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THE ESTIMATION OF THE EFFECTS OF NATURAL FOREST ON
CONDOMINIUM'S PRICE USING SPATIAL WEIGHT IN PENANG,
MALAYSIA.

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SCHOOL OF GEOMATICS SCIENCE AND NATURAL RESOURCES
COLLEGE OF BUILT ENVIRONMENT
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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)**

JULY 2024

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.

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ABSTRACT

The interaction between real estate markets and natural ecosystems has a significant impact on property values in modern landscapes. As cities continue to grow, high-rise structures are the most desirable real estate, and natural spaces are becoming increasingly expensive. Since the topic is under-presented, this research will have the potential to contribute valuable insights of the effects of the prices. The aim of this research is to calculate the estimation of condominium prices based on the effect of the presence of natural forests in Georgetown, Penang. The first objective is to identify the condominium preference that influence the price among urbanities. The second objective is to investigate the impact of locational externalities by natural forest in capitalized condominium price based on the methodology that involves using spatial weight, Spatial Lag Models and Spatial Error Model as well as Ordinary Least Square Estimation. Model SEM is selected to represent the pricing model for estimating the price of the condominium due to the best acquired result of R-squared is 0.768821. Lastly, the third objective is to estimate the premium added to the condominium's price by natural forest which based on the best regression model shown that every 1km nearer to the natural forest, the property value increase by approximately RM225.70 and contributes to 75.21% of value and the view of natural forest will increase the value to RM7702.80 and contributes to 70.21% to the condominium value. The contribution of this research will be beneficial to the real estate stakeholders to provide a reasonable condominium pricing especially when related to greenery area.

Keywords: Condominium Price, Natural Forest, Spatial Analysis, Hedonic Pricing Model, Spatial Error Model, Spatial Lag Model.

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