

Results and Conclusions

On Policy-Based Papers: Large Scale. Strategic Visioning & Design

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DOI: 10.37199/o41009116

The theme of this international research project and scientific journal issue is Re-Inventing Phoeniciae (Finiq): New Intersections of Tradition, Innovation, Landscapes and Tourism. The respective International PhD workshop of Polis University and Ferrara University took place from 09-20 January 2023. This phase concluded with a series of presentations, lectures, and graphical-conceptual diagrams. After that, the researchers worked independently for the rest of the year to elaborate further scientific speculations and write down articles. Tutors of the workshop and the project have been: Prof. Besnik Aliaj, Prof. Pantelis Skayanis, Dr. Sotir Dhamo, Dr. Skender Luarasi, Dr. Llazar Kumaraku, Dr. Malvina Istrefaj, Dr. Doriana Musaj and Sadmira Malaj. Finiq Municipality is located in the South of Albania, cross-bordering Greece. It is included in the Vlora's County and it is just 9 kilometers from the port & tourism City of Saranda; not far from the UNESCO City of Gjirokastra; and adjacent to the UNESCO Archeological Site of Butrint. The settlement of Finiq has been the main municipal center since the last administrative reform. The municipality looks "poor" and neglected, but indeed is rich in all aspects. It is particularly important because of the presence of the Foinikea Archaeological Park at the top of a hill (received this status in 2005). Inside the Municipal territory, there are lots of attractive sites, such as the water springs Blue Eye; main rivers and lakes; the Monastery of St. Nikolla (in Mesopotam village), and many other amazing churches, etc. This makes the municipality dominated by nature (e.g. flat

fields; a continuous layer of hills, rivers, and lakes, etc.) and monuments that represent a rich cultural heritage. Within this context, some villages arise up in mountains or hills, characterized mostly either by forgotten historic houses and churches or by new infrastructures and civil structures built in reinforced concrete. This is due to the fact that the new buildings were built irregularly during the late post-communist decades, instead of what was built historically. Therefore the local villages are losing gradually their own original spirit, which could be better observed in the case of UNESCO heritage settlements like the city of Gjirokaster, or in the villages of Dropull municipality (another Greek minority area as Finiq). Most of the community, especially young people left due to a massive emigration mainly in Greece and the USA, or migration to the capital region of Tirana. This means that the municipality suffers now from poor human capacities, poor budgets, and low tax collection baseline, while the remaining people are getting older. However, the natural and historical potential, and the nearby port and touristic cities of Saranda and Gjirokastra (Albania), as well as Igoumentisa and Janina (Greece) make the area highly possible to be developed soon as a support territory for agricultural, historic and hospitality services. Under the conditions of massive emigration and reduction of population, the researchers put emphasis on the use of new technologies and alternative municipal planning and urban-landscape design methodologies.

Some of the main findings are as below:

1. Proposals for planning and settlement models

Francesco Pasquale, *Ferrara University – Mobility Infrastructure supporting Tourism Economy in the South of Albania* – Due to its position at the border with Greece, which is also the merging points of two seas – Adriatic and Ionian – the region of Finiq embraces a long history of ancient cultures. Consequently, its heritage embodies a stunning variety of elements, both natural and anthropic. The author stresses the fact that the trans-regional connection nowadays results in the concentration of activities only along main national roads. This generates traffic from private cars, trucks, and buses. Meantime the local subnetwork of roads suffers critical peaks on the coast, especially during summertime, while the villages of the countryside are still perceived as remote destinations and are increasingly depopulated. At the state of the art, the European blue corridor is already planned to cross the Gjirokastra inner valley of the nearby region in the north-south direction of Finiq. Also, an airport is considered to be built in the flat area behind Saranda next to the Butrinti Lake. These actions could respond to the international connections, but will not solve the issue of local mobility in terms of sustainability and accessibility. The question of the author is: How to increase the accessibility of the area, enhancing the development of tourism as well as the local economy, preserving the environmental qualities at the same time? The author tries to analyze possible models of mobility from the scale of the

