The Waqf Cemetery Information System

R Komalasari
Program Studi Manajemen Informatika, Politeknik LP3I Bandung, Jl Pahlawan No. 59 Bandung 40123
Jawa Barat, Indonesia

Email : ritakomalasari@plb.ac.id

Abstract. The Waqf cemetery information system is a web-based system that purpose is to create a complete and accurate database describing the real conditions of the Waqf cemetery land in Karees, Cibeunying, Bojonegara and Tegallega area. The method of research is the waterfall model that carried out through literature study on the legislation related to the Waqf data collection, basic database, and system development theory, the previous data survey as the basic information in the collection of Waqf land mainly at Gedebage and Ujung Berung areas, a primary survey conducted with a direct review in the field to record the waqf land in Karees, Cibeunying, Bojonegara and Tegallega areas, the design phase of designing Waqf cemetery information system. The results of a field survey obtained of the Waqf cemetery land 36.547 m² with extensive details of the cemetery land that has been certified are 19.751 dan 16.796 not yet certified, status of the legality of the Waqf land are 22 Cemetery locations scattered in nine sub-districts, 19.571 m² area. The waqf cemetery information system that has been built has advantages in accelerating the search process, report and statistical information data of Waqf/individual/private cemetery land, to save time and eliminate human mistakes and to improve services to the community.

1. Introduction
Indonesia has an institution that is expected to be able to improve social welfare, one of them in the form of Waqf. The form of Waqf can be a land and building that is worship and social, such as mosques, cemeteries, and others. The public cemetery site is a land area provided for the purpose of the funeral for everyone without distinguishing the religion and group, whose management is conducted by the district government of level II or village government. Cemetery management is still carried out by recording in the application ledger of burial land and the data of the bodies and heirs. The number of tombs at the public cemetery site (TPU) cannot be remembered by cemetery guards. This makes it difficult for managers to search for cemetery data. It is necessary to build an information system that can be used by the cemetery service for burial ground data and the system that can provide cemetery information [1].

Cemetery land processing Information system is one of the services that can be given by the Government for its citizens. This research differs from the previous research in terms of the management of cemetery land data using the land of Waqf. The following are some research related to The Cemetery land processing information system. Sefa Sari et al [2] proposed the Cemetery Information System (CIS) with web-based GIS that collects all the existing data in Sivas Municipality Cemetery Directorate in a common database, to create digital maps of cemeteries. Abdul Rauf Abdul Rasam et al [3] proposed a GIS, GPS, Google Earth and other ICT technologies in developing a digital Muslim cemetery information system in Section 21, Shah Alam, allowing the user to perform a database query for grave or death searching, provided user with map direction of the detailed spatial death information. Thien Ee
Sien [4] proposed the e-Cemetery portal to increase the efficiency of the existing Cemetery Management systems, digitized the cemetery culture by using the Rapid Application Design (RAD) approach to develop the system but it has some limitation as it does not address the various security issues. Johan Liebens [5] proposed mapping and inventorying of historic St. Michael’s Cemetery in Pensacola, Florida, the mapping involved a global positioning system receiver to establish reference points and a total station survey of individual marked graves, borders, and fences data was imported into a geographic information system to produce an accurate digital map and database. Yohannes Yahya Welim et al [6] proposed an information system that able to reduce errors in recording the data cemetery, the physical evidence SKRD letter/receipt can be printed directly after every cemetery and automatically process the data stored in the database, and help the cemetery staff to work efficiently.

Judging from its existence, the land Waqf comes from Islamic law, which is enforced as national law. Indonesian state adheres to the principle of Pancasila which entitles its people to carry out the rules according to their religious beliefs [7]. In Indonesia, waqf assets such as land reached 3.99 billion square meters spread over 429.911 locations across Indonesia. Therefore, the asset of waqf land in Indonesia is the largest asset in the world. [8], but the reality of waqf management in Indonesia is far behind if we see other Muslim majority countries such as Egypt, Saudi Arabia, Turkey, Jordan, Kuwait have optimally developed productive waqf [9]. A large number of waqf lands are still underdeveloped due to financial and management constraints faced by waqf institutions [10]. The absence of legal provisions for the administration of waqf in the past had resulted in inefficient and unsystematic administration of waqf land or properties [11]. Different opinions often arise as most people in Indonesia agree that Waqf is merely for social and should be performed in ways determined by Islam [12]. The issues of the sustainability of valuable waqf properties have not yet been explored especially with regards to sustaining and enhancing the value through sound principles of property management [13]. As mandated by Article 1 points (4) of Law No. 41 of 2004 on waqf, then an institution or person in charge of receiving waqf from wakif tasked to manage the land which is generally called as Nazhir. Waqf land that has not been certified due to the donated land entrusted to individual Nazhir even though considering the status of the individual Nazhir that certainly not as strong as the Institution would have posed its own difficulties in managing the waqf land [14]. With the consideration that the practice of waqf that occurs in the life of society has not been fully orderly and efficient so that in various cases the waqf property is not maintained and managed by Nazhir as it should be. Such a condition is not only because Nazhir's negligence or inability in managing and developing waqf property but because of the attitude of people who are less concerned or have not understood the status of waqf property that should be protected for the general welfare in accordance with the purpose, function, and allocation of waqf [15].

