Urban Risk Reduction Projects as Catalyst for Sustainable Urban Development

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ABSTRACT

Urban risk reduction (URR) projects, being part and parcel of climate change adaptation, have gradually been recognised and implemented in many cities' urban development and redevelopment programmes. Nevertheless, the take-up rate of these projects has still been modest in Asia Pacific Region. Among the main barriers is the lack of policy and financial supports. Overcoming this requires all stakeholders – including city governments, planners, architects, engineers, communities, etc. – to put together a set of extremely convincing justifications for individual URR projects.

This research paper discusses a pragmatic approach to incubate and implement URR projects. The discourse begins with the attempt to identify the underlying hindrances to URR projects by revisiting how the concept of sustainable development has been made mainstream, and distill (from this rough but progressing journey) urban adaptation strategies. Sustainable development has been guided by the concept and practice of the triple bottom lines (TBLs), which are commonly misinterpreted during the process of identifying sustainable goals/practices that count heavily on isolating, excluding and trading-off exercises. Such practices have resulted in fragmentary, compromising and tensioned interrelationship among the three bottom lines, leading to projects and initiative uncompleted. This is also the case for many climate change adaptation projects.

In recent years, the quest to reinterpret the TBLs has put emphases on:
- Safeguarding the dynamic positive connections among the TBLs,
- Aligning their core values,
- Focusing on the common interest, and
- Deploying strategies to address multiple issues in a reciprocal manner.

Applying the same line of thought to adaptation practice, integrating URR projects as part of host cities' sustainable urban development/redevelopment in order to strengthen the reciprocal relationship among the TBLs will provide a strong justification for their incubation and implementation. This owns to the multiple benefits for the host cities beyond urban risk reduction objectives, as unveiled from the analysis of case URR projects. The case studies are infrastructure projects addressing fresh water shortage, flood prevention, urban heat island, public health, biodiversity and energy consumption in Singapore – a small 710 km^2 island country with a population of 5 million. The success factors leading to implementation of these projects include the comprehensiveness in addressing the linkage among the TBLs, and backed by strong risk reduction intention; all at the same time, and under the same roof.

Synthesizing the above discourse and empirical case analyses, the paper concludes with the establishment of the Diagnosis Framework for these catalyst projects, and in the context of Asia cities. The extracted lessons are firstly to incorporate URR in overall city planning, e.g. A Master Plan for URR, which identifies strategic URR projects as catalyst for sustainable urban development. Secondly, the city government and planners should be ambitious and set high standards, and plan for multi-functions to a URR project. However, the core function – URR must be engineering rigorous. The URR Projects must be resilient to address climate change impact events, and foster sustainable development in its daily operation. Thirdly, reciprocal relationships should be identified and optimized, so as to bring to surface any innovative collaboration for innovative solutions. All the above are implemented in an appropriate context and local conditions of each city. In this way, good justification to attract funding, public and private supports can be formed, leading to better feasibility and preparation for URR.

KEYWORDS

Urban Risk Reduction Projects, Sustainable Cities, Triple Bottom Lines, Climate Change Adaptation.