



GIS based Multi-Criteria Decision Making System for Assessment of Landslide Hazard Zones: Case Study in the Nilgiris, India

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Abstract: Landslides are considered as one of the most common natural hazards occurring in the Nilgiris since immemorial time that leads to the tremendous loss of human life, property and economy. In this study, landslide hazard zonation (LHZ) map for the Nilgiris district located in the state of Tamil Nadu, was prepared using various thematic layers such as Precipitation, Slope, Geology, Aspect, Land cover, Distance from road, Lineament Density, Distance from river, Elevation. The results obtained by adopting analytical hierarchy process (AHP) for updation of LHZ map found that nearly 52.5% of the total district area falls under risk zone in which 6% of the regions is fall under highly risk zone. Comparison the LHZ map with the inventory data, data it is found that nearly 90% of the landslides fall under hazardous zone.

Keywords: Analytical hierarchy process, Landslides, Remote Sensing, GIS, Landslide hazard zonation map