The Waqf cemetery information system is a web-based system that purpose is to create a complete and accurate database describing the real conditions of the Waqf cemetery land in Karees, Cibeunying, Bojonegara, and Tegallega area, The method of research carried out are through literature study method on the legislation related to the Waqf data collection, basic database, and system development theory, the previous data survey as the basic information in the collection of Waqf land mainly at Gedebage and Ujung Berung areas, a primary survey conducted with a direct review in the field to record the waqf land in Karees, Cibeunying, Bojonegara and Tegallega areas, further the design phase of designing Waqf Cemetery information system. Upon the implementation of this system, we expect improvements in the quality and effectiveness of public service provision [16].

2. Method
The system analysis and design methodology is the waterfall model which was originally conceived for software development; hence the focus is on programming. The key phases of the waterfall model are the analysis and design phases. The analysis phase focuses on understanding the needs of the organization. The design phase focuses on designing the physical aspects of a system to support the needs of the organization [17]. A method that serves to describe or give an overview of the land data Waqf/individual/private as Cemetery land studied through a survey that has been collected, conducting an analysis of the actual conditions to identify the root of the problem and develop an information system
that may be carried out to further the arrangement of recommendations and management priorities alternative, handling/control and supervision of land waqf/individual/private by Cemetery Service in Bandung (See Figure 1).

Figure 1. Waqf Land Data Collection Methodology

3. Results and Discussion
System developer needs to gather information about the organization, goals, priorities, and details about current information systems before they can proceed to develop a new system [18]. The approach of gathering information on the Waqf/individual/private land presented in Figure 2.
3. Field Survey Activities
Survey is divided into three regions namely, Karees, Cibeunying, Bojonegara, and Tegallega region. The results of the field survey in Karees region obtained three locations of the tomb of the Waqf/individual/Private in three sub-districts: Regol, Kiaracondong, and Batununggal with a tomb land area of 2.978 m² (Table 1).

Table 1. Recapitulation of the waqf/individual/private cemetery land in Karees survey area

| No. | DISTRICT   | SubTotal | Certified | Not Certified | SubTotal | Certified | Not Certified |
|-----|------------|----------|-----------|--------------|----------|-----------|--------------|
|     |            | Location | Location  | Location     | Location | Location  | Location     |
| 1   | REGOL      | 1        | 414       | 1            | 414      |           |              |
| 2   | KIARACONDONG | 2        | 1.916     | 1            | 1.778    | 1         | 138          |
| 3   | BATUNUNGGA | 4        | 1.648     | 1            | 546      | 3         | 1.100        |
|     | TOTAL      | 7        | 3.978     | 2            | 2.192    | 2         | 684          |

In Tegallega, there are 20 locations of the waqf/individual/private cemetery land that is scattered in four sub-districts: Bandung Kulon, Astanaanyar, Babakan Ciparay and Bojongloa Kidul with a cemetery area of 14.079 m² (Table 2).

Table 2. Recapitulation of the waqf/individual/private cemetery land in Tegallega survey area

| No. | DISTRICT       | SubTotal | Certified | Not Certified | SubTotal | Certified | Not Certified |
|-----|----------------|----------|-----------|--------------|----------|-----------|--------------|
|     | Location       | Location | Location  | Location     | Location | Location  | Location     |
| 1   | BANDUNG KULON | 6        | 3.848     | 4            | 1.977    | 2         | 1.871        |
| 2   | ASTANAANYAR    | 13       | 6.982     | 2            | 3.912    |           |              |
| 3   | BABAKAN CIPARAY| 9        | 4.981     | 4            | 1.066    | 2         | 2.375        |
| 4   | BOJONGLOA KIDUL| 6        | 2.851     | 2            | 590      | 4         | 2.286        |
|     | TOTAL          | 20       | 14.079    | 12           | 7.545    | 8         | 6.532        |

In Bojonegara area there are 19 of Waqf/individual/private cemetery land spread in four sub-districts namely: Sukajadi, Cicendo, Sukajadi and Sukasari with a cemetery land area of 8.300 m² (Table 3).
### Table 3. Recapitulation of the waqf/individual/private cemetery land in Bojonegara survey area

| No. | DISTRICT  | SubTotal | Certified | Not Certified |
|-----|-----------|----------|-----------|--------------|
|     | Location  | Area M²  | Location  | Area M² | Location  | Area M² |
| 1   | SUKADJAD  | 15       | 4.805     | 4       | 2.400     | 11      | 2.405 |
| 2   | CICENDO   | 2        | 964       | 2       | 964       |         |       |
| 3   | SUKASARI  | 1        | 126       |         | 126       |         |       |
| 4   | SARIJADI  | 1        | 2.405     |         | 1        | 2.405   |       |
|     | TOTAL     | 19       | 8.300     | 6       | 3.364     | 2       | 3.531 |

Results of field survey in Cibeunying area obtained three locations of the Waqf/individual/private cemetery land located in 3 (three) sub-districts are: Cidadap, Coblong and Cibeunying Kaler with a total cemetery land area of 10.190 m² (Table 4).

