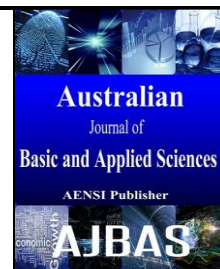




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### Strategy to Develop Geospatial Analysis to Govern the Problem of Public Places of Worships in Indonesia

Cahyo Crysdiandian

Department of Informatics, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

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#### ABSTRACT

Social conflicts due the existence of public places of worship have widely been spreading inside Indonesia multi cultural society. Even though the government has produced a regulation like guideline to manage the establishment of public places of worship, yet the conflicts have become endemic and sometime causing the destruction of worship location. Therefore a new approach based on geospatial analysis needs to be introduced to the religious communities in this country. This approach delivers more objective solution on the problem of worship location since it employs quantitative analysis. This paper discusses the strategy to develop and deploy geospatial analysis to govern the problem of worship location in Indonesia, in which SWOT analysis is utilized to deliver comprehensive perspective on the issue of interest.

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#### INTRODUCTION

Collaborative Decision Letter (*Surat Keputusan Bersama / SKB*) 2006 (SKB., 2006) as the only regulation to govern the establishment of Public Places of Worship (PPW) is produced by collaborative work between the Ministry of Internal Affairs and the Ministry of Religious Affairs. The regulation like guideline states that the establishment of new PPW needs to fulfill some prerequisites to obtain legal permit from the authority. The procedure is depicted in Figure 1. This procedure states that the establishment of a new PPW must be supported by at least 60 local residents and used by at least 90 members of a religious community. This condition is to obtain a letter of recommendation from government-based institution which is represented by the district office of the Ministry of Religion (*Kantor Kementerian Agama / KEMENAG*), and a recommendation from the community-based organization which is represented by the Forum of Religious Community Members (*Forum Kerukunan Umat Beragama / FKUB*). After holding letters of recommendation from both *KEMENAG* and *FKUB*, a proposal of new PPW is submitted to the local government to obtain a permit to establish a new PPW. From this point, the legal status of new PPW has been acknowledged.

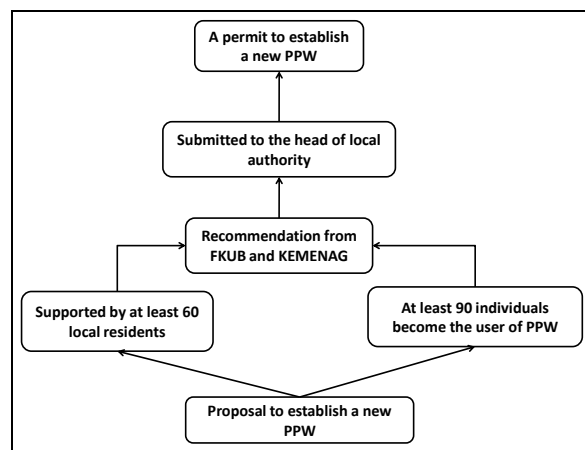
Meanwhile according to the survey of CRCS from 2008 to 2011, the cause of PPW conflicts is varied such as active PPW was forced to close by a group of local residents, the permit of PPW was withdrawn by local authority, the owner of the building where PPW operates changed the function of the building for commercial businesses, and illegal destruction of PPW facilities by some religious fanatics. All of these incidents have commonly been assessed using *SKB 2006* regarding their legal aspects and whether the parties involved in the conflict had conducted appropriate or inappropriate action. An example of this practice can be mentioned as follow. In the incident of a PPW at Bogor Town which is located about 60 km to the south of Jakarta, a group of local residents which is against the existence of a new PPW launched a demonstration to protest it. They claimed that the permit to establish PPW was not correct since the documents describing the support from at least 60 local residents was fake as admitted by PPW management in front of legal investigating officer. However, later in the court PPW management stated that they were forced to mention the existence of fake document by some local religious group (CRCS, 2011). Hence, in this case the truth became unclear and has to take a long journey on the court to validate any evident on the legal basis, while the necessity of local residents to worship has to wait until all of this process settled in

**Corresponding Author:** Cahyo Crysdiandian, Department of Informatics, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia  
E-mail: cahyo@ti.uin-malang.ac.id

an unpredictable time. This example show the difficulty to employ *SKB 2006* in practice due to the involvement of subjective judgment from each party participates in this conflict. To date, a dozens of similar cases on PPW have been reported without any clue when thorough solution can be achieved. These facts indicate the complexity of *SKB 2006* particularly to deal with people participation to determine the status of PPW on the legal basis.

Moreover if the incidents based on PPW conflict are scrutinized, it is apparent that the demand to establish PPW in Indonesia is very high. Therefore it becomes the obligation of the authority to fulfill this

demand. However since religious matter is a sensitive issue among Indonesian cross-cultural society due to the existence of uncontrolled religious fanatics (Setara, 2012), a top-down approach should be employed to avoid subjective judgment from local residents to determine the legal status of PPW. This strategy requires the support from spatial data system to achieve accurate decision on establishing PPW among cross-cultural society. Thus developing correct spatial technology becomes a vital approach towards settling PPW conflict in an objective manner.



