

**UNIVERSITI TEKNOLOGI MARA**

**INTEGRATED TIMBER HARVESTING  
INFORMATION AND PLANNING SYSTEM USING  
GEOGRAPHICAL INFORMATION SYSTEM  
TECHNOLOGY**

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## ABSTRACT

Current practices on Timber Harvesting Plan in Peninsular Malaysia are mainly conducted by implementing quite a conventional approach, since none of any Integrated Information System is yet to be established by any respective parties until now. The conventional approaches being in-practice are studied as economically less practical in complying the requirement of international anticipation. The use of modern and advance technologies including Geographical Information System (GIS) in forest management and planning activities is becoming a growing trend in forestry industry. The abilities of GIS to store, update, query, analyze and manipulate spatial and attribute data have proved to be useful and even necessary in the management of forest resources. The overall aim of this study is to design and develop an Integrated Timber Harvesting Information and Planning System in the study area, Compartment 30, Pasir Raja Selatan Forest Reserve under the Kumpulan Pengurusan Kayu Kayan Terengganu (KPKKT) concession area, through the use of GIS technology. The development approach is based on the structured methodology, which comprises of three phases i.e. system analysis, system design and system implementation. Integrated Timber Harvesting Information and Planning System is developed using MapObjects within a Visual Basic environment. The Information System database is designed in Microsoft Access 2000 and additional control such as Crystal Report is used for generating user's reports. The system is tested for input or viewing the related attributes such as Pre-Felling inventory data, tree species information and etc., capable in providing timely queries and reports for on-line access, which also incorporates with a map outputs. The Information System of Timber Harvesting Plan is envisaged as an integrated system used to support the planning, implementation and monitoring of forest harvesting operation activities as well as contribute to the successful implementation of the management strategies in line with Sustainable Forest Management exercises and in complying with the requirements for Sustainable Forest Management Certification.

## Candidate's Declaration

I declare that the work in this thesis 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 as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

In the event that my thesis be found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree and agree to be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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