A Study on the History and Development of the Javanese Mosque
Part 3: Typology of the Plan and Structure of the Javanese Mosque and Its Distribution

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Abstract

This paper investigates and analyzes a typology of the plan and structure of the Javanese mosque and its distribution. The study will focus on the plan of the main prayer hall and the soko guru principle structure (master pillars in the centre of the main prayer hall, supporting the upper hipped roof of the mosque) since these two elements and the roof are the main characteristics of the Javanese mosque. Until today these were generally well-preserved elements. The study investigates and analyzes 127 mosques that were constructed in the 15th-19th centuries in Java. Based on this analysis, the paper argues that the main/original mosque type is square in plan with four master-pillars in the centre of the main prayer hall. It also finds and argues that there are many variations on these two elements in its development, but the main type is evenly spread throughout Java Island.

Keywords: typology; plan of main prayer hall; soko guru; Javanese mosque; distribution

1. Introduction

Even though many scholars have argued that the original characteristics of Javanese mosques were square in plan with four master pillars in the centre of the main prayer hall, their arguments were not developed with a set of completed data in their analysis. Their arguments were only general statements without establishing reliable evidence. There is no complete study on the typology of the Javanese mosque. Moreover, existing studies of Javanese mosques did not also include Javanese mosques of all periods from the 15th-19th centuries.

This study investigates and analyzes the typology of the Javanese mosque based on the plan of the main prayer hall and the structure, especially the main pillars or soko guru principle in the central main prayer hall. These two elements are parts of the main characteristics of the Javanese mosque and until today they have been generally well-preserved elements.

Based on this analysis, the main and original type of Javanese mosque plan and its variations will be presented and argued. This paper also analyses their distribution in Java. The main sources of this study were research field surveys and documentary studies. The data collection was accumulated by the author when the author worked at Masjid2000 in Bandung (ITB) in 1999 and was done by conducting field research throughout the island of Java in March 2004. The study investigated as many historical mosques in Java as possible by measuring, taking photos, and through interviews. This study analyzed 127 mosques that were listed in Table 1.

Unfortunately, many original historical mosques could not be found and identified because they did not exist anymore or were only ruins. Some of them were already demolished or were totally changed to new mosque buildings. Thus, the main prayer halls' plans and structures could not be identified. However, in order to describe where, what, and how many unidentified mosques appeared in this study, they are still shown in the table. Conversely, mosques that were constructed in the twentieth century are excluded from this study because there are so many different types with no strong relation to the search for a main/original type of Javanese mosque. Moreover they require a further study.

2. Basic Requirements of Space/Spatial Elements of the Javanese Mosque

Before analysing the typology of plan and structure, this paper will describe the basic requirements of space and spatial elements of the Javanese mosque.

