

**UNIVERSITI TEKNOLOGI MARA**

**GIS-BASED SPATIAL ANALYSIS OF CHRONIC  
DISEASE BASED ON LAND USE:  
CASE STUDY OF PATIENT DISTRIBUTION AT  
PADANG SERA CLINIC**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
**Bachelor of Science Surveying and Geomatics (Honours)**

**Faculty of Architecture, Planning and Surveying**

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## AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Chronic disease is a disease that persists for a long time period and the major cause of death and disability worldwide. The major contribution that leads someone to suffer that disease is by misunderstanding on the health lifestyle and surrounding area. The aim of this research is to analyze the relationship of chronic disease based on land use type of patient distribution at Padang Sera Clinic, Kedah. Data of patient involve in this research is chronic disease data requested from Padang Sera Clinic, Kedah. Besides that, land use map also will be using to get the relationship with chronic disease. The determination type of land use most effect on the chronic disease is using Spatial Analysis tools which is Kernel Density. Besides that, Kernel Density will determine the distribution pattern of chronic disease based on number of patient. The GIS is one suitable method due to its ability to collect, store, manipulate, process and analyze. So, that it will providing a good method in an effective analysis of the chronic disease based on land use.

**Keywords:** chronic disease, Geographical Information System (GIS), Kernel Density, land use

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