"New Paths of Knowledge" in Cilento Area. Infrastructure and Connection Systems throughout History, Landscape, Architecture and Heritage for Strategies of Sustainable Development and Territorial Enhancement

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Abstract—*The paper aims to illustrate the results of a research focused on greenways, conducted in the perspective of proposing the historical investigation as a different method of knowledge and interpretation of internal articulated territories, such as to accompany the most recent international indications on environmental sustainability practices.*

In this regard, in the context of policies aimed at achieving sustainable development, both the European Union and Italy are focusing their resources on the modernisation of infrastructure and connection systems, reflecting a growing awareness of the urgent need to transform mobility into more eco-sustainable practices.

This commitment is expressed globally through the United Nations' 2030 Agenda, which promotes a model of sustainable socio-economic development, with a particular focus on the sustainability of urban areas and the accessibility of mobility systems. On a European scale, however, these proposals manifest themselves more concretely within the European Green Deal of 2019, which aims to drastically reduce CO2 emissions by 2050.

In Italy, these objectives are reflected in the National Recovery and Resilience Plan (PNRR), aimed at promoting urban regeneration and the protection of cultural and environmental resources, based on the principles of environmental sustainability and collective mobility.

Working in this perspective, this study outlines new green itineraries inserted in the Cilento area, in Campania (Italy). These routes contribute, through the integration of historical, landscape, architectural and cultural elements, to the enhancement of infrastructure, tourist and historical-architectural services.

The result of such analysis contributes, therefore, to the recovery and the connection of the inner areas, supporting the local mobility. The realization of knowledge and sustainability-oriented paths offers benefits for tourism and the local economy, contributing to the socio-economic enrichment of the communities involved.

INTRODUCTION

As part of the strategies promoted by the European Union, particular attention is paid to the issue of sustainability in terms of modernization of existing infrastructures and connection systems. Globally, the transport sector is the largest emitter of carbon dioxide into the atmosphere, making it imperative to develop sustainable mobility through the implementation of innovative policies and technologies [4] able to meet the objectives set for the implementation of the decarbonisation process.

On the European scene, there are several strategies and directives aimed at ensuring a fair, competitive and green transition by 2030, with particular reference to the transport sector. Reducing CO2 emissions from this sector is one of the points of the 2019 Green Deal, a plan by the European Commission that proposes a series of specific actions to combat climate change. To this end, the mobility sector will need to embark on a more sustainable and smart path, reducing emissions by 90% by 2050, so that the EU can achieve climate neutrality, while ensuring solutions that are accessible to citizens, both socially and economically.

Figure 1: 2019 European Green Deal.

This path was undertaken in 2015 through the 2030 Agenda for Sustainable Development, signed by the 193 member countries of the United Nations and approved by the UN General Assembly. This agenda, consisting of 17 goals, aims to combat poverty, inequalities and promote sustainable social and economic development. In particular, "Goal 11: Sustainable Cities and Communities" aims to ensure access to a safe, affordable and sustainable transport system for all, improving road safety, in particular by enhancing public transport and "Goal 9: Enterprise, Innovation and Infrastructure", which aims to build a resilient infrastructure network, promoting inclusive and sustainable industrialisation and supporting innovation.

Figure 2: 2030 Agenda for Sustainable Development.

In Italy, the development of sustainable mobility, in this sense, outlines different programs aimed at urban redevelopment and the enhancement of cultural and environmental resources, in line with the main issues identified by the National Recovery and Resilience Plan (PNRR), which identifies the creation of an urban system that takes into account the environment, the city and public mobility through a network of services and structures to support inclusive and sustainable mobility. The reforms and incentives provided by the PNRR for regeneration, as well as cohesion and transformation of vulnerable territories, strengthen, among other things, the National Strategy of Inland Areas (SNAI), which promotes the enhancement of the natural and historical built heritage in inland areas afflicted by demographic and economic decline and by a fragile urban and infrastructural fabric.

An urban redesign that takes into account the complexities of urban contexts, including their natural and anthropogenic vulnerability, is essential [3], as well as their environmental, landscape and cultural characteristics, usability, use of resources and environmental protection [2], to pursue and achieve the objectives of enhancement and sustainability of cities and their surrounding territories.

