EMERGING PATTERNS OF RESILIENCE SYSTEMS IN URBAN DESIGN AND PLANNING

PhD in Architecture, City and Design (XXXIII)
Doctor Europaeus

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21th September 2021

Università Iuav di Venezia

Abstract

The current unfolding of the climate emergency urges cities to take action and lead the transition toward resilience and sustainability. While it is not clear exactly how and with which pace the emergency will develop, it is clear that the challenges of mitigating, adapting, and responding to shocks and stresses are increasingly gaining importance. In a densely urbanised area such as Europe, impacts mainly affect cities and towns' urban systems. Cities are at the forefront of the challenges arising from climate change emergencies both because they have a high concentration of exposed and vulnerable assets and populations and because they are the administrative units that control fundamental aspects of land governance. At the urban scale, planning and urban design practices are among the sharpest tools for reducing risk.

The notions and practices of Climate Change Adaptation (CCA), Disaster Risk Reduction (DRR) and Urban Resilience (UR) have been applied to urban systems to tackle these challenges jointly. Since urban environments are complex systems, intervention is not a simple task, especially with urgency. Complexity precludes the certainty of how interventions will fit in the system and how the system will react to them.

Based on these premises, the current research investigates the systemic effects of climate action in the domain of urban planning and design at the local level. This investigation is developed through different points of view to explore the fields in which these issues are evolving and apply locally, and it is based on a comparison between theory and practice approaches. To build the concept-to-practice framework, both conceptual contributions from the scientific community and operational contributions for implementation produced by the leading international organisations are considered. Then, the picture is enriched by analysing two European case studies to highlight the approaches that have been followed at the local level and have emerged from practice. The case studies also consider the spatial dimension of the city, where places are part of complex urban systems and have unique characteristics.

The research provides an operational framework that sheds light on the relationship between urban systems and climate change. The framework also highlights the intervention principles and planning methods used to shape climate action. In conclusion, different sources of knowledge are compared to develop a better understanding of how planning and urban design are used to intervene in urban systems to face the consequences of climate change.

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