

Understanding and Explaining Urban Resilience and Vulnerability: A Framework for Analyzing the Complex Adaptive Nature of Cities

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Abstract : Urban resilience and vulnerability are critical concepts in the modern city due to the increased sociocultural, political, economic, demographic, and environmental stressors that influence current urban dynamics. Urban scholars need help explaining urban resilience and vulnerability. First, cities are dominated by people, which is challenging to model, both from an explanatory and a predictive perspective. Second, urban regions are highly recursive in nature, meaning they not only influence human action, but the structures of cities are constantly changing due to human actions. As a result, explanatory frameworks must continuously evolve as humans influence and are influenced by the urban environment in which they operate. Finally, modern cities have populations, sociocultural characteristics, economic flows, and environmental impacts on order of magnitude well beyond the cities of the past. As a result, the frameworks that seek to explain the various functions of a city that influence urban resilience and vulnerability must address the complex adaptive nature of cities and the interaction of many distinct factors that influence resilience and vulnerability in the city. This project develops a taxonomy and framework for organizing and explaining urban vulnerability. The framework is built on a well-established political development model that includes six critical classes of urban dynamics: political presence, political legitimacy, political participation, identity, production, and allocation. In addition, the framework explores how environmental security and technology influence and are influenced by the six elements of political development. The framework aims to identify key tipping points in society that act as influential agents of urban vulnerability in a region. This will help analysts and scholars predict and explain the influence of both physical and human geographical stressors in a dense urban area.

Keywords : urban resilience, vulnerability, sociocultural stressors, political stressors

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