

FRAMEWORK FOR DEVELOPMENT PLAN BASED ON LANDSLIDE SUSCEPTIBILITY ZONATION

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Abstract

As a result of climate change, the extreme weather events become more common recently, communities have suffered a variety of losses. It is vital to build a resilient city that can adapt to a variety of dangers in the future. According to a natural hazard proneness assessment by the National Centre for Earth Science Studies (2019), 1,848 square km (4.71 per cent geographic area) in Kerala, extending along the steep slopes of the Western Ghats is highly prone to the occurrence of landslides. By comparing the landslide zonation map prepared by Kerala State Disaster Management Authority (KSDMA) with the landslide occurrence of 2018 in Kerala, there are many landslides occurrence outside the hazard zonation area especially in Thiruvananthapuram, Pathanamthitta, Kottayam, and Ernakulam districts. However, there are insufficient studies that clearly examine the susceptible areas of landslides in places near to forests and mountain areas within cities. Furthermore, studies on predicting future susceptible zones while taking climate change into consideration are also lacking. Therefore, this study incorporates the changing climatic dynamics and new tools and techniques in the field of landslide susceptibility to discover the unrevealed landslide susceptible sites especially in hill towns where the casualties and infrastructure damages are high.

Keywords: Landslide susceptibility, Hill towns, GIS, Urban planning