

Learning from the Lama

Bitonto, in between.

On a global scale Bitonto is located in a privileged intermediate position between sea and hinterland, between countryside and urban environment, in a tension between global and local dynamics. The city, renowned worldwide for the production of olive oil, presents three urban agglomerates in a vast agricultural land that goes from NE to SW: from the urban area of Bari (and its international airport at the municipality border) to the vast and sparsely populated area of Alta Murgia National Park. An important geological characteristic of the area is presence of the “Lame”: long and shallow karst furrows that cross the plain of Bari from the Murgia hills to the coastline. The “Lame” constitutes a major exception in the agricultural landscape of the Apulian plateau, which is normally dominated by olive and wine cultivation, representing natural ecologic corridors for the wild species of the area. From a hydrological perspective, the Lame show the ephemeral presence of water that runs mostly underground but that sometimes create small rivers. The city of Bitonto was founded in a bight of one these, the Lama Balice.

Lama and landscape.

In the Mediterranean lands, where history and nature are ancient and diverse, there are few remote places that can be considered untouched by humans. Every landscape is the result of a complex geologic, biologic, and cultural story. In particular, the Anthropocene landscape of the last 50 year is the summary of the disagreement between man and nature. In this sense the landscape of the Lama Balice shows the combination of the human and natural dynamics of the region. Lama Balice is a puzzle of diverse and various biotopes, especially if compared to the surrounding agricultural land. Along its path, Lama Balice varies in width and depth, as well as in the presence of water and land usage. The result of this fragmentation is a richness in biodiversity and landscapes that gave to the lama an exceptionality that still needs to be valorized in a proper way. In the lama Balice the coexistence of wild areas (uncultivated grassland, woods, Mediterranean Maquis shrubland, caves and cliffs) and human activities (Masserie polycultural farm, quarries, and the olive and wine cultivation that penetrates from the surrounding countryside) follows the geography and the human uses.

Three scopes, Six exchanges.

In the management of the transformation of the territory, an inevitable process facing the future challenge in climatic, economic, and social aspect, Bitonto presents three different grounds of change:

- City (urban scope): the space of the consolidated city of Bitonto and the two outposts of Palomabio and Mariotto;
- Lama (naturalistic scope): the space of major naturalistic quality and biodiversity;
- Ruralscape (agricultural scope): the ordinated space of the olive plateau and its places of production.

The implementation of virtuous exchanges between the three scopes generates dynamics that can be condensed in local interventions. The theme “reinforce biodiversity” to transform Bitonto is interpreted through the analysis of the mechanisms that regulate the territory, developing processes between the places of changes, and their reference contexts. The loss of biodiversity of the Anthropocene transformation is evident in the disfunction of the ecosystems, in the loss of those ecological services and goods that are no more furnished by the land, and in the loss of complexity of genetic diversity. Those aspects are strictly linked to natural disasters, more frequent worldwide and also affecting the territory of Bitonto.

CITY – LAMA EXCHANGES

- **Urban green continuity**

The border between Lama Balice and urban settlements presents a strong break derived by the presence of embankments, streets, and buildings. The green areas inside the city are conceived like disconnected islands, derived from an old conception of urban green. The idea of penetrating the green areas inside the city with Lama Balice generates a positive outcome from a biological and livability point of view. An increase of green space inside the city is necessary to make it more livable, and it may also foster the growth of a complex ecosystem by facilitating exchanges and regeneration between species.

- **Water management**

The control of water into the Lama becomes a crucial element of conjunction between the promotion of biodiversity and the public interest against floods. Due to the karst nature of the Lama, the water is not always present at surface level and there is a strong discontinuity during the year in presence of water, passing from drought to water saturation of the riverbed (the mena phenomenon, a fast and muddy flood that creates serious damage to people and agriculture).

A more balanced presence of water in the Lama can be pursued through a better management of rainwater in the city and in the valley. Green systems and infrastructures for water collection located in the city and on the border of the lama can treat and direct water in case of extreme precipitation and, behaving like a sponge, release water when needed, increasing the average humidity of the Lama. Alluvial puddles and other humid places increase the presence of amphibious species and migrant birds in the ecosystem.

CITY – RURALScape EXCHANGES

- **Enhancement of agricultural production chain**

The Bitonto agricultural landscape fully represents a territorial vocation to high-quality agriculture, linked to secular practice of management of the countryside (indicated, for example, by the presence of drywalls around the fields). The heritage of such traditions is an agricultural excellence that more and more needs to be integrated within the local supply and production chain and in sustainable and smart practices. A farm-to-table production chain can guarantee a biodiverse agriculture and the development of agricultural services that generate jobs locally.