a. Prayer hall/praying space

Because the mosque serves as the house of worship or the place of prostration, a prayer hall is the basic requirement of mosques. It is mostly large and open without partition, so that Muslims can pray together in this space. In the Javanese mosque, the prayer hall always has walls as the boundary of the space or building enclosure. There are no Javanese mosques' without these walls. There are walls as free standing elements without structural meaning, and others
| N. Area | Province/ | City | Name | Founded | Type | Remark |
|---------|-----------|------|------|---------|------|--------|
| 1       | Banten    |      | Ag. Banten | 1556 | ● | b |
| 2       | Banten    |      | Kauhan | c. 1570s | ● | b |
| 3       | Jawa Barat |      | Pelaga | c. 1583 | ● | d |
| 4       | Jawa Barat |      | Preciren Tinggi | c. 1611 | ● | d |
| 5       | Jawa Barat |      | Cukuran | c. 1590 | ● | b |
| 6       | Jawa Barat |      | Cikoteng | c. 1646 | ● | b |
| 7       | Jawa Barat |      | Cangin | 1869 | ● | a |
| 8       | Jawa Barat |      |  | 1888 | ● | a |
| 9       | Jawa Barat |      | Ag. Pondoklegan | 1870 | - | e |
| 10      | Jawa Barat |      | Ag. Seneg | c. 1712 | - | a |
| 11      | Jawa Barat |      | Cilegon | c. 1717 | - | a |
| 12      | Jawa Barat |      | Sumpah | c. 1910 | ○ | b |
| 13      | Jawa Barat |      | Desa Rui | c. 1960 | ○ | b |
| 14      | Jawa Barat |      | Cilacap | c. 1694 | ● | b |
| 15      | Jawa Barat |      | Cilacap | c. 1695 | ● | b |
| 16      | Jawa Tengah |      | Cilacap | c. 1719 | ● | b |
| 17      | Jawa Tengah |      | Yogyakarta | 1728 | ○ | b |
| 18      | Jawa Timur |      | Salatung | c. 1680 | - | e |
| 19      | Jawa Timur |      | Kendal | c. 1648 | - | e |
| 20      | Jawa Timur |      | Kendal | c. 1704 | - | e |
| 21      | Jawa Timur |      | Kendal | 1717 | ● | b |
| 22      | Jawa Timur |      | Kendal | 1736 | ● | b |
| 23      | Jawa Timur |      | Kendal | 1758 | ● | b |
| 24      | Jawa Timur |      | Kendal | 1760 | ● | b |
| 25      | Jawa Timur |      | Kendal | 1761 | ● | b |
| 26      | Jawa Timur |      | Kendal | 1767 | ● | b |
| 27      | Jawa Timur |      | Kendal | 1786 | ● | b |
| 28      | Jawa Timur |      | Kendal | 1801 | ● | b |
| 29      | Jawa Timur |      | Kendal | 1815 | ● | b |
| 30      | Jawa Timur |      | Kendal | 1828 | ● | b |
| 31      | Jawa Timur |      | Kendal | 1829 | ● | b |
| 32      | Jawa Timur |      | Kendal | 1840 | ● | b |
| 33      | Jawa Timur |      | Kendal | 1870 | ● | b |
| 34      | Jawa Timur |      | Kendal | 1889 | ● | b |
| 35      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 36      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 37      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 38      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 39      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 40      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 41      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 42      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 43      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 44      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 45      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 46      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 47      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 48      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 49      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 50      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 51      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 52      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 53      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 54      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 55      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 56      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 57      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 58      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 59      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 60      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 61      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 62      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 63      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 64      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 65      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 66      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 67      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 68      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 69      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 70      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 71      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 72      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 73      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 74      | Jawa Timur |      | Kendal | 1527 | ● | b |
| 75      | Jawa Timur |      | Kendal | 1527 | ● | b |

Legend:
- ▲ = self-research study/file survey
- ○ = documentary study

Special Remarks:
1) The four soko gurus exist and they are raised up by new columns.
2) The existing mosque was built in c. 1851.
3) There are two mosques. The small one is believed to be the original (now it is only soko guru) and the big one was built in c. 1856/1857.
occur as structural members for supporting the roof. The veranda (pendopo/serambi), as shown in many Javanese mosques, is a later addition.2

b. Mihrab

The mihrab is a space for the Imam, the leader of prayer. In fact, in Arabian lands, the earliest mosque

that was developed from the house of the Prophet in Medina does not use this element.3

However, in later developments the mihrab became the most significant feature of mosque architecture in the Muslim world. In Java, all historical mosques have a mihrab, located on the western side of the prayer-hall. This element also indicates the direction of qibla, facing Mecca.

c. Roof and its structure

In areas of tropical monsoon, mosques always have a roof that covers the main praying space. Compared to the mosque architecture in Arabian lands and other Muslim countries, the roof form of the Javanese mosque is quite different. The two and three piramidal stacked-roofs are frequently found in Java.

The roof of the Javanese mosque becomes the most significant element not only for protection from rain and sunlight but also as a symbol and identity. These roofs are supported by wooden pillars. Among these pillars, there are main/master pillars in the centre of the main prayer hall, known as soko guru.

3. Typology of the Javanese Mosque Based on Plans and soko guru

The data shows that the majority of Javanese mosques constructed during the 15th-19th centuries have a square plan (81 mosques). Only some mosques are rectangular in plan (14 mosques). The other plan types are very few in number.

In the principle structure, the Javanese mosques mostly have four main pillars (soko guru) in the centre of the main prayer hall (69 mosques). Several mosques have no pillars or soko guru in the prayer hall. The others have more than four pillars and one pillar (known as soko tunggal) in the centre of the main prayer hall. The detailed number of mosques for each type of plan and structure is summed up in Table 2.
The data shows that the plan and principle structure of 30 historical mosques could not be identified because they did not exist anymore or were only ruins. Some of them were already demolished or totally changed into new mosque buildings.

