A NEW METHOD DETERMINING LANDSLIDE RISK AREA IN THAILAND BY USING LIDAR AND HIGH RESOLUTION AERIAL IMAGE FOR LOCAL DISASTER MANAGEMENT; A CASE STUDY OF BAN NAM KO VILLAGE LOM SAK DISTRICT PETCHABUN PROVINCE

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Abstract: The objective of this study was to implement a risk model producing a highly accurate, large scale landslide risk map based on the implement of the advanced technology of LiDAR and high resolution aerial digital images, for local disaster management. It was found that a landslide risk map supported by LiDAR and aerial digital images, integrated with a risk model by using information of vulnerability, triggering and physical factors in Ban Nam Ko Village Lom Sak District Petchabun Province. The results can be described as follows; Landslide risk zoning was determined to belong to 5 categories being; very high, high, moderate, low and very low risk level of 13.7 km2 (14.97%), 42.93 km2 (46.67%), 26.4 km2 (28.77%) ,6.2 km2 (6.84%) and 2.5(2.79%) of the study area respectively after merging the vulnerability data and element at risk information. The estimation of risk in each zone was carried out for the risk assessment. Landslide risk was assessed from the element at risk such as buildings, roads and socio information such as income and the number of people concerned. Thus, the LiDAR and high resolution aerial photographs provide benefits to derive more reliable information for the large scale risk map that will be applied by the disaster management of the local community in future.