SITE SUITABILITY ANALYSIS FOR NEW

HOUSING DEVELOPMENT IN

KULIM, KEDAH USING GIS - AHP METHOD

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ABSTARCT

Site Suitability Analysis for New Housing Development in Kulim, Kedah Using GIS - AHP Method

Kulim is facing challenges in housing supply which is less due to the growth of the local population and future development projects. This study focuses on conducting site suitability analysis for new housing development in Kulim, Kedah, using Geographic Information System (GIS) and Analytical Hierarchy Process (AHP) methods. The objectives of the study include identifying criteria for selecting a suitable site for new housing development, analyzing spatial data using GIS techniques, and presenting the findings through an interactive web map developed with Experience Builder in ArcGIS Online.

This study methodology involves several stages started with preliminary followed by data collection, data preparation and lastly the development of a web map to show the results. Spatial analysis is done by using ArcMap to process the data sets such as land use, height, slope, road and aspect, specifically adapted to the geographical boundaries of Kulim. In addition, potential areas are evaluated and classified into categories ranging from extremely suitable to unsuitable based on criteria that have been set.

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

1.1   Background and problem statement

In Kulim District, located in Kedah, Malaysia, there is currently a shortage of available housing, exacerbated by the increasing local population and potential new development projects. This scarcity poses significant challenges to accommodating the growing community and requires urgent attention. Additionally, inadequate infrastructure planning and development strategies further compound the difficulties associated with population growth and urbanization in Kulim District. These challenges highlight the pressing need for comprehensive assessments of suitable sites for housing development to ensure the success and longevity of future projects. Furthermore, socio-economic disparities and housing inequality within the community are exacerbated by limited access to affordable housing options, further underscoring the urgency of addressing housing shortages in the district.

This study focuses on the determination of site suitability for housing development to avoid negative impacts in the study area. The purpose is to make it easier to carry out sustainable development in the Kulim District by determing suitable sites development. GIS and AHP methods were used in