UNIVERSITI TEKNOLOGI MARA

THE INFLUENCE OF GREEN INFRASTRUCTURE ATTRIBUTES ON HOUSE PRICE

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ABSTRACT

Today, environmental considerations have become crucial in each and every development plan and project. It is a vital approach in the 21st century. Due to the current environmental crisis, one vital approach is often emphasized to maintain and preserve the surrounding environment and this approach is referred to as the 'Green Infrastructure Approach'. Green Infrastructure is commonly associated with the concept of sustainable development. It differs from grey infrastructure in that it emphasizes the network of green space in a particular area. Generally, an environment offers a variety of activities and benefits which are mostly unmeasurable. Hence, the Hedonic Pricing Model is one of the methods that is often exploited to reflect the environmental values of a surrounding area. This study looks at green infrastructure elements and how they affect housing prices. The Hedonic Pricing Model is used to calculate the value of environmental features or elements that affect housing price. However, it is limited in that it only measures the environmental benefits impacting the prices of houses and merely estimates people's willingness to pay for these benefits. If people are unaware of their environment, the value is not reflected. This study allows the researcher to look into the following objectives: (a) to gauge the existing green infrastructure components in the study area; (b) to identify public preferences towards green infrastructure(s) in a housing area with the botanical garden being the main green infrastructure component in the study area and (c) to determine the new market equation of a house by adding the green infrastructure attributes using the Multiple Regression Hedonic Pricing Model (HPM). This study employed a mixed-mode analysis which incorporated quantitative and qualitative methods and was conducted in Labuan, Malaysia with the Labuan Botanical Garden becoming the major green infrastructure component. The survey questionnaires were distributed to 386 respondents living in the housing area within 1800 meters from the Labuan Botanical Garden. The radius was determined by using the Geographic Information System (GIS). The researcher also conducted valuation techniques, which are based on the principles of people's willingness to pay for environmental gains and their acceptance of compensation for the environmental losses incurred. Interviews and observations were also conducted in the study to examine community preferences towards their housing area as well as the green infrastructure components made available to them. 61.3% of the respondents gave positive feedback and 85% of the respondents commented of being aware of the green infrastructure attributes in their housing area. The findings reveal that ethnic views (Malay, Chinese, ethnic Sabahans and foreigners) on satisfaction towards house and green infrastructure have provided valuable feedback in this research. The various ethnics in Labuan have preferences cited towards their desired houses. The accessibility attributes, namely 'accessible to botanical garden and park', showcase that these main green infrastructure elements are highly preferred by the community in Labuan. This is followed by visual quality attributes, location and amenities attributes and amenities attributes. Hedonic Pricing Model reveal an increase of 35.6 percent in the double storey semidetached house, a 47.6 percent increase in the bungalow house, a 30.1 percent increase in single storey house and a 29.6 percent increase in the double storey terrace house. To sum up, this study provides insightful information to potential research students, local authorities, developers and future house purchasers on the influence or existence of green infrastructure components on the value of a particular housing unit.

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