains form and scale in the reorganisation of new centralities that are penetrated and crossed by multifunctional ecological networks, endowed with services, public spaces and beauty, playing the role of service centre of this complex territorial ecosystem.

These four interconnected spaces outline a new form of urbanity that takes care of its ecosystem and all the vital matrices of the settlement (water system, coastal marine system, environmental matrices, ecological corridors, agro-forestry nodes, food production, etc.). Therefore, the bioregional reorganisation of the city and metropolis takes a transcalar approach and involves several spatial and temporal levels and actions. Starting from a retrospective outlook on the territory, aimed at identifying its long-term structure and historic ecological balances, the bioregional project reorganises the metropolis by (a) restructuring the multi-purpose ecological network so that it penetrates the urban and anchors it to the major natural strongholds, (b) stabilising the urban edges through densifications, relocations, replacements and introduction of new agro-urban services that will also generate new economic value for the area, (c) regenerating the the intermediate area between urbanisations (the bioregional public space) through operations of agro-landscape requalification (Poli, 2013a,b), and (d) reorganising the urban fabric around new centralities.

Adopting an urban bioregion model for the metropolis means strategies and actions must aim at rebalancing territorial weights, leveraging the endogenous potential (historical, social, morphological, ecological, environmental, cultural, energetic and economic) of the polycentric settlement system, at outlining a resilient settlement model based on its long-lasting co-evolutionary rationality, and, more generally, at recovering the founding value – in environmental and morphological, but also social and economic terms – of the urban and the rural territory, with a commitment to regenerate even the forms of contemporary urbanisation. In contrast to central-peripheral models, which lead over time to lowering the quality of life in central areas, bioregional planning reverses the perspective on inner areas, usually described in negative terms, as marginal and peripheral. Quite the opposite, they can "offer (ecosystemic, environmental, landscape, cultural) services and development potential (energy, water, tourism) that in many cases instead present an inverse gradient, i.e. they are maximum in the periphery and minimum in the central agglomerations (Dematteis, 2012).

