

**INTRODUCTION OF FACTOR OF SAFETY CONCEPT IN
LANDSLIDE HAZARD ZONATION MAPPING
A CASE STUDY FROM RATNAPURA MUNICIPAL COUNCIL AREA**

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It was revealed that the floods and Landslides that struck the six Southern districts of Sri Lanka in May 2003 brought back into focus once again the fact that hill slopes of Sri Lanka are not only areas prone to natural disasters such as landslides.

In focusing to landslide forecasting as at present, hazard zonation maps are prepared based on terrain parameters such as lithology, structural geological condition of slope, the weathering and the contacting material with overlying soils, slope gradient and forms, hydrological conditions, land use and land use pattern.

In Sri Lankan experience, most landslides are initiated during monsoon and inter-monsoon periods and are directly related to the rainfall intensity. During wet season, in-situ soil moisture content is higher than that in dry period, causing increase of shear stress of soils by decreasing shearing resistance, leading to slope failures.

Different scenarios applicable to engineering characteristics of soils, rainfall intensity, slope geometry etc. can be integrated with a combined hydrological slope stability model. These will provide more accurate and reliable predictions of slope stability than what can be expected from conventional maps.

The study reveals the methodology of producing a Factor of safety map in relation to rainfall variation and in-situ slope moisture content.

The process utilized for making factor of safety maps to forecast slope stability is a very tedious task and needs more time resources to develop a reliable model.