The strategy implemented, based on the interaction between the user and the ecosystem that surrounds him, through the definition of a mobility network, allows to benefit from the landscape with a reduction in the impacts, caused by personal travel, and to appreciate all the natural and historical elements that characterize the territory. This type of "infrastructure" adapts to different types of users and sustainable means of transport, facilitating the mechanisms for the protection and conservation of the landscape, historical heritage and local biodiversity, as well as encouraging diversified types of tourism, contributing significantly to the economic and social system with the emergence of new job opportunities [1].

In this direction, the results of the research presented here are oriented towards the delineation of new green routes, aimed at promoting the use of sustainable and alternative transport models, with the aim of stimulating a debate on extremely topical issues and at the same time promoting a scientific and cultural exchange.

THE ROLE OF HISTORY IN THE DEVELOPMENT OF SUSTAINABLE STRATEGIES

Starting from the above premises, the research has led to the formulation of a strategy aimed at the enhancement of the man-made territories of Cilento, through an integrated approach compatible with the reuse of natural and artistic resources, especially architectural. This strategy aims to create connections that highlight the memory of places, compatible with their conservation.

Cilento, despite being a vast and heterogeneous territory, is at the same time characterized by a distinctive and cohesive cultural identity. However, the richness of these places, where art and architecture, natural and man-made environments intertwine, is not always reflected in the well-being of local communities, especially in the inland areas of Cilento that live in a marginal condition compared to those located along the coast. This observation highlights the need to re-evaluate and promote sustainable development, both from a naturalistic point of view and for the many places of artistic and cultural interest in the region.

From this consideration, therefore, the project that we intend to illustrate here starts, that is, the proposal of a system of greenways, based on the identification, study and consequent enhancement of the man-made landscapes and historical-architectural settlements of the region, starting from the hamlet of Paestum and reaching the municipality of Piaggine, intercepting several municipalities along the way.

Figure 3: Cilento, map of the bike path and the main hotspots identified.

The particular orographic characteristics of Cilento also make the territory congenial and stimulating for the development of routes such as greenways, which therefore play a crucial role

in the strategic policy of territorial development and in the environmental, social and economic enhancement. By creating a network between historical, architectural and territorial resources, these routes promote the revival of the local economy and the consequent increase in the tourist-accommodation offer, also contributing to a greater awareness of territorial identity.

From the point of view of environmental and social sustainability, it is essential to rely on a solid scientific foundation to analyze the problems related to the promotion of sites of cultural interest and to propose effective territorial marketing strategies. The historical discipline is therefore the basis for outlining homogeneous ecological systems of connection between the areas of historical-architectural interest, disconnected from each other, in order to define environmentally sustainable and culturally significant cycle and pedestrian paths, capable of reproducing the interpretative infrastructures of the intercepted cultural landscapes. This contributes not only to delineate a coordinated system of territorial networks, overcoming significant settlement dispersions, but also to reconstruct the history of the surrounding anthropic and natural landscapes.

DESIGN SOLUTIONS

In line with the objectives set and previously mentioned, the research has started a design process aimed mainly at the acquisition of knowledge. The latter has been identified as a fundamental and distinctive element of the relationships between the identified places and potential users, from which several project proposals have arisen. Specifically, the area of interest is defined by a route that, starting from the hamlet of Paestum, reaches the municipality of Piaggine, intercepting the municipalities of Capaccio, Trentinara, Monteforte Cilento, Magliano Vetere, Stio, Magliano Nuovo and Laurino.

After an initial territorial framework, a careful analysis of the state of fact was carried out, with particular attention to the cultural, natural and landscape heritage, socio-economic resources and the existing road system. In this sense, thematic paths of knowledge and enhancement have been proposed, respecting the specific peculiarities of the places involved, through the identification of tangible and intangible values, the presence of archaeological heritage and even architectural emergencies of historical-artistic importance.

The projects were created with the aim of directing users to the innermost municipalities of Cilento, encouraging a wider use than the coastal area. In this sense, a path of knowledge is proposed that emphasizes the intrinsic material and intangible values of the place through sustainable mobility. Each part of the route, characterized by a rich historical, architectural and landscape heritage, is distinguished from the others by the subdivision of the route through diversified itineraries according to the level of difficulty.

CONCLUSION

The proposed interventions are cited above all for the methodological approach adopted, which has led to proposals characterized by considerable flexibility and universality, based on models that favor the sharing of sustainable and affordable resources and services. In conclusion, these interventions are configured as targeted actions that, by promoting sustainable and responsible growth, act as drivers of local economies and enhance the rich natural and anthropic heritage that already exists.

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Figure 4: Union framework for sustainable mobility projects.