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Urban Vulnerabilities in the Kathmandu Valley, Nepal: Visualizations of Human/Hazard Interactions

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Author(s)

Keshav Bhattarai, Dennis Conway

ABSTRACT

Excessive unplanned urban growth leads to many vulnerabilities and impacts on urban environments to varying degrees. However, the majority of the extant literature focuses on the problems related to location and socioeconomic conditions, rather than vulnerability processes and related environmental degradation. This paper analyzes the scope of urban vulnerabilities for five rapidly urbanizing and highly-congested cities in the Kathmandu Valley, Nepal. First, the historic context of the Valley's uncontrolled urbanization sets the scene. Second, the optic is narrowed to focus upon the geographical features of the resultant urbanized Valley landscape that includes spatial arrangements and of houses, population densities, road networks, vehicular densities, garbage problems, and available open spaces. Additionally, seismic vulnerabilities in the urban areas are also considering in this examination. Third, three-dimensional visualizations of selected urban locations are presented to differentiate between vulnerable and relatively safe locations. The intent of this research is to contribute to the methodological understanding of human/hazards interactions in rapidly urbanizing cities of the Third World, which share similar socioeconomic conditions and environmental con-texts.

KEYWORDS

Urban Vulnerability, Planning, Kathmandu Valley, Two Dimensional (2D) Maps, Three Dimensional (3D) Visualization

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