

## عنوان مقاله:

Landslide Occurrence as A Response to Plant Cover Change: A Review of Evidence From Hulu Kelang, Malaysia

## محل انتشار:

کنفرانس سراسری الکترونیکی محیط زیست و انرژی ایران (سال: 1393)

تعداد صفحات اصل مقاله: 17

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## خلاصه مقاله:

The Hulu Kelang region in Malaysia is very susceptible to landslides. From 1990 to 2011, a total of 28 major landslide events had been reported in this area. This paper identified and evaluated the effect of quasi-static factors on the slope stability in the study area. Assessment of spatial factors affecting the slope stability is carried out by using both qualitative and quantitative methods, including AHP approaches, a probabilistic frequency ration model, statistical index ( $W_i$ ) and weighting factor ( $W_f$ ) techniques. Eleven landslide influencing factors were considered in the analyses, i.e. lithology, plant cover, curvature, slope inclination, slope aspect, drainage density, elevation, distance to lake and stream, distance to road and trenches and two indices (the stream power index (SPI) and the topographic wetness index (TWI)). Evaluation of spatial factors affected on the slope stability showed that the plant cover is an important extrinsic factor controlling the hydrological and mechanical responses of a slope to rainfall in the study area. The plant cover plays more important roles in the stability of the slope area in Hulu Kelang. In the case of plant cover, higher value was seen in grassland and rubber region types of plant cover. This result referred to anthropogenic (human-caused) interpositions such as plant cover change. The accuracy of the maps produced from the qualitative and quantitative models was verified using a receiver operating characteristic (ROC) and actual landslide occurrences.

## کلمات کلیدی:

Hulu Kelang; Plant Cover; Landslide; Anthropogenic; Spatial Factors

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/301781>