**Fig. 1:** Procedure to legalize PPW based on SKB 2006.

### ***Development of Practical Spatial System in Indonesia:***

Development of spatial data systems in Indonesia have actually been very active and conducted by many different research groups under universities or government-based institutions. To date a dozens of varied spatial systems have ever been built to explore mostly on economic and environmental issues such as the use of scalable vector graphic to calculate taxes for land and building objects (Sutanta H. and Sularno, 2004), development of 3D cadastre (Aditya, T., 2009; Hendriatiningsih, S., 2011; Hendriatiningsih, S., 2012), city flooding simulation (Supriana, I. and A. Mirandi, 2009), and mitigation system for natural disaster (Heliani, L.S., 2007). According to Amhar (Amhar, F., 2006), some government-based agencies have actively participated in ALOS Project such as conducted by Indonesia Soil Research Institute to measure land degradation and mass movement, National Coordinating Agency for Surveying and Mapping to develop topographic map for certain area of Indonesia archipelago, and the Ministry of Forestry to monitor forest resources. Sutanta (2008) have even studied the utilization of Internet to distribute spatial data in the scale of the district local governments in order to reach wider society in the lowest administrative areas. Although various spatial

systems have been developed so far, however it is hard to find a system that deals with the issues causing social conflict. This phenomenon is a contrast to the fact that many studies have been conducted to analyze social conflicts and violences happening among Indonesian society. It seems many local district authority are reluctant to deliver objective solution to settle these conflicts.

### ***Development Strategy using SWOT Analysis:***

Analysis to measure local environment where the system is deployed is a vital step towards defining a strategy to conduct system development. The objective of the analysis is to identify any significant factor influencing system development, and hence it enables the measurement of the condition of each factor in an objective manner. The first step towards this analysis is to list any factor influencing spatial system development which comes from both internal and external aspect as given in Table 1. It is then continued with SWOT (Strength, Weakness, Opportunity, and Threat) analysis to develop a set of combination from these aspects in order to disclose any potential problems interfering system development. Matching the strengths (S) and the weaknesses (W) of the system to the opportunities (O) and the threats (T) from surrounding environment as given in Table 2 enable the convergence of

internal and external factors to support system development. It means the strategy to conduct system development has reached the following conditions:

- The strengths of the system could be used to eliminate the threats from external factors.
- The opportunities offered by external factors could be used to minimize system weaknesses.

- The synergy between the strengths of the system and the opportunities offered by external factors leads to empower system functionality.

The existence of the red zone i.e. the combination between the weakness of the system and the threats from the external factors could clearly be identified and become the subject to avoid in the development process.

**Table 1:** Internal and external factor affecting the developed spatial system.

Factor	Component	Positive	Negative
Stakeholder (External)	<ul style="list-style-type: none"> <li>• Government</li> <li>• Society</li> <li>• Religious Groups</li> </ul>	<ul style="list-style-type: none"> <li>• Users need accurate and objective information on PPW and the root of their conflicts (O1).</li> </ul>	<ul style="list-style-type: none"> <li>• There are fanatic individuals which question the development of spatial system for PPW (T1).</li> </ul>
Supporting Resources (External)	Available Data	<ul style="list-style-type: none"> <li>• Available data such as elevation data set from SRTM and photo satellite can be used to create 3D visualization of city environment (O2).</li> <li>• Fast changing data such as residents housing can be simplified by more static data such as residents settlement from photo satellite (O3).</li> </ul>	<ul style="list-style-type: none"> <li>• Need survey to collect data of PPW, distribution of local population and the infrastructure of transportation network (T2).</li> <li>• SRTM data shows rough presentation of earth surface (T3).</li> </ul>
	Third party product	<ul style="list-style-type: none"> <li>• Some application such as MS Office is cheap and very common, and add system usability such as to data update (O4).</li> <li>• Machines with high computing resources are easy to find in market and cheap (O5).</li> </ul>	<ul style="list-style-type: none"> <li>• Need extra expenses to use the product of third party (T4).</li> </ul>
Technology Utilization (Internal)	System Development	<ul style="list-style-type: none"> <li>• Photo satellite can be used to acquire data of PPW, distribution of local population, and infrastructure of transportation network (S1).</li> <li>• A set of computing methods can be utilized to create and smooth 3D visualization (S2).</li> <li>• Quantitative approach is employed to develop 3D city model and spatial analysis to handle the issues of PPW (S3).</li> </ul>	<ul style="list-style-type: none"> <li>• Deployment of spatial system requires vary spatial data such as geographic coordinate, land elevation, the existence of building objects, distribution of population, etc (W1).</li> <li>• System development consumes some resources such as capital, time and computing complexities (W2).</li> </ul>
	System Usability	<ul style="list-style-type: none"> <li>• The developed system would be capable of delivering accurate and objective information on PPW in 3D with regard to their existence and interaction with surrounding environment (S4).</li> </ul>	<ul style="list-style-type: none"> <li>• System needs routine update on the data (W3).</li> <li>• Personnel to update data are potentially weak on handling spatial system (W4).</li> </ul>

**Table 2:** Result of SWOT analysis.

Spatial system	Opportunities	Threats
Strengths	<ul style="list-style-type: none"> <li>• O1 vs. (S3 and S4)</li> </ul>	<ul style="list-style-type: none"> <li>• T1 vs. (S3 and S4)</li> <li>• T2 vs. S1</li> <li>• T3 vs. S2</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>• W1 vs. (O2 and O3)</li> <li>• W2 vs. O5</li> <li>• W3 vs. (O3 and O4)</li> <li>• W4 vs. O4</li> </ul>	<ul style="list-style-type: none"> <li>• T1 vs. W2</li> <li>• T2 vs. (W1 and W3)</li> <li>• T3 vs. W2</li> <li>• T4 vs. W2</li> </ul>

### Conclusion:

The strategy to employ geospatial analysis as a basis to evaluate the problem of establishing public places of worship in Indonesia has been developed based on SWOT analysis. It is motivated by quantitative approach delivered by geospatial analysis which carries objective evaluation on this issue. Thus social conflicts based on worship location can fairly be examined. Result from SWOT analysis shows that the strategy to develop geospatial analysis to counter the issue of establishing public places of

worship in Indonesia is feasible. The approach also revealed the strength of geospatial analysis and the ability required to manage them.

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