Beyond Kombinat
A Morphological Approach for a Sustainable Development of the Erzen River Valley

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Luca FORMIGARI
PhD IDAUP / University of Ferrara

Abstract - *The Erzen River Valley runs southwest of Tirana, from the former manufacturing district of Kombinat to the Adriatic coast, following the old road to Durrës and Kavajë. Dotted with historical settlements, ruins of fortifications and rural settlements, it is an area rich in historical, cultural and landscape values. In the valley bottom, the river flows alongside the road that has been connecting the capital to the coastal towns to the west from ancient times until the construction of the current motorway, and on which the main settlements are built. The surrounding countryside still maintains its agricultural and productive nature, a resource to be preserved in order to protect the local environment and, especially in the stretch between Kombinat and the village of Ndroq, to contain Tirana's productive and functional centralising thrusts, in an attempt to alleviate the pressure on the historic centre.*
By analysing the structure of the territory in the section between Tirana and Ndroq, especially considering the morphology of the settlements, the positioning and hierarchy of the territorial routes in relation to the orography and the other elements of the landscape, an attempt is made to develop strategies for the completion and reconnection of the rural settlements by taking up the morphological peculiarities of their urban fabrics. The analysis of the context of the valley both on an urban scale, characterising the layout of built lots and routes in the towns, and on a broader territorial scale, investigating the structuring of routes in relation to polarities (settlements) and antipolarities (river, mountain ridges), is taken as the starting point for a proposal of expansion of the current urban and territorial structures, reinterpreting the morphological characteristics of the context.

Keywords - Cultural Heritage, Historical Settlements, Territorial Analysis, Urban Morphology, Landscape Preservation

Introduction

The valley of the Erzen River, which flows southwest of Tirana starting from the former industrial district of Kombinat, represents an area of significant landscape and historical interest. It is characterized by a stratification of settlements and is rich in archaeological findings that attest to the long history of the area dating back to the pre-Roman period (Forsén et al., 2015). The valley floor hosts State Road SH56, which connects Tirana to Durrës and which, prior to the construction of the current highway located further north, served as a major communication route between the two cities. The landscape of the valley is distinguished by its varied composition, where actively cultivated agricultural areas, historic settlement cores, and small-scale local production activities coexist. As one approaches the outskirts of Tirana—particularly in the valley floor—the early signs of diffuse urbanization become apparent. This form of development, partially disconnected from the pre-existing villages, is emblematic of urban sprawl. In contrast, the hillsides and areas further away from the capital have preserved the original separation between the built environment and the landscape. This balance between natural and anthropized elements grants the area a notable historical, scenic, and ecological value, which is now at risk due to the urban expansion dynamics that have characterized the recent growth of the Albanian capital (Sula, 2023).

The continued presence of a substantial amount of agricultural land—central to both the local economy and culture—alongside small productive activities, offers the opportunity to envision a sustainable development model grounded in the enhancement of existing resources. Such a model would avoid the kind of urban sprawl that has adversely affected many peri-urban areas in the Balkans (Živanović, Tošić, Mirić, & Vračević, 2022). From this perspective, the Erzen Valley can be interpreted as a complex settlement system, in which historical routes, the relationships between inhabited centers, and the morphology of the landscape serve as guiding elements for conscious spatial planning.

Adopting a morphological approach—which centers the analysis on the form and evolution of anthropic structures and the configuration of territorial pathways—this study aims to identify strategies for enhancing the urban-rural system of the Erzen Valley. These strategies seek to improve the urban quality of the settlements without resorting to significant new expansions. Possible actions may include targeted interventions to mend fragmented urban fabrics, completion of road and pedestrian networks, valorisation of historical and natural pathways, and reclaim of residual open spaces. In this way, the Erzen Valley becomes a territorial laboratory to test strategies that integrate both landscape quality and environmental sustainability with the development needs of peri-urban areas.

