ABSTRACT

Frequently experienced slope instability such as landslides cause a serious threat to life, property, and infrastructure in Kegalle District. According to the research done on this subject, factors such as slope angle range, bedrock lithology, soil overburden, drainage patterns, land use practices and type of land form have been identified as the major causative factors of slope instability. However, the degree of impact of these causative factors varies from region to region because of the differences in climatic and human activities in each region. This study was performed to identify the most vulnerable factor attributes, that have influenced the landslides observed within the Kegalle District. During this study fifteen landslides within Kegalle District were investigated and the results reveal that, Charnokite Gneiss is the most vulnerable bedrock type followed by Biotite Gneiss. Most landslides occur on scarp slopes within the range of 30 to 40 degree angles. Higher the overburden deposit thickness is, grater the slope's susceptibility to fail. Within the investigated areas most landslides had occurred in the overburden thickness range of 2 to 3 meters. In the investigated areas land uses and human settlements with the highest landslide frequency were studied. Due to the limitations in accessibility to landslides and the time duration for this study, the number of sites investigated was limited to fifteen. However, it is advisable to study a larger number of landslides, in order to strengthen the out come of this study further.