

Monetary valuation of urban green open space using the Hedonic price model

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Abstract

Background and Objectives: Urban green infrastructure, particularly green open spaces, is of increasing importance in rapidly urbanizing areas. These spaces provide environmental, social, and economic benefits to urban ecosystems, contributing to community health and well-being. However, the economic value of green spaces is often overlooked in urban planning. This study aims to conduct an economic valuation of green spaces using the Hedonic Price Model to provide decision-makers with a comprehensive understanding.

Methods: A questionnaire was distributed through the Google Forms application via an online survey on social media from March to April 2021. The collected data from 1,592 respondents in Jakarta were analyzed using cluster analysis and the SPSS software. The Hedonic Price Model was employed to create a valuation model for green spaces in 42 districts and 239 sub-districts across five cities administrative.

Findings: The study empirically demonstrates that urban parks and forests increase land prices, while the presence of cemeteries decreases land prices in Jakarta. These findings shed light on the economic value of green spaces, including impact on land value and tax revenues. The rate of land value increase such as the imposition of a "Beneficiary Zoning Levy," with values of 9.2%, 17.1%, and 19.2% within the affected value area (0-2 km) for urban parks and parks. The study suggests policy implications, such as exploring alternative financing mechanisms and considering public preferences in urban development and financing policies.

Conclusion: The study confirms the applicability of the Hedonic Price Model in Jakarta's mature and privatized land market. It highlights the importance of considering environmental factors and green spaces in land transactions, land conversion, property development, conservation, and urban green space design. The findings provide valuable information for policymakers, property developers, and land use planners, preventing the undervaluation of green spaces and facilitating informed decisions on land use planning and public investment. Future research should explore additional aspects, such as the size of green spaces, social functions, and ecosystem services, to gain a more comprehensive perspective on the planning and management of green spaces in Jakarta.

Keywords: Green open space (GOS); Hedonic price model (HPM); Economic valuation; Land value; Urban Sustainability.