Table 2: The Number of Mosques by Type of Plan and Principle Structure

| Type          | With four soko guru | With one soko guru | Without soko guru | With > four soko guru | Unidentified |
|---------------|---------------------|--------------------|-------------------|-----------------------|--------------|
| square        | 69                  | 4                  | 6                 | -                     | 2            |
| rectangle     | 5                   | -                  | 5                 | 4                     | -            |
| other         | -                   | -                  | -                 | 1                     | -            |
| unidentified  | -                   | -                  | -                 | -                     | 30           |

Based on the analysis of plans and structures, the Javanese mosques could be categorized into two types: first, the main type, and second, its variations. Then, among these variations, several types could be identified: the square plan with one pillar in the centre of the prayer hall (soko tunggal type), the square plan without soko guru, the rectangular plan with four soko guru (mostly in Cirebon), the rectangular plan without soko guru (three mosques in old Sundanese villages and two mosques as a small mosque/langgar of merchants), the rectangular plan with more than four soko guru, and finally, all others. All of these types will be explained below.

3.1 Main/Original Type

According to the analysis of plan and structure, the main type of Javanese mosque is square in plan with four soko guru in the centre of the main prayer hall. It can also be argued that the original type of Javanese mosque is the same as the main type because it is the majority and was built in the same period. Many of the earliest Javanese mosques in Demak, Jepara, Kudus, Cirebon Banten, Surakarta, and Yogyakarta show this type.

Moreover, it always appeared in the Agung Mosque in Java except the Agung Mosque of Kasepuhan in Cirebon (founded in c. 1500). For example, these include the Agung Mosque of Demak (founded in 1479) in Demak Sultanate, the Agung Mosque of Banten (founded in 1556) in Banten Sultanate, the Agung Mosque of Surakarta (founded in 1757), and the Agung Mosque of Yogyakarta (founded in 1773) in Mataram Sultanate.

The Agung Mosques were founded by Sultans as the most important mosques in the Sultanate/state. They were always located on the west side of the alun-alun (Open Square) and near the palace of the Sultanate in the political centre of the city. Usually they were also the largest in size compared to other mosques. It is understandable that other mosques tend to follow the Agung Mosque in type and this type became the majority in number.

Compared to the Agung Mosques in Java, the exceptional features of the Agung Mosque of Cirebon lay in its extraordinary roof (the upper roof does not end in a point at its topmost part) and structure (eight soko guru). This existing appearance is always discussed by some architects and historians today. In fact, tradition ascribed that the Agung Mosque of Kasepuhan originally had a mustaka (crown), which...
was surmounted on the top of the roof such as in other Agung Mosques. The mustaka also structurally means the roof has a point at its topmost part. However, it is believed that the mustaka of the Agung Mosque of Kasepuhan was removed.⁴

### 3.2 Variation Type

#### 3.2.1 Square plan

a. With one soko guru (Soko Tunggal)

This type of mosque usually has a square plan with only one pillar in the centre of the main prayer hall. The pyramidal roof of the mosque is supported by this central pillar. In Java, mosques that have only one pillar in the centre of the prayer hall are better known as Soko Tunggal Mosques, where the word "tunggal" means "single" or "one".

There were four soko tunggal Mosques constructed during the 15th-19th centuries. The oldest one is Langgar Alit Soko Tunggal, located inside the Kraton (palace) Kasepuhan in Cirebon (founded in c. 1479). The others are Soko Tunggal Pekuncen in Kebumen (founded in c. 1719), Soko Tunggal Baitussalam (founded in c. 1871), and Soko Tunggal Darussalam (founded in c. 1913) in Banyumas. These three soko tunggal mosques are closely located to each other. However, up to the present stage of the study, there is no document or evidence that mentions these mosques have a relation to each other in history.

b. Without soko guru

Another type of mosque has a square plan without soko guru in the prayer hall. They are the Sumpah and Desa Bedji Mosques (founded in c. late 19c) in Cilegon (Banten Province), the Kebon Jeruk Mosque (founded in 1786) in Batavia, and others. The most significant example is the Selo Mosque (founded in 1787) in Yogyakarta special territory because it still appears in its original form. The mosque was founded by the Yogyakarta Sultanate and still exists in original form today. The term Selo means stone and it is believed that the mosque was constructed with stone.³ Its wall is very thick at approximately 80 cm.

#### 3.2.2 Rectangular plan

a. Without soko guru

This type of mosque has a rectangular plan without soko guru in the centre of the prayer hall. Consequently, the roof that covers the prayer hall never ends in a point at the top. There are five mosques that can be classified as this type. First, two mosques are regarded as a langgar (small mosque)⁶ for merchants. They are Langgar Tinggi Pekojan (founded in 1828) in Jakarta and Langgar Laweyan (founded in 1877) in Surakarta. These two mosques are located on the second floor and the first floor is usually for dormitories. The mosques were founded by Islamic merchants – in Batavia by Said Noom, an Islamic merchant and missionary, and in Surakarta by a Batik merchant.

