

**SITE SUITABILITY ANALYSIS FOR LOCATING
A NEW MOSQUE IN DISTRICT OF KULIM, KEDAH**

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ABSTRACT

Site Suitability Analysis for Locating A New Mosque in District of Kulim, Kedah

The The study of the Site suitability analysis for locating a new mosque in the district of Kulim, Kedah by using ArcGIS Pro. The study will examine various factors that influence the suitability of a site for a mosque, including accessibility, proximity to residential areas, availability of land, and environmental considerations. For the objective, the aim is to identify the standard criteria for locating the optimal sites for mosque establishment, and to determine the most suitable locations for the establishment of a new mosque within the district Kulim, Kedah. The study will examine various factors that influence the suitability of a site for a mosque, including accessibility, proximity to residential areas, availability of land, environmental considerations, and compliance with local planning regulations. Ultimately, the findings of this study will provide valuable insights to assist local authorities and urban planners in selecting the most suitable site for a new mosque that meets the needs of the local community and aligns with the overall urban development strategy for the district of Kulim, also for guiding the development of a new mosque that meets the needs and aspirations of the local population. Numerous techniques are utilized in the geoprocessing methodology for processing data, including reclassification, raster to polygon, polygon to line, Euclidean distance, and weighted overlay. For the Result, the map shows a clear distinction between different suitability levels, which can help in making informed decisions about the location of the new mosque. The central and northern parts of the region seem to have more suitable areas compared to the southern parts, The map provides a clear visual representation of the suitability of different areas within the Kulim district for the construction of a new mosque.

Keywords: Site suitability analysis, ArcGIS

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(Nur Awatif Binti Othman & Nur Khairunnisa Sarah Binti Anuar)

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

In recent years, the increase in population in Kulim has prompted consideration for housing and public sector services. Kulim has had an extraordinary population in the past decade. Based on information provided by the Department of Statistics Malaysia, the urban population throughout 2020 to 2023 has increased at a rate of 0.84% from 337,699 to 346,200, based on Table 1.1 below. In the Malaysian state of Kedah, there is a town and district called Kulim. It is close to Penang in the southeast of Kedah. The town of Kulim is a part of Greater Penang, Malaysia's second-largest conurbation, and is located about 27 km (17 mi) east of George Town, the capital of Penang. This district's name is derived from the scientific name of the kulim tree, *Scorodocarpus borneensis* Becc, which was once common throughout this area.

Kulim is thought to have been established by 100 Pattani Malay immigrants in the 18th century. Kulim may have been founded by a Chinese artisan named Chin Ah Cheoh. Tin Ore was found at Kulim in the middle of the