PLANNING SUSTAINABLE CITIES IN MALAYSIA
Issues and Challenges

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CHAPTER 2

APPLICATION OF GIS SITE SUITABILITY ANALYSIS TO IDENTIFY SITES FOR POLICE STATIONS IN URBAN AREAS: A CASE STUDY OF WANGSA MAJU, KUALA LUMPUR

Samsuddin Jaafar and Zul Aiman bin Hj. Md. Salleh

ABSTRACT

The inadequacy of safety and security facilities, such as police stations, has been identified as one of the contributory factors to rising crime rates in urban areas in Malaysia. However, to provide for these facilities in such an area is becoming increasingly difficult due to land scarcity and stiff competition for land with other land uses. Due to scarcity of resources, both land and funds, it is imperative that the siting of police stations must be optimized, not only in terms of resources but also in terms of service efficiency. This paper discusses the application of GIS site suitability analysis to identify the most optimize location for siting police stations in urban areas.

Keywords: GIS, safety facilities, site suitability analysis, police stations

INTRODUCTION

Providing adequate safety and security facilities in an area is crucial so as to ensure security and protection for its community. Moreover, shortage in the provision of safety and security facilities not only affects the safety and security level of an area, but also indirectly affects the economic prosperity of the area. Investors would have less confidence in area with high crime rates. High crime rates also tend to depreciate the value of properties in the area.

In Malaysia, the inadequacy of safety and security facilities is often considered as one of the factors that contribute to the increase in crime rates, especially in the urban areas. However, as urban areas becoming more developed, it is increasingly difficult for the authorities to provide sufficient safety and security facilities due to several factors, but chiefly lack of suitable land.

The emergence of Geographical Information System (GIS) had contributed a lot in the planning decision making. The capabilities afforded by GIS in mapping out potential areas, deficiency areas and performing proximity analysis facilitate and automate analysis and planning for emergency response and its implementation (Parentela and Nambisan, 2000, p.181). Locating safety and security facilities such as police stations at the right location is very important in promoting safe and peaceful environment especially in urban areas. Hence, this paper focuses on the use of GIS’s site suitability analysis in determining suitable locations of police stations in urban areas.

Aim and Scope