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Nik Mohd Saiful W Mohd Sidik, Zaid Ahmad

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## Application of GIS (Geographical Information System) in The Management of Waqf Lands in Selangor

Nik Mohd Saiful W Mohd Sidik, Zaid Ahmad

Department of Government and Civilization Studies, Faculty of Human Ecology, Universiti Putra Malaysia, 43400 Serdang, Selangor.

Email: zaid\_a@upm.edu.my

### Abstract

A study was undertaken to search for opportunities to apply Geographical Information System (GIS) into the management and administration of waqf institution. Selangor Islamic Religious Council (MAIS) is a trustee responsible to manage waqf property affairs in Selangor. It was reported that recently in Selangor, there are 832 recorded lots of land bequeathed by the Selangor Islamic Religious Council (MAIS). Out of these, 517 falls under general waqf land category and the remaining are under specific waqf land category. These lands are used as construction sites for mosques, orphanages and schools. Waqf property should be managed systematically so that the property can be utilized for developing Islamic society. Waqf property data should be updated in a systematic manner as it can ease managing and planning, so that it can be fully used. In this study GIS has proven generating accurate, cadastral maps of waqf land defining legal repositioning of ex-land ownership, status and location, enhancing systematic planning and management of waqf land. The role of GIS should be recognized and be an essential for waqf land management throughout the country.

**Keyword:** GIS Application, Waqf Land's Management, Waqf Institution, General Waqf, Special Waqf

### Introduction

Waqf is derived from an Arabic word 'waqf' which is extracted from the verb 'fi'il' 'waqafa' means stop 'al-habs' and prohibiting 'al-man' which is a derivative or Masdar to waqafa or in English, imprisoned (Al-Din, 1996; Mustafa, 2005; Mashitoh, 2007). Based on the Arabic language, waqf means stopped, forbade, frozen or retained (Mahmud, 1998). It also means to utilize property such as lands for religious purposes, for example, cemeteries, mosques or anything that can be beneficial to public (Mustapha, 2009). According to the Trustee Act 1949, waqf means to utilize any property which can produce benefits for people or as benefits for charity purposes either as a general waqf or as a special waqf in accordance with Islamic law but exclude trust.

The Ninth Schedule, List 2, List of the State, the Federal Constitution stipulated that provision and administration of waqf matters are provided in the enactments or administrative act of

Islamic law states in Malaysia (Siti Mashitoh, 2005). For Selangor, the State of Selangor Endowments Act 1999 (No. 7) is related with the management of waqf for the state. This enactment was approved by the Selangor State Legislative Assembly on 23<sup>rd</sup> December 1999 and was officially come into force on 1<sup>st</sup> July 2004. The enactment has stated that the Selangor Islamic Religious Council (MAIS) as a sole trustee for waqf property (Enakmen Wakaf Negeri Selangor, 1999). Through this provision, MAIS should handle waqf property in agreement with all conditions and stipulations made by the property owner to further develop the property, hence create benefits which can be enjoyed by all Muslims. Managing waqf lands is also mentioned in the National Land Code (Act No.56 of 1965). With regard to Selangor, Selangor Islamic Religious Council (MAIS) is the state religious authority which is responsible in the management of waqf property. Management of waqf property includes land registration as well as its administration (JAWHAR, 2006).

### **Geographical Information System**

Geographical Information System is an element of geospatial technology, remote sensing, cartography, surveying and photogrammetry. This system is used in the interpretation process for those data. Since early 1970s, geographical information systems have become important in land management, land use planning, natural resource assessment, wildlife habitat analysis and management of forest logging (Nasir, 2010). GIS is an information system associated with the geography of a place and it is used in fields that are related with earth surface phenomena such as land use monitoring, disaster management and decision support tools. This system is used to understand the condition of an environment which involves technological processes, socioeconomic, and environmental space with a more rational and systematic way (Ruslan and Noresah, 1998). According to Harris (1965), planning indirectly involves future in the process of finding the best alternative way to fully use space for the welfare of a community. A planning process does not only involve spatial data but also non-spatial data. It requires an effective information management system as it is needed to view spatial distribution, monitoring changes that may occur in the space and to plan for future development (Narimah and Tarmiji, 2008).

