

AN INTRODUCTION OF URBAN DESIGN AS A TOOL FOR DISASTER RESILIENCE

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Importance of resilience is profoundly sensed in various aspects of built environment in the ever changing, unpredictable complex world. The concept of resilience has become the current new catch word in many development plans and agendas. It has been brought up as part of the vision statements in many cases in local, national and international levels to present solutions for the world's complex problems, in this case, urban areas. This concept has started a long journey from various disciplines and its use is spreading through many disciplines due to its capacity to deal with complex and unpredictable issue. The aim of this article is to introduce the concept of resilience in the field of urban design which is still unclear on the level of general goal setting statements even in the international ongoing campaigns. Studying the process of managing urban form in relation to adaptation capacities has become an important priority in the global scene too. A preliminary introduction to urban resilience capacities is the goal of this research. Therefore this paper has tried to unveil the resilience attributes which sync with urban design principles and introduce them as a set of features which can be used to build up guidelines and documents for delivering resilience.

Resilience is a crucial viewpoint to confront the ever spreading and expanding complex urban issues which round the globe. According to the resilience literature, adaptation capacities include a vast range of characteristics which vary due to what type of resilience is sought from climate change to natural disaster management, terrorism to economic recession or socio-ecological transformations. This article is a conflation of resilience concepts with urban design principles and their application in disaster management viewpoints.

There is a lot to be learned and tested in practice but it seems the resilience attributes of socio-ecological systems can be tailored and synced to urban design principles and in fact have a lot in common. Iran's main threat for urban areas are earthquakes which can be counted not as a sudden stressor according to the resilience literature, but the consequences have multiple chronic effects in the affected areas and the surrounding regions, sometimes in the national level. Tackling this disaster from a resilience point of view in urban areas can be a step forward in achieving welling and promoting life not in Iran but in the global scale.

Although resilience has many uses in various disciplines from economy to biology and ecology, it has just recently found its established place in urban studies especially in relation to resilience. The resilience attributes are tailor-made to find answers to disasters management and mitigation: Godschalk (2003); Pelling (2003); Paton and Johnston (2006) as well as how cities recover and revive, Vale and Campanella (2005) has moved to climate change and peak oil and adaptation: Newman et al (2009 a & b), Otto-Zimmermann (2011); ICLEI; Davoudi (2012) among many, urban food and farming, terrorism and all the major issues but now the focus is becoming more on strategic planning, planning for transformations and future of planning as well: (Hillier 2007; Wilkinson (2010 and 2012) and even moving to issues such as urban justice and resilience (Feinstein, 2013), which seems to be partly because of the prominence of uncertainty and change among other issues which has made the key concepts to move from resistance to adaptation and even transformation.

Summarizing the main attributes of resilient cities present them as following: self-organization, diversity, redundancy, modularity, resourcefulness, independence of parts, social capital, sense of place, ease of access to sources and leaning, although the list can go on depending on the type of resilience on the agenda and the local cases special conditions.

To achieve resilience, a multidisciplinary effort among development specialists, urban planners and designers, economists, engineers, disaster managers, ecologists, and social scientists across disciplines is needed. Additional understandings and principles are being used in or emerge in social and ecological sciences are strengthening their links with urban design as a discipline which is involved in shaping the urban form and life in public spaces. This cooperation is needed to deliver spatial

heterogeneity in urbanized areas, integration of socio-ecological patterns and coherent dynamics in the cities to increase the adaptation levels of people and human institutions.

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