- **Development of rural tourism**

The recently realized Via Cela cycle route has created an important touristic flux of people that explore the Bitonto inland area that goes from Bari to Murgia National Park. The implementation of the cycle route network must better connect Bitonto to its hamlet, incorporating them as stops of natural and enogastronomic itinerary in places of exchange between tourist and local settings.

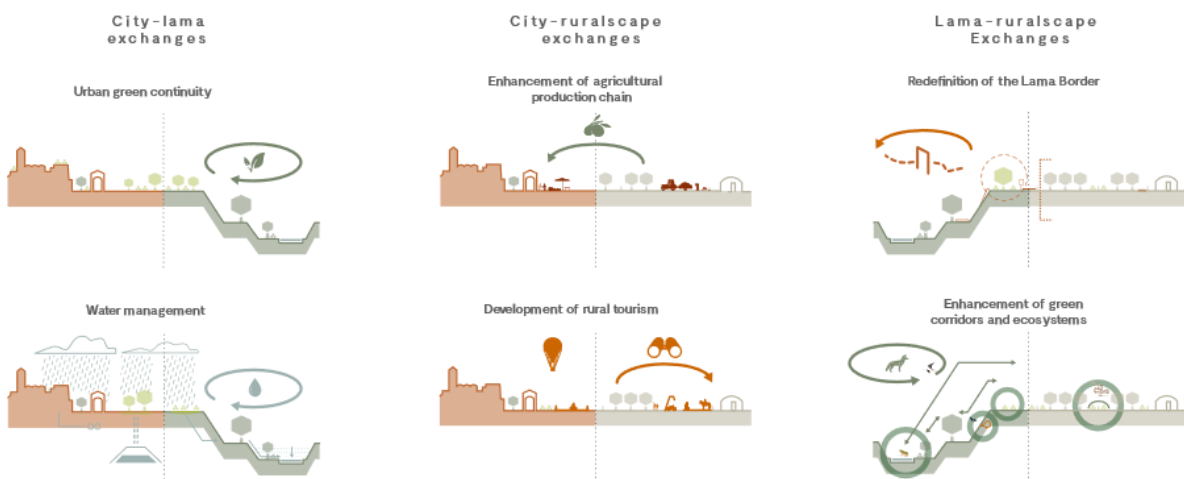
RURALScape – LAMA EXCHANGES

- **Redefinition of the Lama Border**

The northern area of Lama Balice has been protected as natural park, but in many sectors the Lama is occupied by anthropic and agricultural uses that interfere with the natural general context. The identification of a buffer zone defines the new uses of the land, and therefore allows the definition of a new precise border of Lama Balice that can guarantee a better fruition for the public and an effective re-naturalization of the banks to prevent erosion.

- **Enhancement of green corridors and ecosystems**

In the past 50 years, Lama Balice has been neglected: the abandonment of large part of the Lama has created a rich biodiversity and made it a passage zone for many biological communities, but at the same time it put it a state of decay. The management of the ecosystem and the surrounding countryside must enhance the role of the Lama as biogenetic reserve and natural ecological corridor for many species. In the Lama, the vegetal and animal spaces are varied and in evolution: from species strictly connected to Apulian region, to migratory species that can live in a context with a less anthropogenic presence.



Bitonto, four piazzas connected to the lama

The system of the squares of Bitonto can be seen as an urban breach in the compact urban fabric of the city. The open space of the squares follows an inclined plane that slowly descends from piazza Aldo Moro to piazza Castello, facing onto Lama Balice. The dominant element of this urban system is the mineral one, from the stone pavement of the squares to the asphalt of the many streets crossing them. The urban green of the squares derives from projects that date back to the end of the 1800s with the realization of boulevards and rondos just outside the walled city. The use of trees of this heritage is still visible in the ordered tree rows surrounding the squares. In the following interventions, the only major addition was the garden of piazza Aldo Moro, conceived as a circular island of exotic and local species that today create a dense wood. The squares of Bitonto represent the epicenter of the urban life of the city, full of activities, commercial activities, and people. However, the road network also creates a strong congestion of cars in this central area, generating smog, traffic, and noise.

From these premises, the project intends to revitalize the pulsing heart of the city facing the actual problems while preserving the identity and the genius loci of Bitonto center. The approach of the project is the preserving of the main spatial features of the place but with a new approach to the theme of the biodiversity and quality of urban life.

