

LAND COVER AND TOPOGRAPHY CHANGES IDENTIFICATION IN MINING AREA USING LIDAR (LIGHT DETECTION AND RANGING)

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ABSTRACT

Mining has many benefits for the country, but in addition it also has the disadvantage that the mining damage to the forest environment in mining areas. Seventy percent of deforestation in Indonesia caused by mining activities (Ministry of Forestry, 2012) and the rate of forest destruction reached 1,3 million hectares per year (FAO, 2012). For that we need a monitoring deforestation. One technology that can be used for this is LIDAR. LIDAR can generate topographic information of the earth surface in horizontal and vertical position. One advantage of LIDAR is able to acquire data fast enough on a large area. It is necessary for monitoring deforestation in the mining area. This study assessed on the identification of land cover and topography changes, comparing the method to classify LIDAR point cloud on the ground, and compare land cover classification method . The results study showed that the vegetation area decreasing 230,533 hectares in 2010 until 2012. And volume of topography is increasing 18 million m³ because of there are some accumulation of material in mining site.

Keywords -- LIDAR, topography, land cover