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Full Paper Abstract

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Title:

Reconsidering urban resilience through an exploration of the historical system dynamics in two neighbourhoods in Pretoria

In the on-going debate of sustainability and climate change urban resilience has become a key issue. Most of the literature pertaining to urban resilience has had a primary focus on the perspective of ecological resilience and or how to make the city system more resilient to things like a natural disaster (sudden shocks). With this regard the focus of the paper will be on the general resilience of the city, more specifically the sub-system of the neighbourhood.

A city is a specific system made up of a number of sub-systems. Resilience refers to the amount of change a system can experience before shifting to an alternative state with different structural and functional properties. Urban resilience is therefore concerned with the dynamics within cities and their relationships to the different sub-systems that constitute the whole, or in other words the distance between the existing urban system's state and the critical threshold that would force a collapse and total transformation of the existing system.

These changes that take place within cities are influenced by a range of components (spatial, social, institutional etc.) of the socio-ecological systems present in the urban environment. As a result of specific changes or urban dynamics, one or more sub-systems may be disturbed or disrupted, either temporarily or on a more permanent basis where the system change surpasses the critical threshold or breaking point and move to an alternative system state. As such specific urban sub-systems may be vulnerable to such changes and affect the larger system.

The social system can function on a variety of scales. However, the neighbourhood scale is perhaps the best scale to consider in an assessment of the sub-system. From this scale one can look up and down onto the larger and smaller scales of the city as a whole as well as individual buildings and what effect they have on this sub-system. An overview of system changes through time can be very useful to identify patterns of past disturbances and possible vulnerabilities and opportunities to the system.

In the cases presented we look at two neighbourhoods within Pretoria and see how their systems have managed over time to cope with their vulnerabilities and at times even turned them into opportunities. We seek to identify the things that have made them possibly resilient.