UNIVERSITI TEKNOLOGI MARA

ANALYSIS OF CARBON STOCK DUE TO DYNAMIC COASTAL CHANGES ALONG PAHANG SHORELINE BY USING SATELLITE

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of the requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this report was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged a referenced work. This report has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and regulations for Undergraduate, Universiti Teknologi MARA, regulating the conduct of my study.

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ABSTRACT

Malaysia covered with 8840 km of shoreline around the country. The statement was release by Department of Irrigation and Drainage Malaysia (DID). Carbon stock is a carbon quantity stored in all living biomass, dead organic material and soil organic matter. In the context of biomass life, plants are a major stockholder of global carbon stock. Accordingly, this study was conducted for analyze the concentration of carbon stocks from agricultural land use and discusses contribution of agricultural sector to carbon balance in the environment. Three the main method used in this study. First, land use mapping using Landsat 4 TM satellite imagery (1989) and SPOT 5 (2011). Second, estimates the density use of agricultural land using normalized difference vegetation index (NDVI) using Landsat 4 TM (1989) and Landsat 5 TM (2011). Third, is for analyzing carbon stock concentration using above ground biomass (AGB) using inventory data and an allometric formula. The results showed land use oil palm in the State of Selangor was dominant and increased by 70.8 per cent from 1989 to 2011. Followed by rubber, coconut and paddy land use; each representing 9.4, 3.8 and 1.9 per cent of the total area of agricultural land in State of Selangor. However, the highest value of AGB is derived from the use of rubber land which is 10.1 million tonnes. While the use of oil palm, coconut and paddy land resulting in AGB value of 4.33, 4.29 and 0.2 million tonnes respectively. The total AGB of all agricultural land use is 18.83 million tonnes. The highest carbon stock is derived from rubber land use, amounting to 5.0 million tonnes. This is followed by the use of oil palm, coconut and paddy land, respectively produced 2.17, 2.15 and 0.1 million tonnes. Overall, stocks carbon farming in the state of Selangor produced 9.42 million tonnes. Total stocks the carbon generated from the use of agricultural land can be an insulator to carbon emissions in the State of Selangor. Accordingly, agricultural land should be expanded as an alternative carbon stock due to forest destruction in the State of Selangor.

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