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LAND SUITABILITY OF URBAN DEVELOPMENT USING GIS
BASED MULTICRITERIA DECISION MAKING (MCDM) APPROACH
IN JERANTUT PAHANG

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COLLEGE OF BUILT ENVIRONMENT
UNIVERSITI TEKNOLOGI MARA PERLIS

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**Thesis submitted to the Universiti Teknologi MARA Malaysia
in partial fulfilment for the award of the degree of the
Bachelor of Surveying Science and Geomatics (Honours)**

AUGUST 2023

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.

In the event that my project/dissertation be found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree of the Bachelor of Surveying Science and Geomatics (Honours) and agree be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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ABSTRACT

Due to the continued transition in the economy and employment from agriculture to industry and services, it is predicted that this rise will continue as individuals from rural regions move to urban areas. The urban population is directly linked to the global economy, which is expanding daily. Similar trends can be seen in urban areas, where built-up urban areas are expanding along with the population. To achieve this goal, this study focuses on two main objectives. First, it aims to identify the suitability of land for urban development in Jerantut, Pahang by using Multi-Criteria Decision Making (MCDM) method. Various factor such as social, economic, environmental, utilities, and physical factors were used to generate a final land suitability map. The software used in this study is ArcGIS 10.7 software for process all the data while Microsoft Excel used for calculated the AHP method. There are several types of MCDM method. For this study, it only concentrates on Analytical Hierarchy Process (AHP) combined with the geographic information system (GIS) spatial analysis tools. AHP consists of a process of calculation in hierarchical structures which was the pairwise comparison matrix, determine the weighted and valuation of matrix consistency. The result showed a consistency ratio (CR) value for these main factors is 0.06. The result remained within the threshold of 0.1, then the CR value was acceptable. The final result of this study shown the land suitability of land for urban development.

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