international infrastructure framework, to a small-mid size network of towns and villages. More specifically he asks: How can digital mobility services enhance the multimodality, thus the sustainability and the accessibility of the whole area? Attractivity may be intended in several ways, as many as possible business models in the tourism industry. The author says that experiences such as the one on the southern coast of Spain show how overspoiling local territories with mass tourism generated a post-boom heavier crisis. Considering this, sharing a vision of the identity appears to be the key act of the transformation process. The author compares possible mobility models according to different infrastructure systems, trying to predict their impact in terms of regional and local planning. The one-dimensional scale of information technology is a crucial tool to challenge the global trend of digital services in mobility, enabling the services offered by the infrastructures in an augmented user experience. Considering the natural environmental conditions and the value of its heritage, the Finiq region might become a virtuous model for slow- instead of mass tourism. As the local communities and the economic lobbies negotiate a balance point where to agree (recognizing a common set of values on which to promote the area), the mobility infrastructures will enhance the shared vision by providing transportation accordingly. Given a variable scenario as a result of this process, then mobility will become an ecosystem of different networks and vectors to be linked and tuned up together, aiming to make them work in a more

sustainable way and more available to the users. Digital services, such as an open data server with a dedicated app can realize the collection of all information not only regarding routes, tickets, rent, parking, etc., ... but also provide a better user experience to citizens and tourists, stimulating useful parameters about air, water, soil and noise pollution; or CO2 footprint of transportation; and to fine-tune the ecosystem of mobility during time.

Laura Ferrari, *Ferrara University* – *A new paradigm for local infrastructure to enhance the potential of Finiq and its surrounding* – The author starts with evidencing the proximity of Finiq municipality near the ancient city of Phoenicia in southern Albania, and Greek/EU border with a few kilometers from the Ionian Sea. The Finiq settlement in itself is located almost at the foot of the slope of the hill, on which the ancient city had developed, representing a kind of contemporary continuity. Many problems have plagued the village, including depopulation, isolation from the main roads of the region, and loss of local identity. Analyzing Finiq, however, there are many resources that can be used for greater enhancement of the municipal territory. What characterizes them is the strategic position close to the elongated and characteristic hills, from whose summit you can admire all the panorama from mountains to sea, including Lake Butrint, a UNESCO World Heritage Site. The ancient city of Phoenicia had accomplished a monumental landscape expression by mid-third century B.C., acting also as the capital of the region, of which today some traces remain visible, such as the cyclopean walls, the ancient entrances, and the theater. Among the most important archaeological emergencies of the area, there is the monastery of Saint Nicola, which stands on a hill, surrounded by the wide bend of the river Bistrica. Such an ancient complex includes a large wall with seven watchtowers, of which today only a few traces remain. Within the walls survives only a Byzantine church monument, still used by the community for the celebration of their religious rites. Other small villages merged into the municipality of Finiq, such as Aliko, Dhiver, Livadhja, Mesopotam, etc have their own unique heritages. According author, Finiq and other town-villages could be conceived under the perspective of a smart village, enhancing the strengths of a rural reality, starting a transformation from tourism (the naturalistic and historical cultural potential can allow the villages of the area

to become an important attraction of the area, obtaining more visibility and funding for their development). By smart village author means a rural area that, starts the development process from its existing potential, aiming to find new solutions for its own territory. At the basis of such challenges are the communities themselves, which are supposed to implement a series of strategies and shared projects to achieve a common goal: the development and growth of their almost rural territory. In conclusion, the author analyzes other cases of "smart" villages in Europe, which started from the enhancement of their heritage for the sake of the development of their area: each area is different from the others, but the common results are comparable and build one identity. From these "case studies" is also possible to understand how Finiq might become "smart"; an approach needed to strengthen the values of the municipal area, according to the author's opinion.

Gabriele Fredduzzi, *Ferrara University* – *Digitalization as a tool for Redevelopment: The Finiq case* – The author underlies the fact that various problems that characterize Finiq municipality are worsened further because of the deterioration of the landscape, as a result of climate change and unsustainable human activities. Strategic intervention according to him, focused on the landscape and cultural heritage, can play a crucial role in mitigating these problems. Creating connecting paths, parks, and rest areas; restoring historical buildings and monuments, together with the development of cultural programs; could on one hand provide Finiq residents with a sense of identity and belonging; on the other hand it can stimulate tourism and investments which would be beneficial to the local economy. Digitalization, in particular the use of Blockchain Technology; Building Information Modeling (BIM); and the Internet of Things (IoT); could further mitigate these local issues. Blockchain can be used for the provision of a secure and transparent register of historical and cultural heritage, thus facilitating access to information and knowledge about the heritage by citizens and tourists. At the same time, BIM can digitally represent various areas of the municipality, for easier and more timely planning of interventions in the landscape, built environment, and cultural heritage. Creating a Digital Twin of the city of Finiq allows different stakeholders to collaborate and exchange detailed and up-to-date information on mu-

nicipal infrastructure and heritage, thus ensuring the quality of interventions and better management of the heritage itself. IoT, through sensor technology, would enable the collection of real-time data on the state of preservation of cultural heritage and the use of resources. The data collected and exchanged with, and certified by a blockchain platform, would increase transparency and citizen participation in cultural heritage management. Furthermore, IoT can provide information on weather conditions and the impact of human activities on cultural heritage, serving as a useful tool for informed, data-driven decisions, towards heritage conservation and enhancement. In conclusion, digitization as a tool, in particular the proposed technologies, could prevent further deterioration of cultural heritage, promote its knowledge, and optimize the management of resources while promoting upgrading and sustainable development. The creation of municipal digital management systems for heritage and tourism activities is a precondition. However, the use of such technologies present also some barriers, including lack of adequate technological infrastructure, and the need to train people involved in the use of such complex tools. Sensor technology could raise concerns about privacy and data security as well. Blockchain, on the other hand, would require the active involvement of citizens in the sense of understanding the technology and the benefits of its use in everyday life. This would ensure transparency of information and the use of blockchain technology. Therefore, the author concludes that the redevelopment of Finiq requires a balance between using the technology and understanding its limitations while analyzing the needs and concerns of the community and local authorities.

Marslea Plyku/Demaj, *Polis University* – *Continuity and Interruption in Architecture: The Case of the Historic Landscape of Finiq (ancient Phoinike), Albania* – The author explores the complex interrelation between the landscape, historic built environment, as well as social and economic factors that shape the urban form and space. Taking as a case study the municipality of Finiq, it initially presents the special role that the landscape has had throughout history in the place-making of the local settlements in this historical region. Considering the rich heritage legacy of the area, it shall further display an overview of the evolution of the cultural heritage designation and management approaches.

Currently, the conventional approach that focuses on singular-built heritage assets is changing towards a more holistic approach where the setting and context as well as development play a greater role, such as the historic heritage landscape approach. Nowadays main challenges faced in the built-up area of Finiq are considered: the significant infrastructure deficiencies, incongruent architectural languages, low quality of life, and weak interrelations with its landscape and heritage. Developing potential links between cultural heritage management and urban development, as a possible solution to these problems. The author eventually aims to highlight the role that a historic urban landscape approach can play as a driver towards sustainable development of Finiq municipality, as well as towards the improvement of livability and community belonging.

Luca Cei, *Ferrara University* – *Georeferenced database of medieval sacred buildings: A tool for the study and enhancement of architectural heritage in the municipalities of southern Albania* – According author, the municipality of Finiq is populated by a large group of sacred buildings dating back since the early Middle Ages (not mentioning here prehistoric phases). The author defines the architectonic style of these churches as Byzantine, although the component related to the architecture of Byzantium is flanked by constructional, spatial, and decorative types, peculiar to the Epirus territory. The specificities of this built heritage are mainly due to the geographical location of Epirus as a frontier site between the Latin, Slavic, and Greek areas of influence, at a time of the diaspora of the Byzantine legacy, and after the fall of the capital of the Empire to western hands in 1204. Currently, this set of sacred architecture, mostly monasteries and hermitages, set in scenically significant locations, is being rediscovered, both from the scholarly and the purely touristic point of view. What seems to be lacking at the moment is a tool capable of relating the buildings and through this relationship, which can be made explicit through the analysis of constructive, spatial, and stylistic features; to promote critical knowledge among scholars, also with a view to more controlled and conscious actions of protection, and foster their success in the sphere of valorization and promotion. According to the author this can be configured through a georeferenced database, capable of storing within its data, and related to direct sources (pho-

tographs, two-dimensional processing, models, and 3D point clouds); and indirect sources (documents, bibliographic citations in scientific literature, ancient and modern cartographies). Systematizing this mass of information permits the people/scholar who accesses it, not only a more structured knowledge of the object of study but also an infinitely greater possibility of relating the studied building to other buildings in the area as well, simply by analyzing the relationships that are automatically created within the database. A relevant example may be the emergence of the Monastery of Saint Nicholas in Mesopotam, which represents peculiarities of spatial and constructive typology (single hall with a narthex, four domes supported by a central column, two apses, etc.); and decorative apparatuses both sculptural and pictorial. The study of such features, not yet fully understood historically and culturally, can be facilitated by a comparative database tool under study. Such a formed relational structure can be the basis for further insights that implement artificial intelligence and machine learning processes, in order to automate some steps of cognitive process. Given quantitatively relevant input data, a classification algorithm can be trained to perform tasks that, if tackled by human operators, would be excessively time-consuming. A classification algorithm could be trained also to recognize recurring decorative motifs, spatial proportions that deviate from the trend, structural solutions, particularly related to a historical era, etc. This tool, in addition to aiding the construction of more structured knowledge on the specific topic, could be a standard of acquisition-analysis-results applicable to other areas of built heritage.

2. Proposals for the protection and conservation of biodiversity and the Environment

Rea Muka, *Polis University – The Territorial Space of Green Transition: Transitioning from One Territorial System to Another through Nature-Based Solutions / The Case of Finiq Municipality* – Climate change has been recognized by many (be it nations or international organizations), as an existential threat to the world. In this context, the EU has introduced the European Green Deal, with the aim of transforming the continent into a modern, climate-neutral, resource-efficient, and competitive economy. In this scenario, the goals set by the EU are: no net emissions of greenhouse gases by 2050; economic growth decou-

pled from resource use; no person and no place left behind. The new growth strategy of the EU was also recognized by the Western Balkan Countries (nonmembers of the EU) through the Sofia Declaration in November 2020, acknowledging the need for transformation of the region, in order to turn sustainability and resilience challenges into opportunities and transpose elements of the European Green Deal in all interrelated priority sectors. Those sectors are represented by five main pillars – underlines the author: Climate, Energy, Mobility; Circular economy; Depollution; Sustainable agriculture and food production; and Biodiversity. The author states that even though it is a multi-sectorial approach, it does not directly address the territorial aspect. The territory is rather seen as a common dominator of the five pillars. This resizes the question: What is the spatial domain of green transition in a given territory? In the Albanian context, and after the new territorial-administrative reform, the territory was consolidated into 61 municipalities. Therefore, in the framework of the General Local Plans, each municipality categorized its territory into five main territorial systems: Urban; Nature; Agriculture; Water; and Infrastructure. Through the case of Finiq municipality, the author further analyzes the complexity of territorial systems in a given territory. For the purpose of analysis, a buffer of 1 km was applied to the territory of Finiq Municipality (Bistrica river basin) where the predominance of a territorial system over another and the mixture of them was evaluated. After this evaluation, an operational framework was conceptualized using the most relevant documents related to climate change, from the international level up to the local level. These are pertinent for the case of Finiq municipality. Taking into account the evidenced framework of green transition for the selected area, it is easier to propose effective nature-based solutions to be implemented in the transitional space between territorial systems. This was done by analyzing the concept of nature-based solutions, at first, and by reviewing case studies that deal with similar societal challenges, as the ones identified in Finiq municipality. So, the main focus must be the area surrounding the Bistrica River, for the simple fact that it flows from the east (where one finds a high predominance of the natural landscape) to the west (where a predominance of human activity is more evident). Through the river, the author illustrates the unfolding of what was explained above.

Franceska Korance & Leonora Haxhiu, *Polis University – Reinventing through re-finding: Riparian agriculture for environmental system revitalization marking a new identity for lower shrinkage and isolation in Finiq* – The authors are focused on the exploration of strategies aimed at revitalizing Finiq municipality's environmental and cultural landscape, with a particular emphasis on riparian agriculture. Finiq possesses remarkable natural, historical, and culinary assets. However, the region grapples with persistent challenges such as population decline, economic stagnation, and cultural identity erosion. The authors' core objective is to present innovative strategies centered around riparian agriculture, which can lead to the revitalization of Finiq's environmental systems, protection from flooding, fostering economic growth, mitigating isolation, and renewing the region's cultural identity. Authors introduce and advocate for riparian agriculture as a transformative force capable of rejuvenating Finiq municipality's environmental systems, thereby employing a comprehensive environmental-planning methodology that encompasses an in-depth examination of Finiq's environmental and cultural assets; an assessment of the challenges facing the region, and an exploration of successful riparian agriculture practices. Insights gained from local engagement and case studies form the basis for the development of strategic recommendations tailored to Finiq's unique context. In terms of the main conclusions derived, the authors highlight the need for the adoption of riparian agriculture which can serve as a catalyst for local and agricultural environmental restoration, economic growth, and cultural revival. Encouraging community-based agricultural initiatives, including market-economy cooperatives and farmer markets, can enhance local engagement, promote economic development, and strengthen social bonds. Implementing terrace farming practices in hilly and mountainous areas has the potential to optimize land use and prevent environmental degradation in support of agritourism, offering unique products and experiences. Improvements in irrigation and drainage systems are essential to sustain agricultural growth and mitigate flooding concerns. In conclusion, the authors emphasize that integrating renewable energy sources, such as wind and solar with agriculture, can create additional income streams, enhance energy sustainability, and contribute to Finiq's environmental regeneration. It can also boost it as a base

for supply to Saranda and Gjirokastra cities especially during seasonal peaks.

Alessandro Bortolin, *Ferrara University – A 100% Renewable Energy Scenario for Finiq Municipality* – The municipality of Finiq faces a serious non-efficient supply of energy, while the area is rich in energy production from water and sun. Finiq is often affected by frequent blackouts of electricity. This is a dramatic issue both for households and local businesses. Such paradox becomes more concerning since two big hydropower plants are present within the municipality's borders, but most of the produced electricity is supplied outside the municipality. The author is focused on the identification of the most suitable renewable energy sources as well as on their location within the municipality in order to transform Finiq into a 100% renewable energy municipality. In addition to offering affordable sources of energy, renewable energy sources provide a wide range of socio-economic and environmental benefits. The transformation to a 100% renewable energy system in all end-uses would generate new jobs, improve health due to cleaner air and water, as well as increase energy independence and economic growth. A 100% renewable scenario would also allow it to meet the European requirements in terms of energy efficiency and decarbonization, which can help Albania to make a further step towards the entrance into the EU. The idea is to integrate the already existing hydropower plants with a number of renewable energy sources, such as photovoltaic systems, wind turbines, ground source heat pumps, biomass-based systems, etc. Due to the agricultural character of the municipality, also agrivoltaics (i.e. the simultaneous use of areas of land for both solar photovoltaic power generation and agriculture) can be a valuable option as many crops are suitable to be planted below the photovoltaic panels. Forest heritage has also very huge potential in Finiq municipality, especially in the mountain area. Sustainable management of the forestry heritage would allow the creation of a large amount of biomass that could be exploited for heating purposes, mostly in the areas with higher heating demands. The villages and towns of Finiq municipality are slightly far from each other and are also heterogeneous from many points of view, including the exploitable potential of renewable sources. The option of creating individual energy communities for each village will be explored, in such a way as to exploit the most suitable energy

sources. Such an option would also avoid the implementation of huge energy distribution infrastructures. Each renewable energy source will be analyzed, evaluating the Pros- and Cons- as well as the potential locations of the facilities, taking into account the territorial and natural configuration. Additionally, the environmental and visual impact of renewable energy systems must be evaluated. Finally, the impact of innovative energy storage systems, based on alternative materials such as Phase Change Materials (PCMs) and ThermoChemical materials (TCMs), are to be analyzed in order to assess their impact when coupled with renewable energy sources, and creatively considered in the planning process.

