HARUM MANIS PLANTATION SUITABILITY ANALYSIS IN PERLIS BY USING ANALYTIC HIERARCHY PROCESS METHOD

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**Thesis submitted to the Universiti Teknologi MARA Malaysia
in partial fulfilment for the award of the degree of the
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DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). This project/dissertation is original and it is the result of my work, unless otherwise indicated or acknowledged as referenced work.

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ABSTRACT

Plantation suitability analysis is component of effective land to optimize land and ensure sustainable agricultural practices. The study area decided to be in Perlis, Malaysia. The aim of this study is to apply AHP method in GIS to assess land suitability for Harum Manis plantation. To achieve the aim, the objectives of this study are to assign weight and rank of each influencing factor by using pair-wise matrix in AHP method and to produce suitability Harum Manis Plantation. Data collection that will conduct by a systematic approach involving criteria identification, pairwise comparisons and AHP-based analysis. Spatial data integrate to soil quality, rainfall, land use, elevation and slope are integrated using Geographic Information Systems (GIS) to create a plantation suitability map. The findings are producing Harum Manis Plantation map that shown the highly suitable 22%, moderately suitable 55%, marginally suitable 20% and not suitable 3% that overlay of factors' percentage. For recommendation that is further research make improve that have many factors for updating the data for relevant.

Keywords: Analytic Hierarchy Process, Harum Manis, GIS, suitability, plantation and suitable

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE