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Site Investigations and Mitigation Measures of Landslides in Sainj and Tirthan Valley of Kullu District, Himachal Pradesh, India

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Abstract : Landslides are found to be the most commonly occurring geological hazards in the mountainous regions of the Himalaya. This mountainous zone is facing large number of seismic turbulences, climatic changes, and topography changes due to increasing urbanization. That eventually has lead several researchers working for best suitable methodologies to infer the ultimate results. Landslide Hazard Zonation has widely come as suitable method to know the appropriate factors that trigger the lansdslide phenomenon on higher reaches. Most vulnerable zones or zones of weaknesses are indentified and safe mitigation measures are to be suggested to mitigate and channelize the study of an effected area. Use of Landslide Hazard Zonation methodology in relative zones of weaknesses depend upon the data available for the particular site. The causative factors are identified and data is made available to infer the results. Factors like seismicity in mountainous region have closely associated to make the zones of thrust and faults or lineaments more vulnerable. Data related to soil, terrain, rainfall, geology, slope, nature of terrain, are found to be varied for various landforms and areas. Thus, the relative causes are to be identified and classified by giving specific weightage to each parameter. Factors which cause the instability of slopes are several and can be grouped to infer the potential modes of failure. The triggering factors of the landslides on the mountains are not uniform. The urbanization has crawled like ladder and emergence of concrete jungles are in a very fast pace on hilly region of Himalayas. The local terrains has largely been modified and hence instability of several zones are triggering at very fast pace. More strategic and pronounced methods are required to reduce the effect of landslide.

Keywords : zonation, LHZ, susceptible, weightages, methodology
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