DETERMINING DRIVERS OF DEFORESTATION AND FOREST DEGRADATION IN PENINSULAR MALAYSIA USING SATELLITE IMAGERY

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Abstract: Human-induce disturbances are recognized as key drivers for forest degradation. Increasing population and the needs for land spaces is often associated to these disturbances which have led to deforestation and forest degradation. Identifying these drivers is crucial as it can determine factors to the deforestation and forest degradation, which later can aid forest managers to support decision making for sustainable forest management and in a way to combat climate change. However, identifying the drivers is challenging because it requires multi sources data, technically demanding and site specific. Landsat-TM and SPOT-5 satellites images with a spatial resolution of 30 and 10 meter between year 1990 and 2010 were used, respectively. Pahang the largest state in Peninsular Malaysia, which has the largest forest cover, was selected as the study area. The drivers have been determined based on permanent changes of land use occurred between the periods. In the meantime the reduction and/or alteration of carbon stock within the changing areas were assessed to determine drivers of forest degradation. The results were verified by using classification accuracy that was based on the ground truth data. The study found that though the technique is appropriate with an adequate accuracy, the study still to encounter some issues associated with the current policies and management practices that are difficult to link with spatial information.

Keywords: deforestation, forest degradation, tropical forest