- **Urban mobility management.** Management of the fluxes and road network. The objectives are to restrict the transit of vehicles alongside the historic center by limiting the number of two-way streets and by introducing bollards and new paving for 30 km/h areas; and promote light mobility by extending pedestrian areas and introducing bicycle lanes.
- **Urban green management.** The objective is to break the isolation of the present trees and flowerbeds by creating a linear system (a spine) physically and ideally connected to the Lama Balice, fostering the introduction and propagation of vegetal species already present in the Lama and hosting in the city animal species part of the ecosystem. In this vision, the tree is no longer conceived as a standalone element, but as part of an ecosystem made of grass, bushes and trees that work together to mitigate the urban microclimate, to sequester CO₂ and pollutants, and to create shade in the public space.
- **Water management.** The green spine constitutes a permeable surface that, through the plants and the stratigraphy of the pool, collects and filters the meteoric water of the city, which would then be reinserted into Lama Balice.
- **Material interpretation.** The piazzas that need requalification at ground level are renewed by a new pavement in "calcestre stabilizzato" that is to become a new connective tissue for the whole intervention. The material imitates the color of the town's stone buildings and introduces small, segmented blocks of quarry leftovers. In some areas, to delimitate urban parterres square slabs of local chianca stone that create benches and paving slabs.
- **Context interpretation.** The new trees and architectural elements redesign the urban landscape to valorize the historical views of the city over monuments, churches, and the surrounding landscape. Elements like statues, fountains, and historical lamps are maintained or relocated in the squares.



Palombaio and Mariotto, reinforcing ruralscape outposts

The hamlets of Bitonto are situated in the vast olive plain surrounding the city, born and developed as rural outposts for the city. The main squares of the hamlets are located alongside this road, as are the main civic and religious building of the towns. Originally the large squares were conceived as a place of collection and sorting of agricultural workers and goods from the countryside to the city. Nowadays, the squares present large empty spaces surrounded by a row of trees that generate shadow for the benches and for the tables that citizens bring out during free time.

In the last years the promotion of itineraries to visit the agricultural areas and the inland area of Bitonto can generate a virtuous development of the economy of the hamlets. Particularly, the Via Cela bike lane that connects Bitonto with Alta Murgia National Park crosses the north area of the two hamlets: the goal is to intercept the fluxes of people visiting the countryside by proposing them as intermediate stops in the discovery of the territory, and to establish contacts between local product companies and outside visitors. This process can be fixed in the squares of the hamlets, regenerating them and the activities surrounding it. Alongside the bike lanes, the treatment of the green areas in a linear way that creates a visual and biological connection between the squares, the countryside, and the Lama.

Palombaio

The Piazza Milite Ignoto in Palombaio is set on a trapezoidal shape whose short side is tangent to street SP89 and whose oblique sides are the main links between the town center and the surrounding countryside. The northern one of the two oblique sides intercepts the last part of Lama Balice and the Via Cela Cycling Route. In the Palombaio segment of the lama, the canyon is shallow and used as agricultural land, but the erosive valley cutting the territory is still visible. The project intends to expand the cycling route passing through the Lama and stopping in Piazza Milite Ignoto.

The closed trapezoid is ideally opened at the base in correspondence of the new connection with the cycling system. The *quercus ilex* ring in the square are integrated in a green spine passing through it: a linear, continuous park alongside the bike lane, with the idea of relating the flux of cyclists to the movement of species and biodiversity through agricultural land, lama, and city. The core of the square, locally important for religious celebrations and everyday use, remains free to host the usual activities taking place into it, as the renovations mainly affects the paving and the tree row outside it, with the only addition of a pavillion for cyclist services that stop in the square.

On the other side of the SP89, piazza Milite Ignoto is separated from the area of the church of SS. Maria Immacolata and its parish. The parvis of the church and the surrounding spaces are fragmented by a secondary street and small differences in height. The project integrates the public areas surrounding church in the major redevelopment of the square, connecting the pedestrian and the green system crossing the road. To maintain safety and calm around the square, the SP89 segment crossing the square is paved to reduce the speed of the vehicles.

Mariotto

In the Via Cela cycling route, Mariotto represents the last proper urban stop before the Bitonto wood and the Alta Murgia National Park. Mariotto, in relation to the dimension of its urban area, presents a square that is dimensionally important, encircled by wide boulevards. In Piazza Roma the *quercus ilex* ring is three rows thick, creating a shaded passage that introduce to the inner enclosure inside it. Outside the ring there are other diffuse public spaces on the side of the boulevard.

In Mariotto, the abundance of public space is not always well exploited: many areas are covered in asphalt and lack trees for giving some shade to the area. The project operates on these and integrate them in a public space of high quality and connected with a wider system. Outside the inner core a large green area revitalize the entire square in connection with the itineraries of the territory. In the new redesign of the square, the cycling route deviates to the city, crossing Piazza Roma, alongside a green path that becomes thicker and occupy the former counter-avenue on the right side of Piazza Roma. This green line grafts itself onto the *quercus ilex* ring, fostering a biodiversity exchange between systems.

The inner core is redesigned by a substitution in the paving material but remains an open space freely adoptable by diverse civic functions. Outside the ring the recovered spaces are organized by parterres for different uses. The bike station is installed in a barycentric position to generate new connections between the local community and visitors.