

Planning Strategies for Urban Flood Mitigation through Different Case Studies of Best Practices across the World

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Abstract : Flooding is a global phenomenon that causes widespread devastation, economic damage, and loss of human lives. In the past twenty years, the number of reported flood events has increased significantly. Millions of people around the globe are at risk of flooding from coastal, dam breaks, groundwater, and urban surface water and wastewater sources. Climate change is one of the important causes for them since it affects, directly and indirectly, the river network. Although the contribution of climate change is undeniable, human contributions are there to increase the frequency of floods. There are different types of floods, such as Flash floods, Coastal floods, Urban floods, River (or fluvial) floods, and Ponding (or pluvial flooding). This study focuses on formulating mitigation strategies for urban flood risk reduction through analysis of different best practice case studies, including China, Japan, Indonesia, and Brazil. The mitigation measures suggest that apart from the structural and non-structural measures, environmental considerations like blue-green solutions are beneficial for flood risk reduction. And also, Risk-Informed Master plans are essential nowadays to take risk-based decision processes that enable more sustainability and resilience.

Keywords : hazard, mitigation, risk reduction, urban flood

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