Literature Review

The undeniable historical and archaeological significance of the area is confirmed by the existence of numerous studies dating back to the early stages of Illyrian studies (Koçollari, 2021), as evidenced by the investigations of J. G. Von Hahn (1854) on archaeological sites and settlements in the area surrounding Tirana, and by the work of prominent figures in Albanian archaeology such as H. Ceka, who, among other sites, examined the settlement of Dorëz, located along the ridgelines surrounding the Erzen Valley (Ceka, 1951).

From the perspective of landscape and land use, the large number of agricultural enterprises in the area reflects the continuing importance of the primary sector in the country (INSTAT, 2024). Moreover, the widespread presence of agritourism facilities, combined with the proximity to the city, offers promising opportunities for the area to establish itself within the domains of rural tourism and ecotourism, in line with the objectives set forth in the Albanian National Tourism Strategy 2024–2030.

The importance and effectiveness of targeted interventions in the regeneration of historic settlements and rural contexts have been investigated in other settings, with various examples demonstrating how selective built heritage restoration interventions (Donatelli, 2024) and the completion of extra-urban territorial pathways (Boccia et al., 2005), when grounded in a thorough analysis of local characteristics (Pascolo & Piccinno, 2006), can serve as a catalyst for the revitalization of rural areas.

Tools and Methods

It is important to preface that the territorial analysis conducted for the present research focused on a limited area—specifically, the stretch between the Kombinat neighborhood and the village of Ndroq—with the aim of identifying a small number of case studies for which to propose recovery strategies. The goal is to outline an exemplary, though by no means exhaustive, framework of potential interventions.

The approach adopted in the analysis of existing anthropic structures draws on the theories developed by Saverio Muratori (Caniggia & Maffei, 1979), which are based on a careful observation of the territory and its stratifications in order to understand the formative and transformative logics at play. The first step, therefore, consists of an analysis of the system of urban settlements located along the valley between Tirana and Ndroq. The urbanized environment—denser in areas closer to the city and progressively sparser moving away from the capital—develops primarily along the valley floor, in proximity to the Erzen River. It is along this axis that more recently established valley-floor settlements such as Pezë-Helmës, Pezë e Madhe, and Ndroq are located. These urban centers are characterized by a network of secondary routes, referred to as foundation routes, which branch off directly from the main valley route and follow patterns that conform to the morphological and orographic features of the terrain: more linear in the flat, meandering sections of the river, and more irregular in the hilly areas corresponding to natural constrictions of the valley (Figure 1). Other settlements have developed along the hillslopes, occupying intermediate positions on the surrounding elevations, generally following a linear layout organized along a single main road

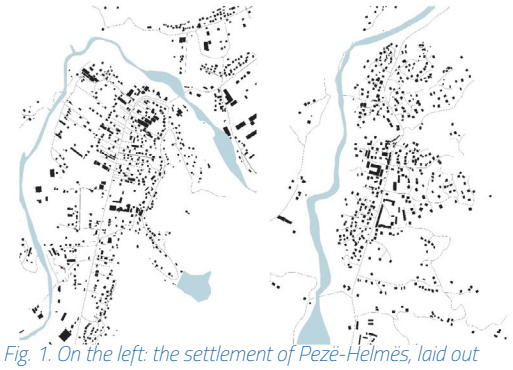

Fig. 1. On the left: the settlement of Pezë-Helmës, laid out along the valley-floor route, featuring linear and regular foundation routes. On the right, the older village of Ndroq reveals a more curvilinear and irregular layout, shaped by the hilly orography of the terrain. Source/ author

Fig. 2. On the left, the settlement of Lalm exhibits a linear development along the counter-valley route. On the right, the village of Prush, although articulated across multiple elevation levels, still features foundation routes oriented along the contour lines.
Source/ author.

Fig. 3. In red, the valley-floor route; in yellow, the counter-valley routes. It can be observed that the territorial system is centered around the road running alongside the river, relegating the other routes to a secondary role.
Source/ author.