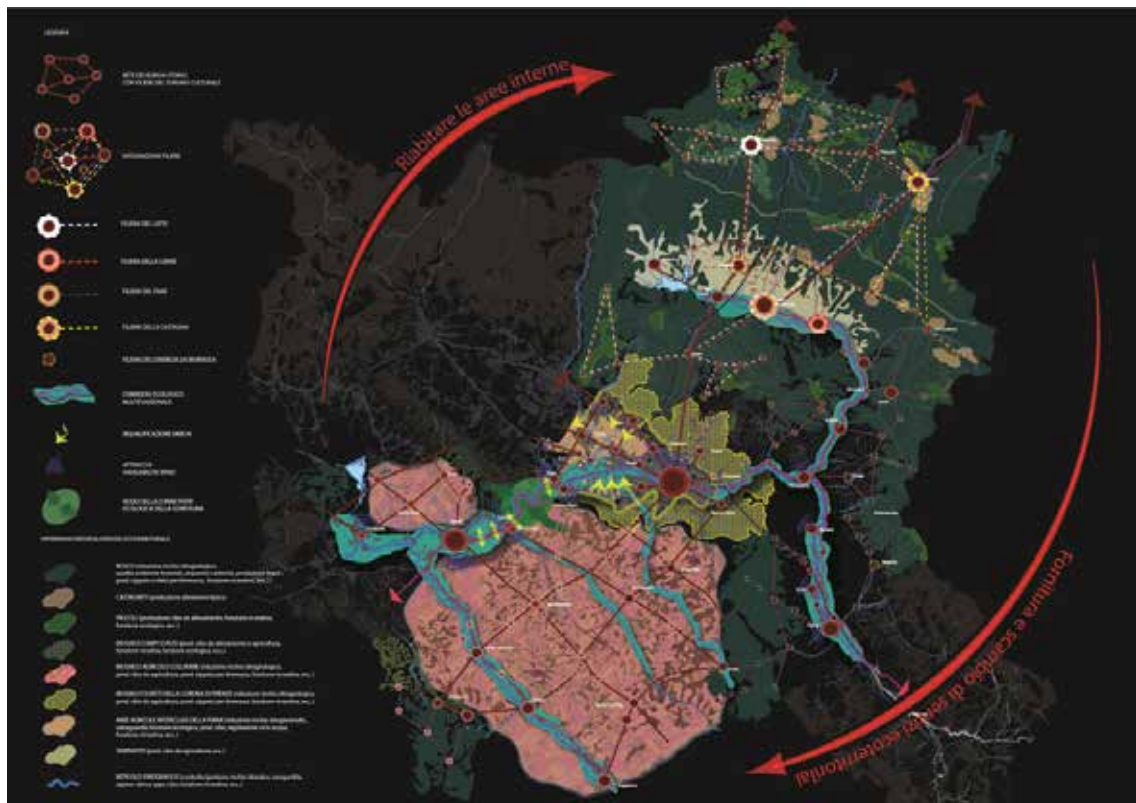


## The case of the Florence Metropolitan City

The above principles have been applied in a research project, coordinated by D. Poli and finalised at the Strategic Plan of the Florence Metropolitan City in Italy, whose aim was to rearticulate the territory into bioregions. Methodologically, the analysis took its cue from a historical perspective, which allowed to bring out the long-lasting settlement forms and rationalities, and moved on to the identification of the foundational relationship between asset structure, resource stock and ecosystem/eco-territorial service provision (Poli, 2020; Magnaghi, 2020c). The Florentine plain was interpreted as the barycentre of the ‘valley section’ stretching from the Mugello mountains to the North and the hills to the South, of the urbanised ellipse of central-northern Tuscany Region, and of the northern valley of the Arno river. Working at the scale of the Metropolitan City proved well suited for triggering a tendential closure of ecological cycles (water, waste, food, energy), with a transcalar move from the level of the bioregional basin to that of the proximity bioregion, where, in turn, good practices of regeneration of the vital matrices of settlement could be experimented and disseminated.

### A REORGANISATION OF THE INTERMEDIATE TERRITORY

Figure 1 – Metropolitan City of Florence, nodes and networks, stocks and flows of regional heritage-based metabolism



Coord: D. Poli. Drawing by G. Granatiero for the research ‘The Metropolitan City of Florence: a system of polycentric, self-sustaining and resilient urban bioregions’.

To qualify the contemporary peri-urban territory, bioregional planning interprets the agroforestry territory as a strategic element for the space quality and ecological functionality of the entire urban bioregion. The different components of the agroforestry territory (agriculture, riparian belts, hedgerows, tree lines, etc.) configures a new system of public space at the territorial scale, a strategic qualified space which, extending between the cities, gives them back their form, measure and meaning, while anchoring them to the supra-local ecological network. While the “rural city” and the “urban countryside” proliferate in the intermediate territory (Mougeot, 2005; Donadieu, 2006), the activation of a new city-countryside pact (Magnaghi; Fanfani, 2010) can restore full meaning to both worlds, bringing the peri-urban territory finally out of the dimension of uncertainty that is currently its own in order to rediscover a rural role but one that interacts with the city, linked to the offer of innovative and multifunctional services.

This way, the agro-urban intermediate territory can play the role of territorial-scale public space, provided that (Poli, 2015b):

- i. it performs functions related to the category of ecosystem services, including hydrogeological risk mitigation, food provisioning, cultural activities, and so on;
- ii. it accommodates forms of agriculture in transition towards multifunctionality (Deelstra; Boyd; Biggelaar 2001);
- iii. proximity economies, based on principles of solidarity, networking and commoning, are activated;
- iv. the territorial heritage is cared for and enhanced, and active citizenship actions initiated, towards the formation of “project communities” (Poli, 2019).

The reorganisation of the intermediate territory is constructed as an expression of a new active territoriality producing local and proximity economies (Mincke; Hubert, 2011), primarily defined around the Local Agrifood System (Prigent-Simonin; Hérault-Fournier, 2012), which reorganises an economic network of subjects and actors (farmers, citizens, restaurateurs, public canteens, etc.) that strengthen the proximity market, local awareness and solidarity. Case studies of a food-sensitive urban and periurban territoriality come from Paris, with its *jardins partagés*, Rome, one of Italy’s and Europe’s most important rural contexts with its numbers of vegetable gardens; Detroit, bankrupted by the industrial crisis and transitioning to a new hybrid form of rural city. Not only cities are recovering their proximity foodshed in spatial terms: it is also a social demand for communities to play a key role in the organisation of production/ consumption chains, joining food sovereignty and “re-spatialization of food-systems” (Feagan, 2007, p. 27).

