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The relationship between the landslide and rock strength with respect to the rivers sediments in the periods of rainstorm and earthquake events

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Hazardous landslides from 1996 to 2004 in the central part of Taiwan are examined in order to weigh the importance of their controlling factors and to identify their main trigger. In this highly dynamics Taiwan area, seismic activity appears to the catalyst that allows the release of material from slope areas for removal by the fluvial system. This release continues to occur long after the earthquake event, with subsequent rainstorms causing reactivation of landslides extensively across the slopes. The continued movement of slope materials means that linear infrastructure is extremely vulnerable to such movements. It is clear that the landslides initiated by the earthquake, and reactivated by rainstorms, have released very large volumes of sediment into the drainage system to the extent in the case of central part of Taiwan of changing markedly its dynamics. The study results indicate that the normalised difference vegetation index will increase when the reactivated landslides increase their percentage relative to the rock strength decrease.

Keywords: landslide; sediment; rock strength; vegetation index