

UNIVERSITI TEKNOLOGI MARA

**LAND AGGREGATION AT THE
RIVER RESERVE AREA ALONG
SUNGAI PERLIS USING GIS
APPROACH**

NURFARHANI BINTI AHMAD FAISAL

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ABSTRACT

The aggregation of land is a perpetual problem that exists even now in many places of the country. Many developing nations such as Malaysia lack data on the types and area of land aggregation at river reserve areas. Therefore, this research aims were to analyze land aggregation at river reserve area along Sungai Perlis using GIS approach. In order to achieve this study, three objectives were established which were i) to determine the land aggregation types at river reserve area in Sungai Perlis ii) to identify total area of land aggregation at Sungai Perlis reserve area. To fulfil the objectives, ArcGIS is used to digitize the land aggregation at river reserve areas. This study conducted by digitizing the land aggregation area and used classification technique to classify the land aggregation types. As a result, the land aggregation map at the river reserve area of Sungai Perlis will be generated to identified types and total area of land aggregation. This research may be useful and helpful for local authorities monitoring the total area and locality of land aggregation in Sungai Perlis reserve area.

Keywords: Land Aggregation, River Reserve Area, Geospatial Information System (GIS)

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

Rivers are a collective resource that everyone has access to. It serves as a flow path for flooding, drainage channels, primary sources of water supply, communication and transportation waterways, and food sources, among other things. The river will continue to be a valuable resource for life on the earth. It also offers a lot of promise in terms of development, recreation, and conservation. Rivers serve as a source of water for industrial, household, and aquaculture purposes. One of the instances of human economic resources is Sungai Perlis. Sungai Perlis is also a popular tourist and leisure destination. It stretches 9.8 kilometres from Kangar to Kuala Perlis, with a basin area of 310 square kilometres. Sungai Perlis has over ten tributaries, including the Sungai Batu Pahat and Sungai Kechor.

River reserves are necessary for rivers to function correctly. It must benefit the entire catchment region while also being able to handle increased discharge due to development. The river reserve serves as a barrier between the river and the nearby land, protecting the river from unwelcome activities that could negatively impact its function. This specific land gazette falls in Section 62 of the National Land Code of Malaysia in the year 1965. These protected strips are found along the banks of rivers and serve as a buffer between the river and undesired activity (Department of Irrigation, 2017). Land use in the river reserve region is causing the river's natural flow to deteriorate as a path for water and sediment, resulting in cliffs and making the river unstable.

Humans use land resources for a variety of activities and objectives, including recreation, transportation, agriculture, residential, and commercial uses (Rendana et al., 2017). Land use impacts natural ecological systems by changing biological form and composition and influencing human demand for ecological systems (Sonter et al., 2017). In this research, the most likely land aggregation that we will cover is within the river reserve areas.