

A FRAMEWORK TO SUPPORT RISK-SENSITIVE URBAN DEVELOPMENT IN SRI LANKA

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DECLARATION

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DEDICATION



*I dedicate this research to my beloved
family....*

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A framework to support risk sensitive urban development in Sri Lanka

Risk-sensitive urban development is an innovative planning approach that can transform the way cities are built in order to face the uncertainties that arise from climate-induced disaster risks. Even though, there are many actions taken by individuals, households, communities, urban development companies and relevant regulatory bodies to manage the disaster risks generated related to urban development, the disconnection between the existing urban development process and urban risk management process leads to the destruct the effort. Therefore, urban developers and disaster risk managers should understand each other and collaborate in order to provide a solution for this disconnection and this research provides a solution by proposing a risk sensitive urban development approach for Sri Lanka.

In order to identify the state of the art in risk sensitive urban development, a systematic literature review has been carried by adopting PRISMA method. Interpretivism stance has been used as research philosophy, where qualitative survey was adapted as the main research strategy. Semi structured interviews, focus group discussion and expert interviews were used as data collection techniques and purposive sampling method were chosen when selecting the sampling method. Manual content analysis and user story mapping were used, as the data analysis techniques to identify the current disaster risk management process used in Sri Lankan urban development projects and capture the user's requirements for an effective risk sensitive urban development approach in Sri Lanka. Finally, a framework has been developed to support risk sensitive urban development in Sri Lanka and expert interviews has been carried to validate the framework.

Under the state of the art in risk sensitive urban development 20 approaches; 3D ecological footprint model, EASI, smart urban plans, climate change risk assessment tools, community engagement, EWS, BIM based information system, etc. have been identified from the systematic review. In managing disaster risks in urban development projects, several approaches have been identified, which are currently used in disaster risk identification, assessment, mitigation and monitoring stages. Moreover, stakeholders involved in risk sensitive urban development such as UDA, DMC, NBRO, Irrigation department, SLLDC, etc. have been explored and their requirements for an effective risk sensitive urban development approach in Sri Lanka have been identified from the interviews. Further, 24 user requirements have been prioritised from the focus group discussion. Some of the key user requirements are identify the past records of disasters, indentify the vulnerable areas for each disaster, receive contact details of authority representative etc. The framework has been further validated using expert interviews. The framework will support the stakeholders involved with disaster risk management and urban development and will be beneficial to achieve risk sensitive urban development in Sri Lanka.

Keywords: Risk sensitive urban development, State of the art, Disaster risk management, User requirements, Urban development projects.

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