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ANALYZE DISTRIBUTION PATTERN AND RELATIONSHIP OF GROWTH BEHAVIOR OF DIPTEROCARP TREE SPECIES IN FRIM

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AUTHOR'S DECLARATION

I declare that the work on this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis 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 and research.

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ABSTRACT

The Geographical Information System (GIS) has been used to analyze the pattern of distribution and behavioral growth of Dipterocarp species in Field 11 at the Forest Research Institute Malaysia (FRIM). Meranti Tembaga, Merawan Jangkang and Chengal are among one of Dipterocarp species found in FRIM and the study focuses on these three trees only. Issues that need to be resolved such as FRIM did not make detailed study of the plant and analyze the pattern of tree distribution have made this study done. The objective of this study is to investigate the distribution of existing Dipterocarp tree species based on the Diameter Breast Height (DBH), to classify the distribution pattern of trees based on Dipterocarp tree species and to study the relationship of Dipterocarp species growth behavior. The study has been through several processes such as design, data collection, geoprocessing, Hotspot analysis (Getis-Ord gi *) in mapping clusters, Spatial Autocorrelation (Moran I) in Spatial and Regression analyzing patterns to study Dipterocarp species growth behavior. GIS provides the advantage of collecting tree data from the database for mapping and extracting reports from analysis carried out in the study. Therefore, the latest data require a better improvement by FRIM to always be up-to-date. As a result, the study indicates the pattern of tree distribution, output of the map pattern and distribution from the report summary generated by analyzing the pattern and knowing the relationship of the main behavior to grow. So, GIS has assisted FRIM in maintaining and making conservation in managing Dipterocarp trees using the approach systematic.

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