

A Mini-Review of the RPA Framework (A Conceptual Framework for Resilient Place Assessment)

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Abstract

Spatial resilience' discourse can be used to guide the development of a conceptual framework for resilient place assessment. In this regard, a resilient place should feature a combination of physical and non-physical characteristics that can contribute to improved response and adaptation to a broad range of natural and manmade hazards.

In this context, resilience is claimed to be the ability to adapt to varied risks and changes that threaten the quality of the functionality, liability, and vitality of a place. To further elaborate on the concept of resilient place, in a study, urban resilience literature were reviewed and conceptual framework for Resilient Place Assessment (RPA) was introduced.

The conceptual framework of place assessment was developed concerning the constituent attributes of 'place' and 'spatial resilience.' In the proposed framework, the constructive dimensions of Resilient Place Assessment (RPA) include four dimensions, three of which are semantic resilience dimensions. Insights provided in this conceptual framework can be used by urban planners, designers, and policy makers in their efforts towards creating more resilient places.

Keywords: Resilient place assessment • Spatial resilience • Urban design • Place making

Introduction

In the context of urban design, the concept of resilience is adopted to develop approaches and methods to enhance the capacity of a place, a community, or a city to adapt to future changes that may affect the functioning of the urban system. However, despite the increasing use of 'resilient urban design' in the urban design domain, there is still limited and fragmented understanding of the concept of 'resilient places'. This warrants further exploration to better understand place and space characteristics that may enable cities to respond to constantly changing demands and dynamics. This paper is a mini-review of the article published in the journal of urban climate entitled: A Conceptual Framework for Resilient Place Assessment based on Spatial Resilience Approach: An Integrative Review. In the main article, after an extensive review of urban resilience features and extraction of 16 features, the place resilience framework is presented [1].

The Concept of Spatial Resilience

As mentioned in the papers were eventually identified that emphasized the 'spatial' and 'place-based' dimensions of resilience, and the fields in which the papers were written were determined to provide a clear understanding of the approach. Keywords related to place, operated by content analysis, were extracted, and the position of "place" concerning "spatial resilience" was described and interpreted [2].

In the evolutionary process of the literature, the spatial resilience approach is based on the theory of Social-Ecological Systems (SES); spatial resilience is, from an evolutionary perspective, a "continually changing process" leading to the idea of "non-equilibrium dynamics". This concept indicates the need to consider subjective measures in addition to objective dimensions in spatial resilience [3].

In this context, the sense of place in the literature on spatial resilience

illustrates how the environmental context can reinforce the resilience ability of a territory-based system.

Spatial Resilience as a Cognitive-Operational Quality

Spatial resilience focuses on the importance of place, connectivity, and context for resilience, and the spatial variability of patterns and processes at different scales both affect and are affected by the resilience of the local system. Spatial resilience in this field is maintained by upholding important patterns and processes over time to preserve critical pattern-process relationships across the landscape [4].

Spatial resilience exhibits the possibility of different behaviors and activities, the ability of the environment to change without transmutation of identity (meaning and cognitive meaning of space), and to become something other than itself. It is quite visible that in the central core shaping the spatial resilience, there lie three constitutive qualitative components of place. Thus, increasing the power of place in cities has an essential role in the resilience of cities. In this context, the triple conceptual framework, tangible (physical), discarnate (historical, tradition and values), and chimerical (conceptual) place suggested by Lyon (2014) are presented for a more detailed description of how a system works to adapt to change [5,6].

Cognitive-Perceptual Agents in Resilient Places

Creating a resilient place is highly dependent on the context. Place resilience is not just the removal or reduction of danger points for immediate events, but the process of understanding people's emotional connections to their places and empowering them to create a place that helps strengthen community cohesion. A resilient place is a bottom-up approach to shaping vibrant, livable, and safe neighborhoods. One of the main dimensions of a resilient place is the representation and preservation of local identity and cultural characteristics, the capacity of society and social capital, and at the same time the capacity to adapt to change.

Perception is the fundamental relationship between people and the built environment. We can successfully communicate with our environment and behave adaptively through perceptual feedback. This approach has a significant impact on urban forms for creating resilient places. The place-based