Therefore, this paper is to reveal potentials of a system namely Geographic Information System (GIS) to be adopted in the management and administration of waqf institution beside of the current approach which is done based on Islamic law. This is to create position and classification of endowment assets to assist the waqf administration and management institutions as well as an awareness to the public about the needs of more structured, continuous and comprehensive endowment management and property development for significant economic development. The exposure is essential for us to highlight the role of waqf institutions and opportunity to implement GIS in the waqf management institutions in order to strengthen the development of waqf property in Malaysia.

### **Methodology**

#### **a. Study Site**

This study was conducted throughout Selangor. Selangor is located at a coordinate of 3°20'N 101°30'E. Selangor Darul Ehsan has an area of approximately 7,930.20 square kilometers which represents 2.4% of the total area of Malaysia. It is located in the middle of West Coast of Peninsular Malaysia and it surrounds the Federal Territory of Kuala Lumpur and Putrajaya. The state has 22 parliaments, 56 legislative assemblies and 9 districts namely Sabak Bernam,

Kuala Selangor, Klang, Kuala Langat, Sepang, Petaling, Hulu Langat, Gombak and Hulu Selangor. In 2020, its population was about 6,524,600 people which made Selangor as a state that has the greatest population in Malaysia (Department of Statistics Malaysia, 2021). Until now, Selangor still holds the title as a state which has the largest population in Malaysia.

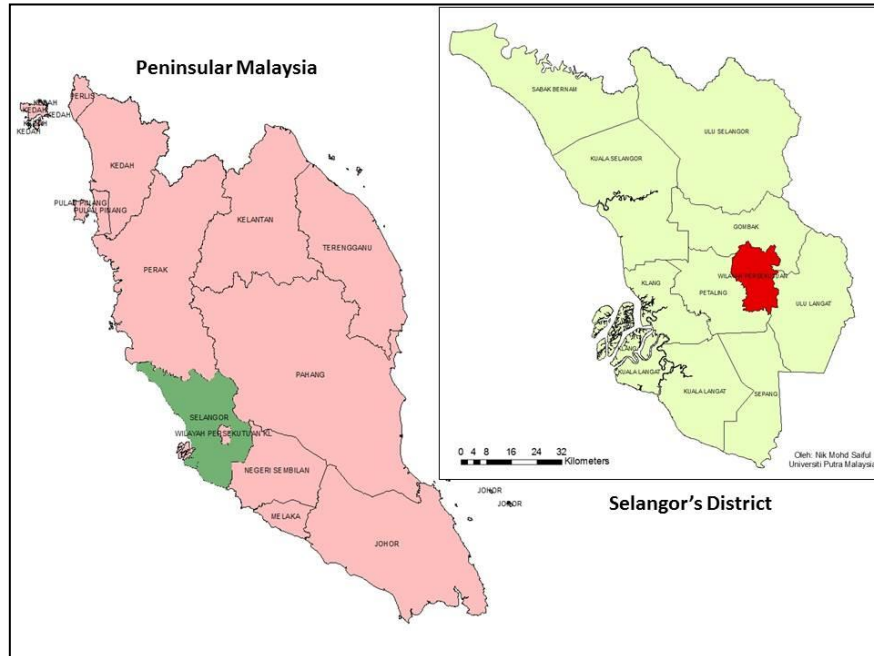


Figure 1: Study Site (Selangor state)

#### b. Research Design and Procedure

Data acquisition of this study was conducted in three ways: a) document review, b) in-depth interviews and c) data analysis (mapping). Document review was carried out at the Administrative Unit, Selangor Islamic Religious Council (MAIS). The review was done according to districts. A total of 832 waqf property data has been recorded up to June 2010 for the entire state. Document review method is a fact-finding process depending on location of waqf parcel, as well as terms of the legislation and rules imposed to it. In-depth interviews were also conducted upon waqf's trustee holders for each district. The informants were Islamic Religion Officers who came from different districts and headquarters. Data analysis on waqf land records available at MAIS was done using an analysis namely content analysis. GIS was used to map the site and to gather information about the location, size, classifications and potentials of waqf land.

