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Preliminary Analysis on Land Use-Land Cover Assessment of Post-Earthquake Geohazard: A Case Study in Kundasang, Sabah

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Abstract : The earthquake aftermath has become a major concern, especially in high seismicity region. In Kundasang, Sabah, the earthquake on 5th June 2015 resulted in several catastrophes; landslides, rockfalls, mudflows and major slopes affected regardless of the series of the aftershocks. Certainly, the consequences of earthquake generate and induce the episodic disaster, not only life-threatening but it also affects infrastructure and economic development. Therefore, a need for investigating the change in land use and land cover (LULC) of post-earthquake geohazard is essential for identifying the extent of disastrous effects towards the development in Kundasang. With the advancement of remote sensing technology, post-earthquake geohazards (landslides, mudflows, rockfalls, debris flows) assessment can be evaluated by the employment of object-based image analysis in investigating the LULC change which consists of settlements, public infrastructure and vegetation cover. Therefore, this paper discusses the preliminary results on post-earthquakes geohazards distribution in Kundasang and evaluates the LULC classification effect upon the occurrences of geohazards event. The result of this preliminary analysis will provide an overview to determine the extent of geohazard impact on LULC. This research also provides beneficial input to the local authority in Kundasang about the risk of future structural development on the geohazard area.

Keywords : geohazard, land use land cover, object-based image analysis, remote sensing
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