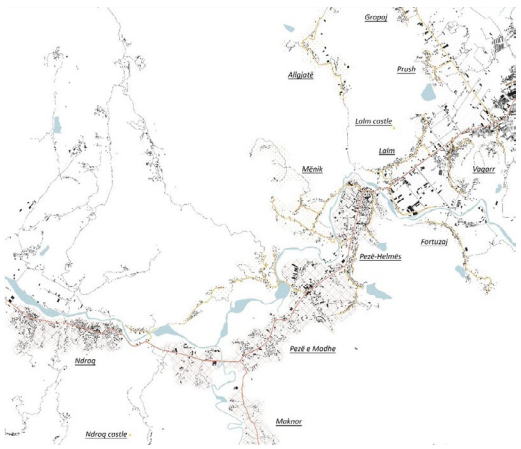

Fig. 4. General overview of the Erzen Valley: in red, the valley-floor route; in orange, the counter-valley routes. The clusters of settlements are differentiated based on their hierarchy: in red (checked pattern), the valley-floor settlements; in orange (cross-hatched pattern), the low promontory settlements. The yellow circles indicate the castles, former high promontory settlements, while the blue areas (striped pattern) highlight regions characterized by urban sprawl.

that traces the contour lines of the terrain (Figure 2). These settlements, known as low promontory settlements, are structured along counter-valley routes: pathways that run parallel to the valley floor but at a higher elevation, typically located at the boundary between the cultivated plain and the forested areas occupying the upper slopes.
Low promontory settlements thus form a belt of inhabited centers surrounding the valley floor, interconnected by counter-valley routes and linked to the main valley road through a network of transversal connections, which converge at strategic points such as river crossings or primary urban hubs. Among these settlements are the centers of Vaqarr, Lalm, Prush, and Fortuzaj.
With the progressive strengthening of valley infrastructure and the intensification of urbanization, counter-valley routes have gradually lost their territorial relevance, retaining only the role of generative paths for the settlements that have historically developed along them. As a result, in the case under examination, this counter-valley belt often appears discontinuous and fragmented (Figure 3), lacking coherence and poorly suited to medium-range mobility, which instead tends to concentrate along the main valley-floor axis. This redirection of traffic onto the primary valley route leads to its overloading, increasing infrastructural pressure and reducing the overall efficiency of the system.
Finally, at a higher elevation and still dominating the surrounding valleys, high promontory settlements can be identified. These represent the first stage of territorial urbanization, dating back to the Middle Ages, when, during the fortification process, local populations sought refuge at higher altitudes due to the instability and dangers of the valley floors. They built fortifications and castles in elevated areas, traces of which can still be found today. In the case under examination, none of the high promontory settlements have survived the subsequent gradual shift of human activity to lower areas, which, during periods of greater stability, offered better access to resources, easier mobility, and a more advantageous position for controlling trade routes (Caniggia & Maffei, 1979). Today, only the ruins of these settlements remain, identifiable with the castles of Ndroq, Bixhi (also known as Lalm), and Dorëz (Koçollari, 2021).
The overall picture that emerges (Figure 4) is that of a linear territorial system, centered on the single main valley-floor axis, along which the major urban centers of the area are concentrated. At this elevation, a diffuse urbanization can be observed, which, while still leaving ample space for cultivated fields and agricultural activities, marks the first step towards sprawl and scattered development. A buffer zone along the riverbanks, however, remains free. From the main route, secondary paths branch off in both directions, leading to the low promontory settlements located on the mid-slopes. These settlements are positioned between the cultivated areas of the valley and the higher slopes, often covered by forests. Only in a few cases are these villages connected to each other through counter-valley routes, further confirming the secondary role these connections play within the local road network. This configuration strengthens the centrality of the valley-floor road, which becomes the primary transportation axis of the entire territorial system. Consequently, this infrastructure bears a particularly high traffic load, exacerbating the issues related to congestion, a phenomenon that also characterizes the other radial routes emanating from the urban center of Tirana (Seitllari & Luga, 2016), contributing to increasing pressure on local mobility.At the same