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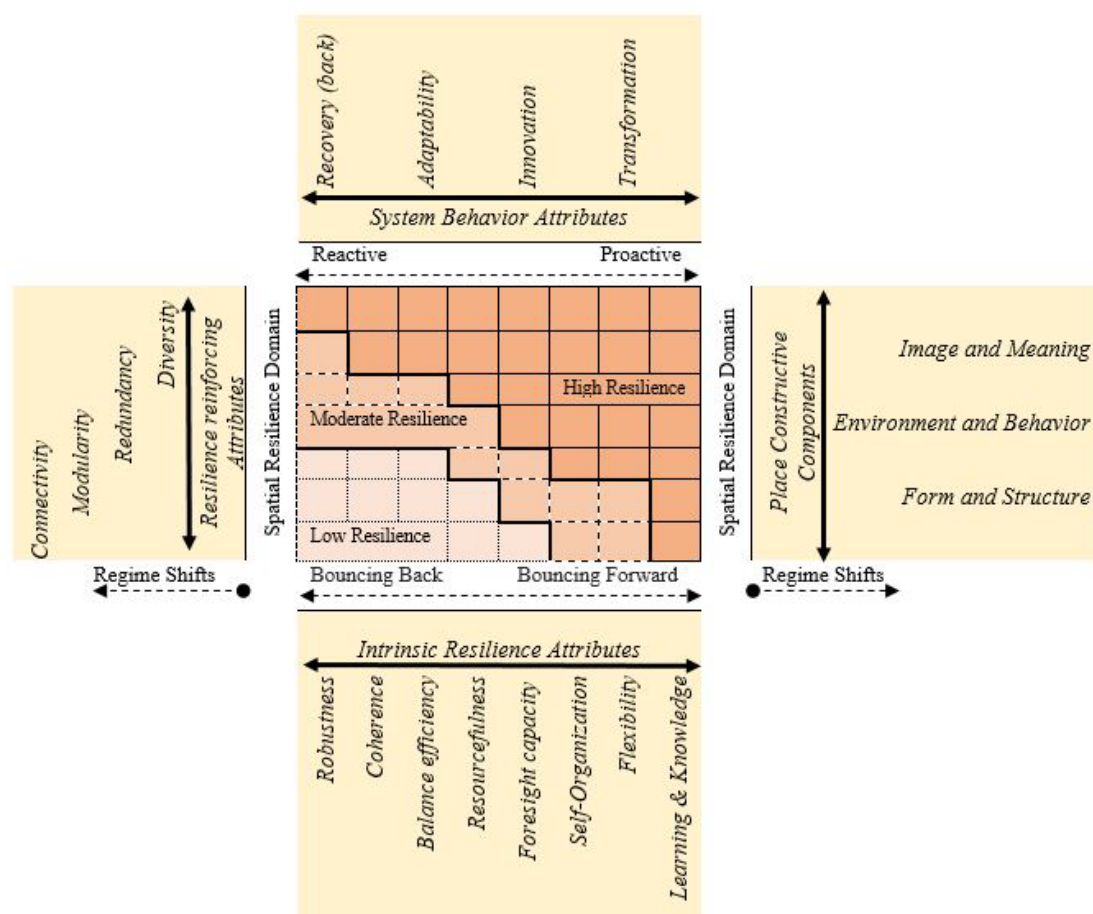


Figure 1. Resilient place assessment (RPA) framework in the spatial resilience approach.

approach focuses on images, narratives, and urban form readings to grasp its values and meanings and it supports the integration of people and places, and the understanding how to behave and act through the collective memory and culture [7-10].

Behavioral Patterns-Environmental Preferences in the Resilient Place

Environmental surveys and field observations of social behaviors and how people use the elements of place and urban environment can be used as a basis for evaluating resilience policies. Good sidewalk environments have a high level of perceptual complexity. Urban form on a local scale reduces crime-induced behaviors, place safety, and increases resilience, and through visual connection between indoor and outdoor creates a behavioral setting that greatly improves perceived security and attractiveness. It also supports the use of outdoor ownership [11].

Jacobs (1961) provide some useful assessments of key urban issues at the neighborhood level in relation to pedestrian use and street life. In the case of dense urban neighborhoods, she rejects the segregation of planned organization: active sidewalks, permeable and fine-grained street edges, small blocks, land use mixing, variation in building age and size, concentration of people, and open spaces intimately linked to surrounding are some design qualities suggested in this regard. In this context, the third active places (and more recently the fourth place) have been addressed for the vitality and community diversity of a place and can be considered as components of resilient places [12,13].

Components of Place and Spatial Resilience

The place is formed by the reciprocal relationship between the physical context, the activities, the current behaviors in it, and the perceptions or meanings that are made for that place for the individual. These three components are always defined by one another and are inseparable; hence, based on an analysis of the literature and given that in the central core shaping of spatial resilience lie these three qualitative components of the place, any change in one affects the other. Therefore, one can newly define spatial resilience based on its socio-ecological background by focusing on the constituents of place concerning the intrinsic (internal) and external attributes of resilience [14].

Conceptual Framework for Assessing Place Resilience

The conceptual framework of the place analysis in this paper is based on the 'spatial and place-based' attributes of resilience and on the following principles derived from reviewing research studies in socio-ecological systems: Accordingly, resilient place assessment (RPA) provides a framework for assessing place based on spatial resilience (Figure 1). Given the findings, the four main dimensions of the resilience assessment framework are: system behavior attributes, resilience reinforcing attributes, intrinsic resilience attributes, and place-making components [15].

Conclusion

The aim of the spatial resilience approach *vis-à-vis* continuous changes

is to increase the adaptability and transformability of resilient places through a new understanding of the concept of 'space' and its constituent components. The shaping aspects of spatial resilience can fluctuate connections between 'form and structure', 'environment and behavior', and 'image and meaning' all needed to create resilient places. If the place has resilience attributes at the behavioral-functional and semantic-cognitive levels in addition to the physical level, it has the highest level of resilience.

In this study, a mini-review was used to introduce RPA framework. This method enabled the authors to present a resilient place assessment conceptual framework (RPA) by extracting 16 resilience attributes. According to this conceptual framework, the highest level of resilience is when a place has both semantic and behavioral qualities in addition to physical attributes.

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