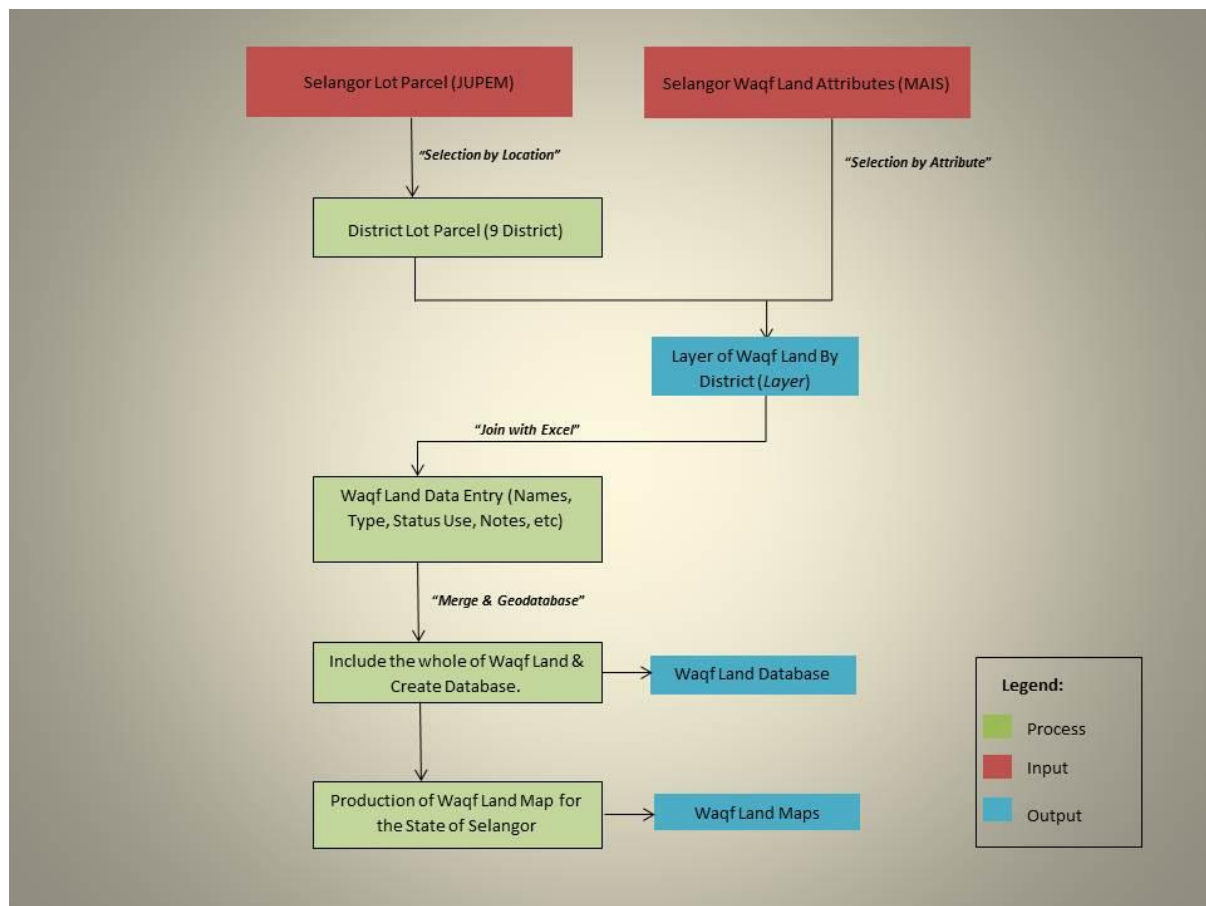


Figure 2: The Research Design

## Results and Discussions

### Location and Distribution of Waqf Land in Selangor State

Up to June 2010, it was reported that there were 832 lots of land bequeathed in Selangor (Table 1). These waqf lands were managed by MAIS as a sole trustee. Waqf property established with two main purposes: General and Specific purpose. General waqf means waqf established for general welfare purpose in accordance with Islamic Law (Enakmen Wakaf Negeri Selangor, 1999) while specific waqf established for definite charity purposes such as cemetery, mosque and school in accordance with Islamic Law (Enakmen Wakaf Negeri Selangor, 1999). Through GIS, location of the waqf lands were demarcated and mapped. Through the generated map, the distribution of the waqf lands was found denser in rural areas compared to developed areas (Figure 3). One of the factors is it may due to the land value in rural area which is lower than those in developed area. As shown in Table 1 where there are 216 waqf lands in Sabak Bernam and only 16 at Petaling district. Similar patterns of differences were also observed when compared with number of lands in other districts: Gombak (54), Hulu Langat (65), Hulu Selangor (24), Klang (164), Kuala Selangor (121) and Sepang (30).

Table 1: Classified Waqf Lands Based on District

District	General	Special	Total
Gombak	29	25	54
Hulu Langat	48	17	65
Hulu Selangor	20	4	24
Klang	80	84	164
Kuala Langat	81	58	139
Kuala Selangor	76	45	121
Petaling	13	6	19
Sabak Bernam	148	68	216
Sepang	22	8	30
<b>TOTAL</b>	<b>517</b>	<b>315</b>	<b>832</b>

Source: MAIS, (2010)



Figure 3: Map of the Classified Waqf Lands

### Utilization of the Waqf Lands

In this study, all the waqf land were inventoried and mapped. It was found out that in Selangor, waqf lands were diversely utilized such as for various building purposes (364), various agricultural crops (385), cemetery (7), forested (4), empty land (45), taken over or withdrawn (11) and undetectable by MAIS (16). Agricultural crops mostly planted on waqf land were found to be paddy, oil palm and coconut and mostly at Sabak Bernam. Different results were observed for waqf lands for building, in districts with higher property values, where waqf lands were used to build buildings either for general or special benefits.