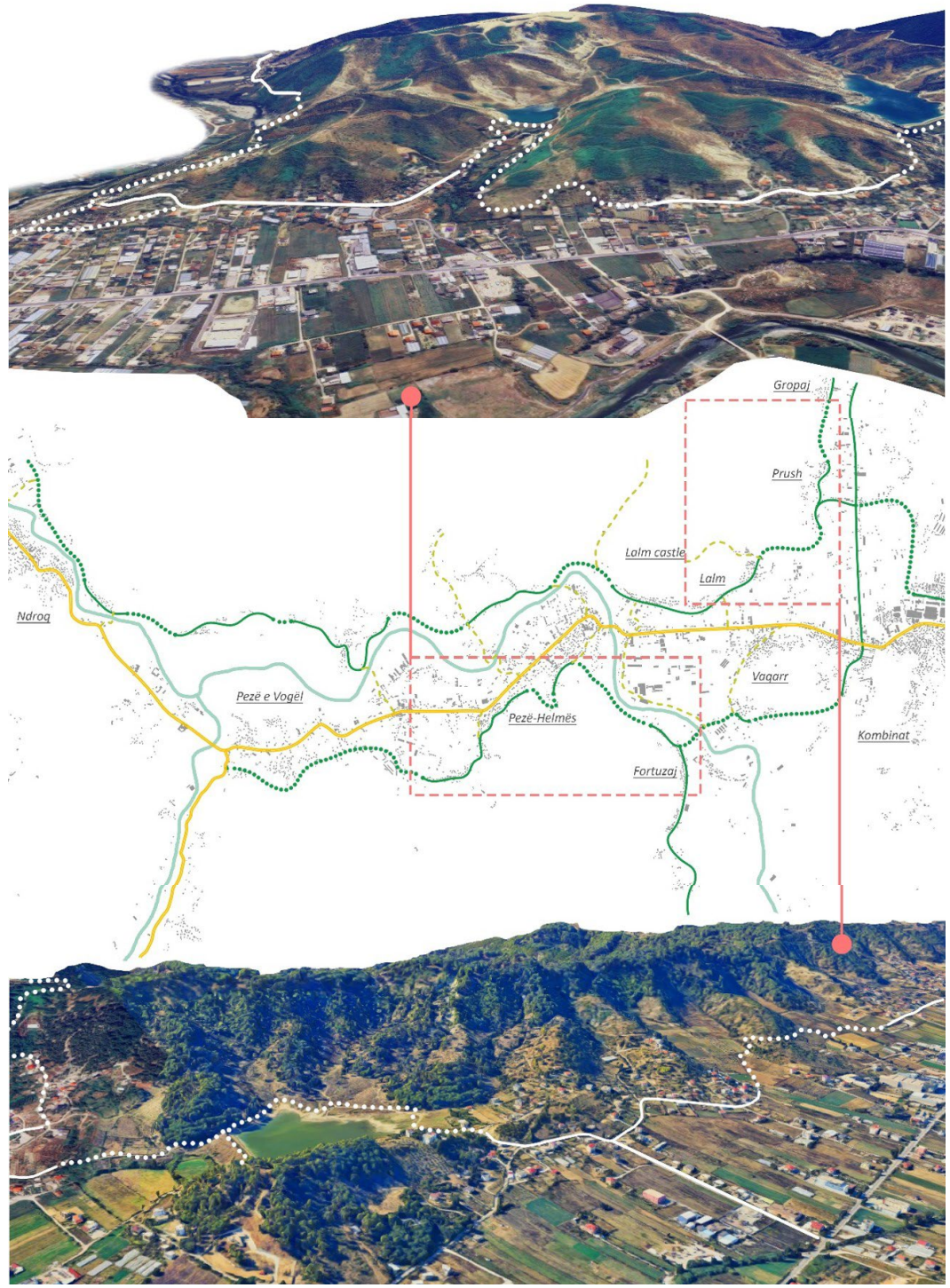

Fig. 5. Proposal for the recovery and enhancement of territorial path systems. In the center: general plan of the intervention. The continuous yellow line represents the main valley-floor road, the continuous green lines represent the active counter-valley routes, and the dotted green lines represent those to be recovered. The dashed green lines indicate the current connection routes between the low promontory settlements and the valley-floor route. At the top and bottom: zoomed-in views of two areas involved in the recovery of the counter-valley routes.
Source: author.

time, the extensive cultivated lands of this territory offer excellent potential for expanding rural tourism and agritourism in an area easily accessible from the city center. The presence of the river and forested hillsides can be enhanced by creating a network of tourist paths that connect natural points of interest and the archaeological sites of the castles along the ridges. Finally, a sustainable development plan for the territory can be envisioned by revisiting the formative logic of the territorial system, acting both on the settlements and on the routes. On one hand, the strengthening of existing urban cores can be planned with small expansions within the built fabric or in proximity to it, to introduce new functions that support local communities and visitors. On the other hand, the currently interrupted counter-valley routes can be stitched together and reconnected to form an alternative network of paths to the valley-floor route, linking secondary centers and opening them up to new opportunities.

Case Studies

In relation to what was premised in the previous chapter, several case studies have been identified in the area of interest: two focused on the settlements and one concerning the routes. For each case study, recovery interventions for the urban fabric and reconfiguration of the access routes to the various

Fig. 6. Proposal for the recovery of Pezë-Helmës. The central core, to be strengthened, is indicated by the dashed yellow area. The light green dotted area represents the agricultural zone to be protected from further development. The dotted peripheral route runs along the Erzen riverbank on one side and, on the other, at the base of the hills located to the southeast. Source/ author

settlements have been proposed.

Paths system

