

## **The development of an expert system for decision making in forest resources management.**

### **ABSTRACT**

Tropical forests are a repository of biodiversity which provides habitats for more than 50% of the earth, s plant and animal species, an important sink for carbon stores which provides many goods and ecosystem services and a critical contributor to livelihoods, mainly of the indigenous groups which are totally dependent on forests. Yet, forests are under pressure. Tropical forests are among the earth's most threatened ecosystems, particularly threatened by human activities and climate change. Consequently, tropical forests are losing capacity to provide basic goods and services that are essentials to human livelihood. Hence, every decision involving forest utilization should consider various criteria that are important for sustainable forest management. However, making decision about forest resources management often involves balancing conflicting, inadequate and incompatible values of many users and usage of a resource. One of the most fundamental and difficult task is the effective integration of environmental, economic and social values to achieve and maintain ecologically sustainable development. Therefore, an integrated technology such as an Analytical Hierarchy Process and expert systems is essential to be performed in making decision process for forest resources management because an AHP method is capable to capture both tangible and intangible criteria. This study places emphasis on the development of expert system for forest resources management to assist decision makers to select the best forest resources use based on Malaysian Criteria and Indicators [(MC&I)2002].

**Keyword:** Expert systems; Decsion making; AHP; Forest resources management.