



CAUSES FOR ACCELERATION OF SLOPE INSTABILITY: A CASE STUDY CONDUCTED IN RAMBUK-ELA GRAMA NILADHARI DIVISION IN AKURANA DIVISIONAL SECRETARIAT, KANDY

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ABSTRACT

Slope instability is a major threat to the land, properties and human life in Sri Lanka where mostly experiences mass movement. The spatial patterns of mass movements are depending on the physical factors as well as human intervention on slopes. According to the National Building Research Organization (NBRO), 4/5th of landslides occur due to human modification of slopes. On this context, this study was carried out on the purpose of identifying the Causes for Acceleration of Slope Instability in Rambuk-Ela Grama Niladhari Division. The study uses both primary and secondary data and information given more weight to quantitative techniques to attain the above objective. The sample area was purposely selected from rambuk – ela division based on the divisional secretariat records and field observation where the slope failure highly occurred. To identify the causes of slope instability both physical and human factors were concerned. The topography, soil property and its infiltration rate and rainfall data were gathered. The land use map in 1986, 2003 and 2016 were used to identify the changes of land use on slopes. The questionnaire survey, key informant investigation and field observation were used to identify the people's adaptations to slope management measures and its effectiveness of slope instability. A number of slope failures occurred in the area particularly in 2012, 2014 and 2016 December and made several socio and economic issues in this area. Slope cutting failure is widely occurring in this area during the rainy period. The study explored that due to dense construction of settlements on steep slopes and poor slope protection measures are the key factors to accelerate such types of slope instability in this area. Therefore, it is essential to adapt appropriate slope management practices to prevent accelerating slope instability in this area.

Keywords: Slope instability, Slope failure, Anthropogenic factors, Land use, Slope management