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Heavy rainfall intensity triggering the landslide at Sungai Ruil Cameron Highland Malaysia – A Case study

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Landslide in the village of Sungai Ruil, Brinchang, Cameron Highlands, Malaysia occurred on August 7, 2011 at 5:50 pm. This incident has caused six houses buried by debris or mud which engaged seven fatalities and two injuries This landslide has been classified as landslide debris flow. Total area of the village involved is around 40 hectares whilst the catchment area of the village is around 80 hectares. The landslide forensic investigation was carried out to identify the caused of the failure. There are three methods in conducting the study that involved geological mapping and interpretation for assessment of geological hazards. The second method is the debris flow hazard assessment in all the drainage including rainfall analysis. The rainfall analysis was carried out to produce the snake line and critical line. The third method is an analysis of slope stability in locations with high potential of slope failure in the area. There are three factors identified that resulted from this incident. The first factor is the presence of geological factors weakness (covered by colluviums), weathered material, orientation and location of adversely discontinuities and relict slope failure. While the second factor is the appearance of the morphology of hilly terrain, presence of channel order 0 or 'ephemeral drainage' and river bed gradient more than 35 degrees. The third factor is human activity that build water barrier. While the high intensity of rainfall in a short period of time is believed to be a triggering factor. This paper will discuss in detail on how intensity and duration of rainfall induce the landslide and predict the threshold value at the area.