### The case of the Left Riverside Agricultural Park in Florence

The research-action project ‘Farming with the Arno. Riverside agricultural park’ (Poli, 2019) involved the peri-urban area located between the riverside municipalities of Florence, Scandicci and Lastra a Signa, one of the most urbanised areas in Tuscany, known until the 1950s as “the vegetable gardens of Florence”. The project, which started with a memorandum of understanding between several entities (Region, Province of Florence, Municipalities, University of Florence) for the enhancement of peri-urban agriculture (Butelli, 2015), experimented a combination between the agreement dimension of the river contract (Bastiani, 2011) and the integrated planning of the multifunctional agricultural park. The outcome of the participatory

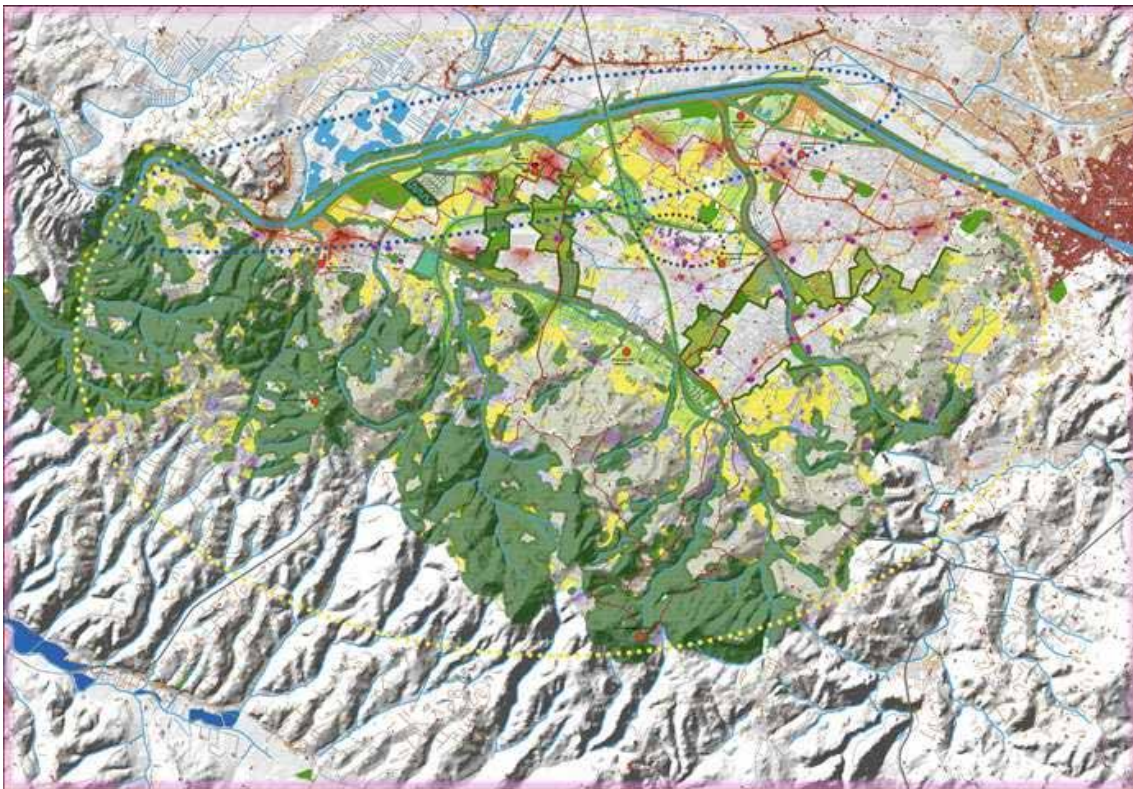


process consisted of a strategic scenario for the multifunctional agricultural park as bioregional public space, and a scheme of twelve social voluntary agreements among public, private and social actors to foster territorial transformation.

Taken as a whole, the project, by placing peri-urban agriculture as a central element in the redevelopment of the territory, embodies the founding transition from the multifunctional farm to the multifunctional territory. The passage is achieved through coordinated, multifunctional integrated projects, managed by coalitions of actors who are united by the recognition of territorial heritage and the will to enhance it through integrated, socially defined and shared actions.

## AN INTEGRATED REACTIVATION OF THE RURAL AND MOUNTAIN AREAS

Figure 2 – The bioregional strategic design scenario for the Left Riverside Agricultural Park



Source: D. Poli and E. Butelli, 2023.

The bioregional approach enhances the specific characteristics of territorial contexts, defined by the intersection of several factors (relief, climate, water, settlements, forests, economies, etc.) and ecosystemic exchanges between the different components (mountains, hills, plains, river valleys), overallly oriented towards the integrated regeneration of territorial assets and resources. Therefore, the high value of rural inner or mountain areas for the whole urban bioregion is acknowledged, with their rich endowment of ecosystems, knowledge, places, landscapes. Not anymore conceived in opposition, or as an alternative to the city, these areas find their place within a coherent and sensible integrative perspective.

