UNIVERSITI TEKNOLOGI MARA

FOREST CHANGE DETECTION AND HEALTH ASSESSMENT USING REMOTE SENSING

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MASTER OF SCIENCE IN TELECOMMUNICATION AND INFORMATION ENGINEERING

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ABSTRACT

Forest acts an important part in our ecosystem. However, forests are gradually changed as time changes. Forest change detection and health assessment are tedious if monitoring is done on ground as it involves remote and vast area coverage. Nevertheless, it is important to monitor forest change so that the deforestation and development can be planned and the balance of ecosystem is still preserved. The objectives of this paper is to study the detection of Angsi and Berembun Forest change for year 1996 and 2013 and forest health assessment in term of Normalized Difference Vegetation Index (NDVI). The forest change detection is studied with incorporating the utilization of remote sensing and Geographical Information System (GIS) technology. The relationship of forest health with atmospheric pollution is also studied using regression and correlation method. The forest under study shows depletion of forest area by 12% and deforestation activity increases 55% within the period. The NDVI value which is associated with the forest health shows 13% reduction. NDVI and air quality relationship shows a high correlation coefficient (R2) of 0.9676. It can be concluded that the forest under study experienced considerable changes and the forest health also decreased from year 1996 to 2013. The relationship of forest health and air quality is also verified.

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