

Environmental and Socio-Economic Implications of Landslides: A Case Study of Nuwara Eliya of Sri Lanka (2001-2023)

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Abstract

A landslide is a regular natural disaster worldwide and is a geological phenomenon in which large amounts of rock, soil, and debris flow down a slope due to gravity. With major effects on the environment, society, and economy. They are especially common in hill country regions like Nuwara Eliya, which are vulnerable to frequent occurrences because of their distinct topography, soil composition, and climate. These events pose serious risks to human settlements and the environment, upsetting ecosystems, agricultural activities, and livelihoods while putting infrastructure and human lives in risk. The research's additional objective is to investigate examine the socioeconomic and environmental effects of landslides in the Nuwara Eliya region and offer suggestions for a long time prevention and mitigation during the 2001-2023 period. And the sub objectives of the study is (a) to Identifying and analyzing the environmental factors causing landslides in the Nuwara Eliya region (b) To evaluate the socioeconomic challenges that the impacted communities face as well as (c) To assess current mitigation strategies and provide sustainable, region-specific ways to lower the risk of landslides Both qualitative and quantitative data were gathered for the study. Focus groups, semi-structured interviews, and field surveys were used to gather the essential primary data. Secondary data were gathered from trust worthy and applicable department sources, these both data set were analyzed for get the output by used GIS 10.3, RS, QGIS and Google earth pro tools to evaluate the socioeconomic implications. Finally, this study aims to determine the social and economic issues surrounding the landslide disaster and how to propose mitigation strategies to lower the potential risk of landslides in this study region.

Keywords: disaster risk, landslides, slope, hill country, vulnerability, mitigations