A bioregional project for the mountain areas in particular must, on one side, maintain and sustain diversity within a model of bioregional interdependence, in order to guarantee the benefits offered by the mountain to the entire territory (Marino; Poli; Rovai, 2023). The mountain, on the other side, can today claim its right to offer its inhabitants certain advantages and opportunities until now only available in urban areas. Thanks to the dislocation of services, the (re)populated mountain can be imagined as a polycentric urban network, which can allow its inhabitants to take advantage of widespread functions and services similar to those offered in the urban concentration. The issue is therefore how to maintain the specificities, handling them down to future generations, while at the same time triggering a reversal of depopulation.

Recent studies (Corrado; Dematteis 2016) show that in recent decades a phenomenon of ‘rehabilitation’ of certain inland mountain areas has begun in Europe as in Italy. Despite being still limited in numbers, the process reveals a new way of thinking. The mountains are no longer seen as a marginal space only; rather, attractive living conditions, territorial heritage and local resources are brought to light as potential generators of income and employment. The ‘vibrancy of the margins’, the ‘new centrality of the mountains’ (Bonomi, 2013; Bolognesi; Corrado, 2021) highlight this new way forward. To sustain this ‘return to the mountain’ it is also necessary to establish conscious alliances between the rural inner or mountain areas and the city, based on a vision of mutual interdependence, within which resources and services can be exchanged.

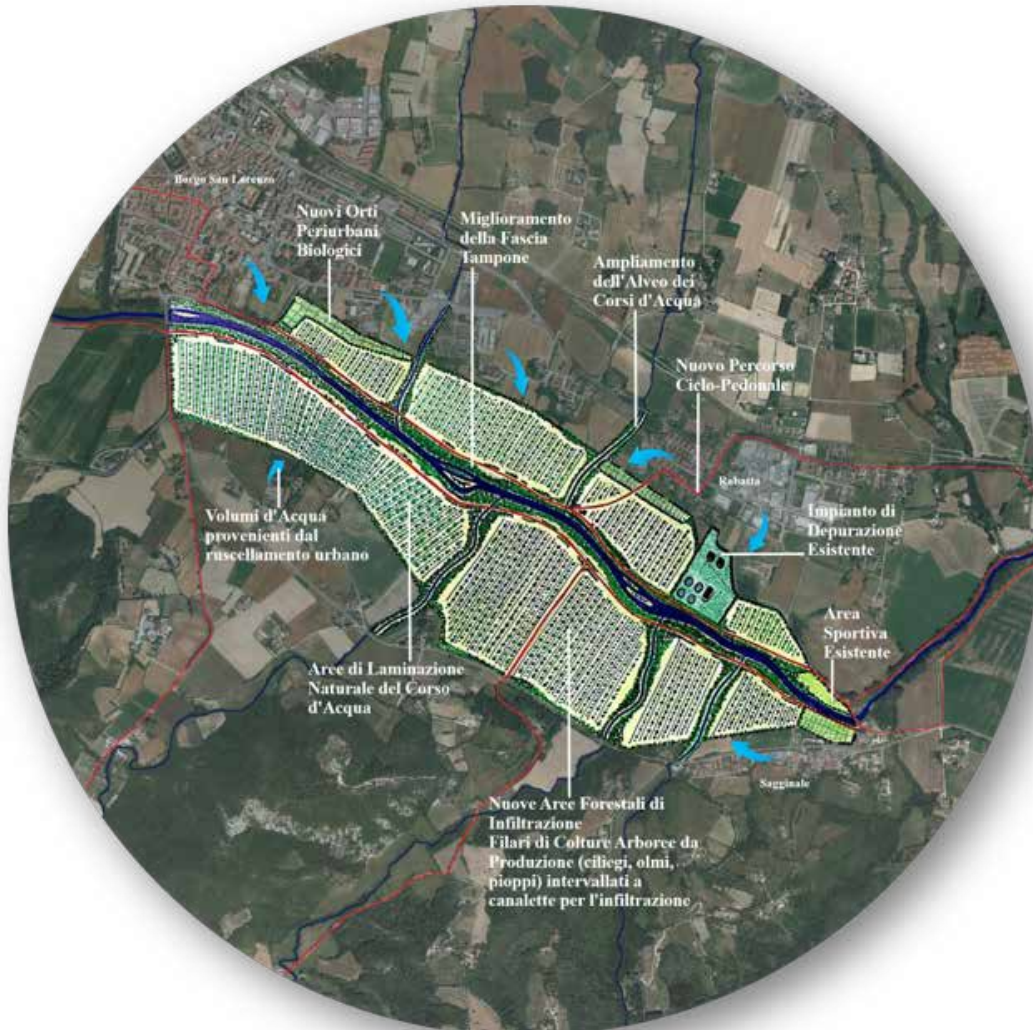
### The case of the Mugello “metropolitan mountain”