### Table 4. Recapitulation of the waqf/individual/private cemetery land in Cibeunying survey area

| No. | DISTRICT  | SubTotal | Certified | Not Certified |
|-----|-----------|----------|-----------|--------------|
|     | Location  | Area M²  | Location  | Area M² | Location  | Area M² |
| 1   | CIDADAP   | 2        | 6.650     | 2       | 6.650     | 1       | 2.450 |
| 2   | COBLONG   | 1        | 2.450     |         | 1        | 2.450   |       |
| 3   | CIBEUNYING | 8        | 1.090     | 8       | 1.090     |         |       |
|     | TOTAL     | 11       | 10.190    | 2       | 6.650     | 1       | 2.450 |

#### 3.2. The Implementation of Waqf cemetery information system

This system is used to manage the data of the waqf/individual/private cemetery land at the Cemetery Service of Bandung City, where the application system at any time can carry out the entire data consolidation automatically. The Waqf/individual/private cemetery land database application was built in order to facilitate the recording and reporting of the Waqf/individual/private tomb data accurately, quickly and on time.

The benefits that can be obtained is to improve the operational performance of Bandung Cemetery Services in implementing effective and efficient services to the community [1] encouraging the creation of electronic correct data availability related to the management of cemetery data and facilitate the storage and data archiving, accelerate the search process and build the data centre of Waqf/individual/private cemetery land and standardization reporting format.

The application is a web application that connects to a local network or Internet computer and requires only a browser to be able to run it. The procedure of using this application starts with the advent of the opening screen with the Login page menu consisting of "User Id" and "Password" as authentication (Figure 3).
Enter your Username and Password into the login page, in order to be able to log in to the Database application. Figure 4 is the home view for users with root-level access.

To make it easier to run frequently used menus, here is a description of the menus in the Database application.

| Menu      | Shortcut | Function                                                   |
|-----------|----------|------------------------------------------------------------|
| Beranda   |          | Go to Page                                                 |
| Data Master |         | Add/Edit/View/clear the Waqf Cemetery land data            |
| Pengguna  |          | Add/Edit/View/delete User data                            |
| Halaman   |          | Add/Edit/delete/view pages                                |
Data Master Menu serves to do add/edit/view/delete data of Waqf cemetery land (Figure 5).

Table 6 shows descriptions of the buttons or shortcuts in the Data Master menu.

| Button/shortcut | Function | Description |
|-----------------|----------|-------------|
| View data       | Select the Waqf cemetery land data to be displayed on the table, then press shortcut to view Waqf cemetery land data. |
| edit data       | Select the waqf cemetery land data to be edited on the table, then press shortcut to edit Waqf cemetery land data. |
| Delete          | Select the waqf cemetery land data to be deleted on the table, then press shortcut to delete Waqf cemetery land data. |
| Add             | Add data. Fill in advance Waqf data on the question form add master data, then press Save to save the data. |
| Statistic       | Displays a statistical graph. Press the Statistics button displays the statistics of the Cemetery land data recapitulation based on the selected year. |
| Button/shortcut | Function | Description |
|----------------|----------|-------------|
| Report         | Report   | Press the report button, fill in the month and year, then press the “to Excel” button to have the output report in Excel form |

**Figure 6.** Add Data Waqf Land Form on the Master Menu

User Menu aims to add/edit/delete the application user’s of the Waqf cemetery land (Figure 7).

**Figure 7.** User Menu Display

Page menu serves to add/delete/edit new pages and menus in the application of the Waqf cemetery land database (Figure 8).
4. Conclusion

From the results of the overall analysis that has been done according to the scope of research, can be expressed several conclusions: (1) The results of a field survey obtained of the Waqf cemetery land 36,547 m² with extensive details of the cemetery land that has been certified 19,751 dan 16,796 not yet certified. (2) Status of the legality of the Waqf land is 22 Cemetery locations scattered in nine sub-districts, 19,571 m² area. (3) Status of the legality of Waqf land has not been certified and have Akta Ikrar Wakaf/AIW are 13 cemetery locations scattered in 8 sub-districts, 13197 m² area. (4) Status of the legality of Waqf cemetery land that has not yet certified and does not have AIW are in the total of 36 cemetery locations scattered in 5 districts, 9,205 m² area. (5) a platform-web-based waqf cemetery application that has been built has advantages in accelerating the search process, report and statistical information data of Waqf/individual/private cemetery land, to save time and eliminate mistakes and to improve service services to the community.

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