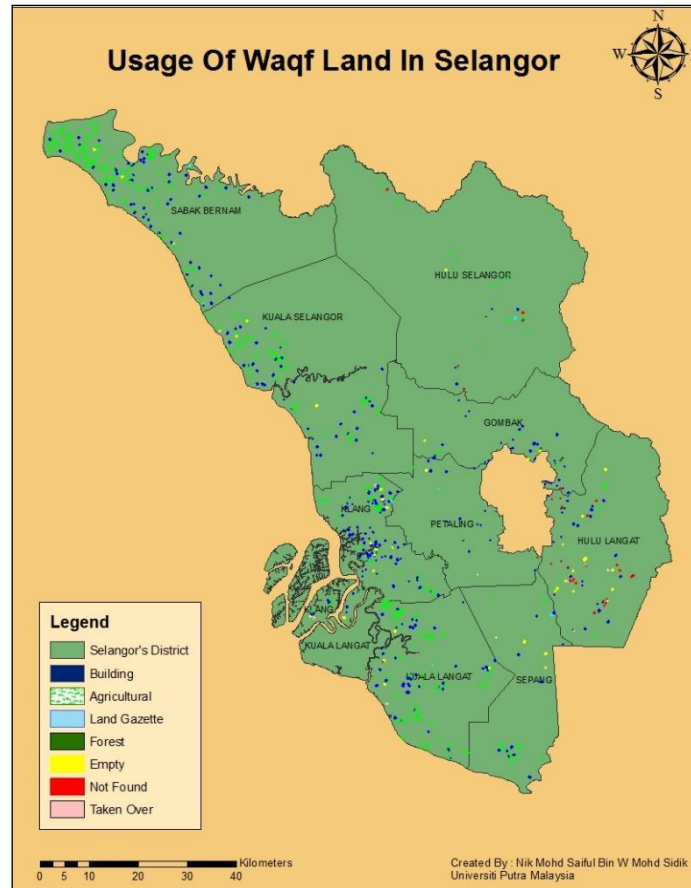


Figure 4: Usage of Waqf land in Selangor

Klang District has the most buildings erected on waqf lands with a total of 103 land lots. There were 45 lots waqf lands classified as empty land. MAIS has not been able to detect 16 lots of waqf lands. By using GIS all these undetected lots were demarcated on the map by locating the coordinates searched.

Table 2: Waqf Lands Utilization in Selangor

District	B	A	F	U	C	T	Ud	Total
Gombak	41	6	3	3	-	-	1	54
Hulu Langat	29	10	-	14	-	5	7	65
Hulu Selangor	5	12	1	1	1	-	4	24
Klang	103	44	-	11	1	3	2	164
Kuala Langat	48	83	-	4	1	1	2	139
Kuala Selangor	47	69	-	4	-	1	-	121
Petaling	13	3	-	1	1	1	-	19
Sabak Bernam	67	144	-	3	2	-	-	216
Selangor	11	14	-	4	1	-	-	30
<b>TOTAL</b>	<b>364</b>	<b>385</b>	<b>4</b>	<b>45</b>	<b>7</b>	<b>11</b>	<b>16</b>	<b>832</b>

B= Building, A=Agricultural, F=Forest, U=Undeveloped, C=Cemetery, T=Taken or Withdrawn, Ud=Undetected

### Types of Buildings Built on Waqf Lands

There were several types of buildings built on waqf lands in Selangor. They were mosques (48), prayer (157), schools (73), rented houses (60), orphanages (9), shop houses (14), public hall (1) as well as old folk's home (2) as summarized in Table 3.

**Table 3: Building Types Built on Waqf Lands in Selangor**

District	Mosque	Surau	School	Rented House	Orphanage	Shop House	Public Hall	Old Folk Home	Total
Gombak	2	11	4	19	4	1	-	-	41
Hulu Langat	3	10	2	9	1	4	-	-	29
Hulu Selangor	-	2	1	-	-	2	-	-	5
Klang	15	39	22	20	1	5	-	1	103
Kuala Langat	10	27	8	-	3	-	-	-	48
Kuala Selangor	9	20	15	2	-	-	1	-	47
Petaling	1	2	-	7	-	2	-	1	13
Sabak Bernam	6	42	18	1	-	-	-	-	67
Sepang	2	4	3	2	-	-	-	-	11
<b>TOTAL</b>	<b>48</b>	<b>157</b>	<b>73</b>	<b>60</b>	<b>9</b>	<b>14</b>	<b>1</b>	<b>2</b>	<b>364</b>

### Issues and Suggestions

According to Che Zuina (2010), there are six major problems in developing waqf property such as ownership registration, financial problems, physical barrier such as land invasion, lack of human resources and strategic expertise, unavailability of comprehensive database and waqf land invasion.

She also proposed several solutions to overcome the problems, such as improving organizational structure, immediate registration of waqf land(s), open waqf lands for renting, tax exemptions for waqf lands, amending the provisions in the NLC in 1965, improving the jurisdiction of the Syariah Court, improving the Land Acquisition Act, conducting awareness campaigns for waqf, waqf's fatwa, and refining the role of JAWHAR.