The Mugello area, in the North of the Metropolitan City of Florence, consists of an intermountain basin characterised by large wooded and rural areas and, above all, by abundant water reservoirs – namely the Bilancino artificial reservoir, the Sieve river with its tributaries, as well as numerous springs – that feed the metropolitan city. Given its characteristics, the Mugello area can be regarded as a “metropolitan mountain” for Florence. Its rich resources of water, forests, rural landscapes and organic agriculture contribute to the greatly to the provision of multiple ecosystem services (ES) to the entire bioregion: water and food provision, CO<sub>2</sub> sequestration and storage, landscape, and so on. These characteristics make the Mugello territory a strategic area for activating local economies linked to the management of water resources, also through the introduction of innovative governance models. In the context of the research “A territorial production model of ecosystem services for the integrated water service”, coordinated by D. Poli, and of previous and subsequent works that incorporated its results<sup>10</sup>, some proposals were formulated for this mountain area.

<sup>10</sup>See the Research “A support for the definition of a socio-territorial production model of ecosystem services for the integrated water service” (2021), coordinated by D. Poli, and the Master’s theses of S. Angelini, “The reconstruction of Mugello underground and surface water system for the identification of Ecosystem Services in the framework of bioregional planning” (Supervisor D. Poli) and of L. S. Donald and M. Habiballah, “Water system and territory, learning paths: towards an Ecomuseum project in the Mugello” (Supervisor D. Poli, co-supervisor E. Butelli).



Figure 3 – Design of new forestry areas for the groundwater artificial recharge along river Sieve



Source: Master's thesis of S. Angelini, "The reconstruction of Mugello's underground and surface water system for the identification of Ecosystem Services in the framework of bioregional planning". Supervisor Daniela Poli, drawing by S. Angelini

On one side, the construction of an integrated territorialised strategy (Poli; Butelli, 2023) aimed at suggesting a shared framework for the patrimonial management of the ES (Poli; Chiti; Granatiero, 2020) based on the preservation and enhancement of water-related ES and the activation of new local economies and innovative forms of governance based on Payments for Ecosystem Services (PES). The proposed vision entails the implementation of such a strategy through agreement tools between ES providers and beneficiaries. Through a dissertation, the strategic proposal of an ecomuseum of water was explored, conceived, in accordance with Rivière and de Variné's 1971 definition (De Bary; Desvalles; Wasserman, 1994), as a permanent laboratory of knowledge, active protection and valorisation for self-sustainable local development of the territorial heritage related to water by local actors (Butelli, 2022).

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## CONCLUSION

As the cases presented here have shown, a territorialist approach based on the urban bioregion frame of reference can prove key to counteracting the current models of territorial *maledvelopment*, by providing a sound alternative. The territorialist way to bioregional development is based on proactive patrimonialisation grounded in place democracy and aimed at growing durable wealth. Operationally, to restructure the territory according to the urban bioregion model means to overcome the dichotomous pattern of metropolitan expansion vs rural abandonment pattern through:

a reorganisation of the metropolis into a polycentric settlement system with stabilised edges, integrated into the eco-territorial bioregional network;

a reorganisation of the intermediate territory, where the urban fringe is redesigned as a porous membrane allowing for sensible exchanges with the multifunctional agro-forestry territory surrounding the city;

an integrated reactivation of the rural and mountain areas, where the recognition of their ecological and ecosystemic importance repositions their role in the regional balance as barycentres of a new cultural and economic centrality.

The breakdown and reassembly of the urban and rural territory as a bioregional whole is not simply a spatial or ecological reorganisation: rather, it is conceived as deeply tied to a recentring of the settled communities' role as protagonists of the territorial spatial, cultural, economic trajectories. This is the common thread running through the patrimonialisation of the territory, the bioregional spatial project and the active participation of the inhabitants through agreement tools, pointing to a renewed and authentic form of place democracy and self-determination for shaping tailor-made patterns of bottom-up development.

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