As part of a reconfiguration of the territorial routes in the area, the recovery of the counter-valley routes is proposed, with an expanded role in alleviating the traffic on the main valley-floor road (Figure 5). The remaining sections of this route, still in use, located at the boundary between the cultivated plain and the beginning of the forested slopes, could be reconnected to form a network of paths parallel to the valley-floor route, linking all the low promontory settlements and serving a dual purpose: both as an alternative route to the main road and as a tourist trail immersed in nature. The recovery of the route could thus be implemented in certain areas as an accessible road for private vehicles, especially in zones where it is necessary to restore connections between villages, while in more nature-oriented areas, the creation of a strictly pedestrian and cycling path with resting areas and observation points for the landscape could be envisaged.

Similarly, some of the ridge routes leading to the ancient high promontory settlements, now in the form of ruined fortifications, such as the castle of Lalm, could be reactivated and enhanced. Regarding the proposal for the recovery and enhancement of the settlements, the village of Pezë-Helmës represents an exemplary case of a valley-floor settlement. It is situated in a bend formed by the Erzen River, likely composed of river debris, in an area bordered by the river on three sides and by a hill on the fourth. The settlement is located along the main valley-floor route, which also serves as the matrix route of the settlement. A denser central core can be identified between the bridge over the Erzen and the beginning of the narrow pass formed by the southern hills, where most of the houses and productive activities are concentrated. Moving away from this central area, cultivated fields occupy the majority of the space up to the riverbank. At the edge of the settlement, on both sides, a well-defined antipolar route marks the end of the settlement and the beginning of, on one side, the river and, on the other, the hills (Figure 6). The proposal aims to consolidate this type of morphological layout of the settlement, which is the result of the same dynamics of formation and growth that have governed the birth and transformation of historic settlements. To achieve this, it is proposed to concentrate development within the identified central core, potentially densifying it with functions that support productive activities, such as an agricultural market, while reserving the peripheral area for the productive function of cultivated fields. The peripheral route can become an important part of the tourist route for the counter-valley paths, also reaching the small artificial lake to the southeast, integrating with a potential riverine naturalistic path along the Erzen riverbanks, which is proposed to be transformed into a protected area.