3. Proposals for innovative housing models

Ilaria Spasari, *Ferrara University – Buildings' façades requalification: An urban regeneration tool for small towns-villages of the Municipality of Finiq* – The author stresses the fact that the municipality of Finiq is well known for its scenic landscapes and natural beauty, including forests, hills, and rivers; which have the potential to drive economic growth through tourism. In addition, the proximity to Saranda and Greek regions could also help to perceive tourism as a catalyst for economic regeneration. However, the lack of adequate infrastructure and appropriate services for both tourists and local communities does not facilitate this growth process in many villages of the municipality. Despite the various administrative and governmental efforts, orientated at aligning their intentions and actions with the goals of supra-national European projects, they often require very long timelines to be realized. Furthermore, the most important cultural and archaeological attractions, often related to ancient times, are located in natural areas outside the existing urban center. Such geographical location causes a kind of "bypass" effect for visitors and tourists who usually tend to see the city-villages centers and negatively impacts its economic growth. Such urban voids, cause abandoning or under-utilizing of urban areas that do not meet the local needs, causing loss of economic, social, and environmental potential. A key role in the regeneration of such areas does not only involve the design of adequate open urban spaces but also the redevelopment of buildings that face them and, in particular, their façades, which assume a public connotation in that context regard-

less of the building's use. The redevelopment of buildings' façades that face urban voids can play a crucial role in stimulating urban regeneration by increasing urban quality, identity, and tourist flows. The façades represent architectural backdrops that, if adequately redeveloped, contribute to triggering regenerative processes by increasing urban quality, and on the other hand, enhance the towns' identity, strengthening at the same time, the tourist flows.

Fabio Planu, *Ferrara University – Digital territorial assets: Vocational drivers' representation for Finiq municipality's challenge of change* – The author tries to establish a base for the development of an integrated strategy to identify and represent the existing territorial systems and ongoing trends in the municipality of Finiq. He explores the features of the territorial ecosystem, aiming at proposing an integrated innovative development process through the digitization of the assets. Author analysis moves from three main driver-topics: "Landscape", "Tradition" and "Tourism"; showing that the municipality of Finiq has an underestimated intrinsic value of attractiveness, characterized by its inland natural areas and rich cultural heritage. Starting from these conditions, the innovation of the territorial system through the involvement of the communities of the municipality is one of the main development and enhancement drivers. Based on a holistic approach of setting up and representing land, cultural, environmental, artistic, agri-food, and local gastronomic assets, the author aims to propose the improvement of the attractiveness of the Finiq municipality, according to advanced international methodological standards, and the resulting territorial-social impact. It is proposed to implement innovation in a gainful process of Finiq municipality by the digitalization of assets through international BIM standards, creating three-dimensional information models at different levels: individual assets, infrastructures, historical sites, and relevant buildings. The three-dimensional model can be implemented in a unified data-sharing environment, allowing for the creation of a digital ecosystem through which different stakeholders and communities can cooperate throughout processes and exchange of information. The ecosystem might create a Digital Twin of the assets integrated into a territorial map. A digital model through which, the actors involved, with the support of enabling technologies, will be able

to add information to the BIM model in real-time, creating a cognitive three-dimensional decision-support model, to reorient the current shrinking, isolation, and identity trends.

Enrica Boldrin, *Ferrara University – Smart village: New strategy for the development of Finiq's reality* – The author observes that Finiq town is located a few kilometers from the Greek border and Ionian Sea; almost at the foot of the slope of the hill on which the ancient city developed in the past. Analyzing the city of Finiq, the author identifies many resources that can be used for the enhancement of the municipality. What characterizes the landscape is its strategic position, the admiring panorama, and its adjacent location to the UNESCO World Heritage sites. The ancient city of Phoenicia has still today traces such as the cyclopean walls, ancient entrances, and theater. Among the most important archaeological emergencies of the area, there is also the monastery of Saint Nicola, which stands on a hill, surrounded by the wide bend of the river Bistrica. The author proposes the development of the concept of smart village, enhancing the strengths of a rural reality, starting a transformation process from tourism needs: the naturalistic and historical cultural potential can allow the villages of the area to become an important attraction of the area, obtaining visibility and funding for its development. By smart village, the author means a rural area that starts from its own potential while trying to find new solutions for the resilient development of its territory. At the basis of such challenges are the communities themselves that implement a series of strategies and shared projects to achieve a common goal: the development and growth of their rural area. In conclusion, the author aims to insert a strategy of "smart" villages in Finiq, which starts from the enhancement of local existing heritage for further development of their area.