RS AND GIS BASED SLOPE STABILITY ANALYSIS USING WEIGHTED SUM METHOD FOR PART OF HIMACHAL HIMALAYAS, INDIA

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Abstract

Landslides are one of the most common natural hazards in the Himalaya terrain, causing widespread damage to property, infrastructure and human lives, almost every year. Appropriate management measures taken at the right time reduce the risk from potential landslides. This is the rationale behind taking up the research topic on landslide. The present research work attempts to carry out LHZ studies in the part of Sirmaur district, Himachal Himalaya. It uses Weighted Sum Method of Qualitative Approach for Slope Stability Analysis. The highlight of this work is the creation of Landslide Hazard Zone's map. This research work makes use of Remote Sensing data, Topographical Maps, Published Documents and field survey for preparing spatial data on 7 predictor variables, which are Geological, Geomorphological, Topographical and Anthropogenic in nature.It is assumed that the effects of earthquakes and rainfall are uniform in the study area due to its limited geographic extent. Hence these factors won't be considered for analysis.It demonstrates the use of raster based GIS data for spatial analysis. Thus, the present research work establishes LHZ procedures in a landslide prone area.

KEYWORDS: Landslide, Geological, Geomorphological, Topographical and Anthropogenic factors, Slope Stability, Weighted Sum Method, Landslide Hazard Zones.