A good example of a low promontory settlement is Lalm. In this case, the settlement is entirely developed along the counter-valley route, following a linear pattern where most of the buildings face south, with direct access to the mid-slope path (Figure 7). Some roads connect this route perpendicularly to the valley-floor path, cutting across the cultivated plain. Above the settlement, which lacks a true central core, the forested slope begins abruptly. On the ridge, the ruins of the Lalm castle are still visible, marking the ancient high-promontory settlement from which, over the centuries, human activity has gradually descended, occupying the valleys and settlements still in use today. The proposal here primarily aims to preserve the original land-use pattern, attempting to restore the flat area between the settlement and the valley-floor path to an agricultural function, halting the already widespread sprawl phenomenon. Any potential urban expansion, albeit modest in scale, should align with the existing layout of the Lalm settlement, continuing its linear development along the counter-valley route. The recovery of this route is important not only for defining the built-up areas but also for creating a naturalistic path that continues towards the lake and the village of Prush located further north.

Conclusions and Recommendations

The analysis conducted on the Erzen River Valley has highlighted how this territory constitutes a complex settlement system, characterized by deep historical stratification and a strong relationship between the natural landscape and the built environment.

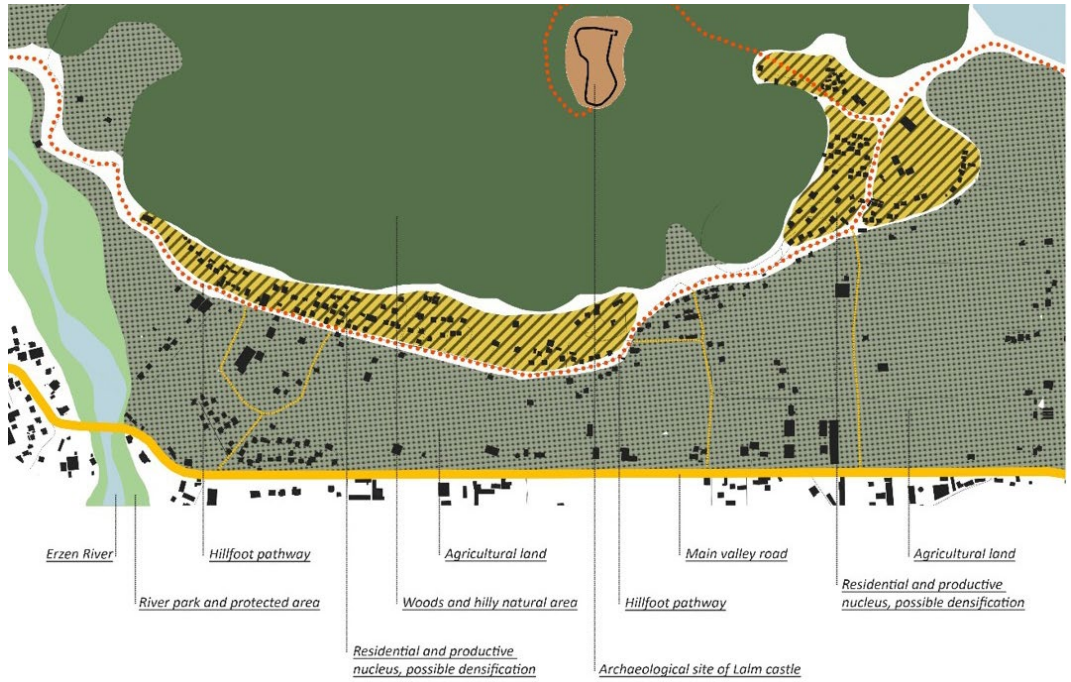

Fig. 7. Proposed recovery of the village of Lalm. In dashed yellow the inhabited area and possible expansion areas. In dotted green the areas where agricultural functions are to be preserved and recovered. The counter-valley path, dotted red, marks the boundary between the cultivated plain and the built-up area, running parallel to the valley floor infrastructures. Source/ author

The morphological reading has allowed for the identification of spatial logics that guided the formation of inhabited centers and networks of territorial paths, thus providing an interpretative key useful for guiding future development strategies.