Zawawi (2006) added that main obstacles to develop waqf property in Pahang are administration and management problems, legal issues such as court problem and lack of public contribution. Similar problems were observed in Selangor. The absence of complete database for managing waqf should be overcome by developing Geographic Information System on waqf lands, where their positions and data are stored together by waqf administrators (Amaludin *et al.*, 2011) This is to create more accurate and systematic waqf management system to ensure the circulation of property occurred in a good manner (Zamro *et al.*, 2006). Apart of that, it was suggested that to improve and upgrade the administration and management of waqf system in a more systematic and orderly manner (Dahlan and Abdul Rahim, 2006).



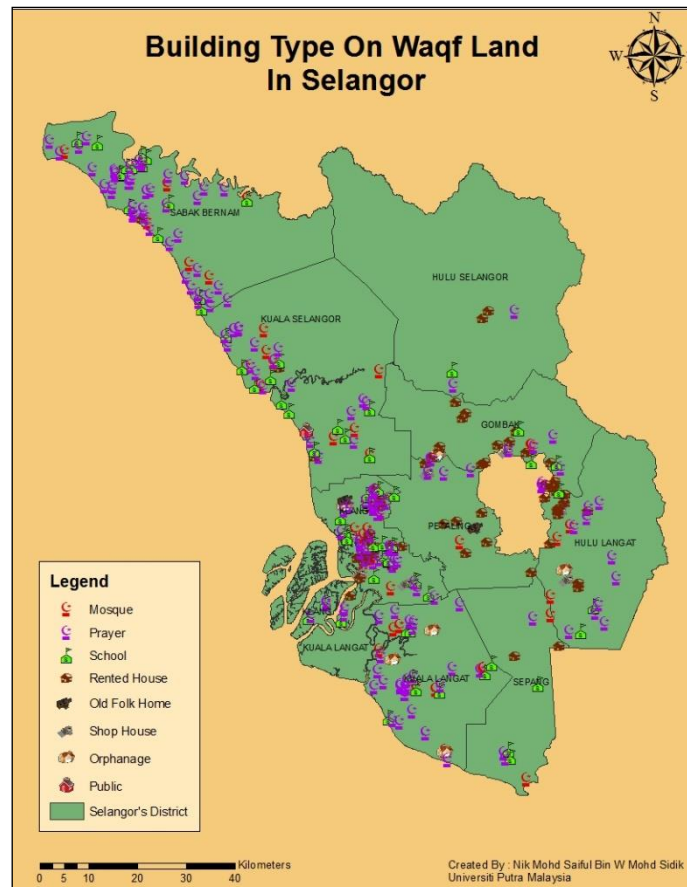


Figure 5: Mapping of Building Type on Waqf Land in Selangor

Replacement issue or *istibdal* is essential to be included in the effort of developing waqf land. This involves sales and purchases and change of waqf land ownership. There are cases where the properties that have been waqf are not beneficial. Some *ulama'* have agreed that waqf property cannot be traded unless an emergency occurs. Due to that, *istibdal* is needed (Dahlan and Abdul Rahim, 2006). *Istibdal* process is necessary for the development of waqf land, hence it should be carried out professionally and efficiently. If it is done successfully, it may give great impact to Muslim's economic development and the country itself (Syahnaz, 2008).

According to the Selangor Islamic Religious Administration (EPAIN Selangor, 2003), the State Islamic Council has prepared, issued and published a list of all property, investments and assets vested under the Council as an annual financial report. It is indeed, desirable to present waqf property revenue for all existing waqf property. Management of waqf property can be implemented more effectively with proper accounting system.

## Conclusion

In this study, Geographical Information System was proven useful for mapping and is an essential to enhance the waqf management system for Selangor. Study results depicted that waqf land in Selangor were mostly utilized for agricultural purposes which are classified under general waqf. Meanwhile, succeeding most utilized waqf lands are for building purposes which are categorized under specific waqf. GIS should be recognized as a powerful tool offering effective waqf management and allowing rapid access to information as well as a means of analyzing and updating information for better decision making.

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