

Statistical and spatial analysis of social vulnerability in the Walapane hilly areas

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The concept of social vulnerability attempts to understand the social conditions that transform a natural hazard into a social disaster. Hence, the mapping of social vulnerability is critical in designing appropriate disaster management measures. In Sri Lanka, the risk and impact of natural disasters for communities living at high altitudes increases with their social vulnerability. This study was conducted in the Roopaha and Alakolawewa Grama Niladhari Divisions of Walapane Divisional Secretariat situated 3,000 feet above sea level in the Nuwara Eliya district. The main objective of the study is to determine the spatial distribution of social vulnerability in the region. Data was collected in the Roopaha and Alakolawewa areas using a stratified sampling method. A linear index was developed in order to value vulnerability in the study area. The results reveal that the Roopaha Grama Niladhari Division is more vulnerable than the Alakolawewa Grama Niladhari Division, with most household units in the former demonstrating high social vulnerability levels. High elevation was found to have a close relationship with high vulnerability. The results are important for future disaster management measures, as planners and management will need to pay special attention to communities in high altitudes where social vulnerability aggravates the risk and effects of natural disasters. Further, the results can be used for awareness and educational purposes and to strengthen future disaster and risk management programmes in the country's hilly areas.

Keywords: *disaster management; elevation; household units; social vulnerability; vulnerability index*