

## CLIMATE CHANGE, VULNERABLE AREAS AND ECONOMIC ENHANCEMENT

The topics addressed in this issue of the *Territorio Italia* journal concern different research areas that are not only scientifically interesting, but also concretely useful for public administrations. Issues of climate change are discussed and different support tools illustrated, such as a decision-aiding model to foster the installation of photovoltaic systems and a strategic safety plan for a city facing climate change.

Furthermore, two different approaches to economic enhancement are presented; although dealing with different contexts, they both demonstrate how rigorous analyses can effectively support public administrations in addressing strategic projects in their areas, both to preserve assets of great historical and cultural value and create opportunities leading to socio-economic benefits.

The first article, written by Martin Thebault, Vincent Clivillé, Lamia-Amel Berrah, Leon Gaillard, Gilles Desthieux and Christophe Ménézo, tackles the topic of climate change, specifically, the current issue of increasing the number of photovoltaic systems that will be set up in urban areas. The Authors present a decision-aiding approach (the ELECTRE III outranking method) to identify the buildings most suitable to host photovoltaic systems as part of a Franco-Swiss project in the Greater Geneva agglomeration (G2Solaire), a project that aims to intensify the development of solar energy by improving the solar cadastre of the region. The writers propose a set of 9 criteria branching off three main categories (Financial, Technical-Energetic-Environmental and Social) to evaluate different urban environments and provide efficient rankings. An interesting possible implementation of this model is illustrated by using a Geographical Information System (GIS) that displays different layers of information; the future development of a user-friendly interface could prove to be useful, even if only partially adapted, to solve similar issues in other areas.

The article by Elfide Mariela Rivas Gómez and Carlos E. Aparicio M. also discusses climate change principles; it analyses socio-natural disaster risks in relation to increasing weather events, focusing on disaster risk transfer, clean technology production and transfer of mechanisms in intermediate Latin American cities. A mixed approach is proposed, including the use of different tools to assess the citizens' perception of vulnerability, the indication of vulnerable places, the level of knowledge and awareness about socio-natural risks and the individuation of special events and key incidents. Their results reveal that the city of Victoria de Durango, which was taken as a study area, shows potentialities for using its invaluable natural resources to prevent and respond to natural hazards such as floods and droughts. Nevertheless, it is evident that to overcome this challenge, it is necessary to get over some limits such as the absence of awareness of the risks, in both citizens and institutions, and of the necessity to achieve sustainability and become a resilient and safe city. Finally, the authors propose a structure for the creation of the Strategic Plan for a Safe City facing Climate Change (PECC), which takes advantage of the existing flood prevention adaptation works and accelerates those that are unfinished, providing scenarios in the short, medium, and long term.

Next, Giorgia Malavasi analyses the case of the Olivetti housing heritage in Ivrea, which features valuable examples of Modern Heritage; although included in the UNESCO World Heritage List, due to low property prices, the site cannot be easily ameliorated. By applying an OLS hedonic model on a sample of property listing prices, the Author investigates the Ivrea residential heritage and checks whether the architectural quality and the “Olivetti connotation” is monetized by the real estate market. She also analyses energy efficiency to see how energy retrofit interventions could affect property prices. Her results show that the historical and cultural values of the Olivetti housing are not recognized by the real estate market and the marginal price of the architectural quality is definitely lower than the Energy Performance Certificate (EPC) label, suggesting that the demand in Ivrea is more sensitive to energy efficiency. In addition, the model was applied for predictive purposes and demonstrated that, assuming an upgrade of the EPC label due to a series of retrofit interventions, the listing price of an Olivetti villa would increase by 19%. Therefore, it is interesting to note that the recent Italian regulation “Ecobonus 110%” could effectively represent an opportunity to redevelop and enhance the Olivetti housing heritage, Ivrea’s weak real estate market notwithstanding.

Finally, the article by Matteo Trane and Federica Pozzaglio looks at enhancing sports facilities, especially those considered particularly interesting from an historical and cultural perspective. The discussion revolves around redeveloping sports facilities into flexible, multifunctional and modern structures, while maintaining their formal characteristics and the economic sustainability of their management. The case of the Fausto Coppi Motovelodrome in Turin is emblematic, since it is a listed public property currently abandoned that necessitates to be redeveloped both by enhancing the existing structures and designing new buildings. The proposed approach is based on a preliminary estimation of construction costs jointly with possible revenues, benefits and management schemes to evaluate alternative enhancement scenarios. The results are interesting and provide a very useful base for the company that has recently won the tender for the concession of the site and is currently defining the future redevelopment project.

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