In a peri-urban context marked by increasing urban pressures, the Erzen Valley stands as a particularly sensitive area, where it is still possible to prevent phenomena such as uncontrolled land consumption and landscape fragmentation, typical of urban sprawl. The enhancement of agricultural, historical-archaeological, and natural components, combined with targeted interventions aimed at stitching together and redeveloping existing settlement fabrics, represents a feasible path towards sustainable and integrated development.

Through the analyzed case studies, the aim is to propose solutions that, even through small-scale interventions, can promote territorial regeneration capable of strengthening local communities, improving internal accessibility, and encouraging forms of rural and nature-based tourism compatible with the context. In particular, the recovery of counter-valley paths and the enhancement of settlements offer the opportunity to build a light and resilient infrastructural network that supports development without altering environmental and social balances. In summary, the Erzen Valley can become an experimental laboratory for territorial policies that are attentive to the context, capable of balancing the need for growth with the conservation of local resources.

References

Boccia, L. Et al. (2005, September 1-3). Progettazione di una rete di itinerari escursionistici per la valorizzazione del territorio rurale: il caso della Riserva Naturale di Tuscania (Alto Lazio) (pp. 421-432). [from the conference RURALIA "L'architettura e il paesaggio rurale nello sviluppo socioeconomico montano", Rocchetta Ligure, Italy]. Milano, Italy: Centro grafico S.

Caniggia G. & Maffei G.L. (1979). Lettura dell'edilizia di base. Venezia, Italy: Marsilio.

Ceka, H. (1951). Zbulimi i një qyteti antik në rrethinat e Tiranës, in Buletini i Institutit të shkencave, 86-89. Tirana, Albania.

Donatelli, A. (2024). Ricostruzione post sismica e restauro nei centri storici dell'Aquilano. Note sugli interventi del patrimonio diffuso. In La gestione del patrimonio culturale in situazione di emergenza. Testimonianze e casi di studio anni 2021-2022-2023, 123–131. Bastia Umbra, Italy: ASSOCIAZIONE VIRART ODV.

Forsén, B. et al. (2015, May 20-23). Dyrrachium Hinterland Project. First preliminary report. In Lamboley, J. L., Përzhita, L. & Skenderaj, A., L'Illyrie méridionale et l'Epire dans l'antiquité: actes du VI colloque international de Tirana, 301-317. Tirana, Albania: ALSA.

INSTAT (2024). Agriculture Statistics 2023. Tirana, Albania: INSTAT. Retrieved from: https://www.instat.gov.al/en/themes/agriculture-and-fishery/agriculture/publication/2024/agriculture-statistics-2023/

Koçollari, M. (2021). Insediamenti fortificati d'altura nel territorio di Tirana (Albania), tra età classica ed ellenistica. [Doctoral thesis in Archaeology]. University of Bologna, Italy.

Pascolo, E. & Piccinno, V. (2006). Guida al recupero dell'architettura spontanea. Udine, Italy: Forum.

Seitllari, A. & Luga, E. (2016). Analyzing Transport Problems in Tirana on a Sound Scientific System Base.

Sula, L. (2023). Urban Development and Impact on Sustainable Economic Development (The case of Albania). International Journal For Multidisciplinary Research.

Von Hahn, J. G. (1856). Albanesische Studien. Jena, Germany: Verlag von Friedrich Mauke.

Živanović, Z., Tošić, B., Mirić, N., & Vračević, N. (2022). The nature of urban sprawl in Western Balkan cities. In International Journal of Urban Sciences, 28(1), 1–20.