

SOCIO ECONOMIC ELEMENTS THAT AFFECT FLOOD VULNERABILITY

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Abstract: Hazards are potentially damaging phenomena since they only precipitate disasters when they impact on elements at risk. These elements can be physical structures such as schools, roads or houses, the environment or humans or human activities under social, economic, physical and environment dimensions deviating for deferent types of disaster. An evaluation of disaster risk to a human settlement area from a hazardous event requires a consideration of the elements that affect disaster vulnerability which expresses its propensity to suffer damage. Identification of socio economic elements that affect flood vulnerability is essential since floods make greater risk impact for urban cities in Sri Lanka than other types of disaster. This study intends to identify important socio economic elements that affect flood vulnerability for any common flood prone area since the elements coming under physical and environment aspects are location specific and diverse in different environment contexts. In the literature review, twenty five socio economic elements that affect flood vulnerability were identified. The level of importance and applicability of these identified socio economic elements for vulnerability assessments in the context of Sri Lanka were examined by consulting two hundred officers who are involved in disaster risk reduction and climate change mitigation and adaptation programs in Sri Lanka. These officials were selected by following the snow ball sampling method. In the questionnaire survey, they were requested to rank all socio economic elements considering their importance for vulnerability assessment based on their experience and knowledge on flood vulnerability assessment. The Relative Importance index method was applied to prioritize the most important elements. Finally, those prioritized elements with their rank values were applied to assess the socio economic flood vulnerability of the Rathnapura Municipal Council area which is frequently vulnerable to floods situations. The reliability and the applicability of those selected elements were ensured by validating the vulnerability map produced by using Arc GIS tool in line with the ground situation. As a contribution to the knowledge on flood vulnerability, the elements identified under socio economic dimension will be very useful for future studies on flood vulnerability assessments; hence they facilitate to assess hazard risk accurately.

Keywords: Elements, socio economic, vulnerability

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