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Fig.6. Plan with Pillar Composition of the Astana Mantingan Mosque (founded in 1559) in Jepara

Fig.7. Example of a Plan of the Soko Tunggal Mosque Type, Square Plan without soko guru Type, and Rectangle without soko guru Type
Second, three mosques existed inside an old Sundanese village. These are the mosques of Kampung Adat Pulo, Kampung Adat Dukuh, and Kampung Naga. All of these are located in the Priangan area, West Java Province. Even though there are some pillars in the prayer hall, they are not the same as the principle of soko guru. The mosque floor is usually raised around 50-60 cm from the ground.

b. With more than four soko guru

Structurally, mosques that have a rectangular floor plan should be without soko guru or with more than four soko guru. There are four mosques that can be categorized into this type. They include two mosques in Jakarta: Al-Makmur Raden Saleh Mosque (founded in c.1840) and Hidayatullah Mosque (founded in c. 1750). In fact, the construction dates of these two mosques are still questionable.

The others are Manonjaya Mosque (founded in 1834) in Tasikmalaya and Agung Mosque of Kasepuhan (founded in c. 1500) in Cirebon. The former is also known as the Agung Mosque in Tasikmalaya, founded by Bupati (regent) and supervised by the Public Work Department or BOW (Department der Burgelijke Openbare Werken) under the Dutch-Indies Colonial Government. The mosque was influenced by European style. The latter is known as the Agung Mosque of the Cirebon Sultanate.

c. With four soko guru

This type is a mosque that has four soko guru in the rectangular plan of the main prayer hall. In fact, this type can also probably be classified into a square plan with four soko guru (as main type), because the rectangular plan is not formed by structure but by the position of the walls, especially the eastern wall. The roof is also a pyramidal roof that ends in a point at the top.

These are found in several mosques in the Cirebon area, West Java Province. They are the Panjunan Mosque (founded in c. mid 16c), the Kaliwulu Mosque (founded in c. end 16c), the Sunan Gunung Jati Mosque (founded in c. 1542), and the Kejaksan Mosque (founded in c. mid 15c). Moreover, the original plan of Pajlagarahan (founded in c. 1452) and Pakambangan Mosque (founded in c. mid 15c) in Cirebon can probably also be classified into this type, but the original plans are not clearly identified. Because of many changes, the mosques are square in plan now.

All of these mosques were constructed in the 15th-16th centuries. Hence, this type is regarded as the earliest mosque type in the Cirebon area and is also examined as one of the early developments of the Javanese mosque. In contrast, the rectangle mosque plan type in other areas (outside Cirebon) that were constructed in the end of the 17thc appears in the later development of the Javanese Mosque.

3.2.3 Others

The other type means that the mosque's plan is neither square nor rectangular in plan. This type is very few in number. The study found an example at the An-Nawier Pekojan Mosque (founded in 1760) in Batavia.
This mosque has an L-shape plan and many pillars in the prayer hall. Probably, this mosque has been developed many times without maintaining the original plan or structure. Thus, the existing main prayer hall is not square or rectangular with many pillars in the prayer hall.

4. Distribution of Type

From this distribution map of the Javanese mosque type as shown in Fig.12., there are some places/cities where many historical mosques are located: Banten (founded by Banten Sultanate), Batavia/Jakarta (developed by the Dutch Colonial Government),
Cirebon (founded by Cirebon Sultanate), Yogyakarta and Surakarta (founded by Mataram Sultanate and its successors) then Demak, and beyond (Demak Sultanate).

The figure also shows that the main type is found in all of the main places/cities. It can also be identified that the main type is evenly spread throughout the Java Island and the variation type is mostly developed in some areas/cities of Java.

5. Conclusion

According to the analysis of the typology of plan and structure of the Javanese mosque, the conclusions can be summed up in the following points:

1. It is obvious that the main/original type of Javanese mosque is the square plan with four soko guru in the centre of the main prayer hall. This main type is evenly spread throughout the Java Island. However, there are some variations on the Javanese mosque type, but they are mostly developed in some areas/cities in Java.

2. It is argued that mosques with the rectangular plan are a later development since this type could be categorized as a variation type and was not constructed in the earliest times. However, the rectangular plan type with four soko guru, as shown on several mosques in Cirebon, is an exception, because all of the mosques were constructed in the 15th-16th centuries and are regarded as the earliest mosques in this area. In fact, it can also be argued that this type is no longer different from the main type of the Javanese mosque because the relationship between the soko guru, roof, and space underneath (plan) is much more significant than the plan with soko guru and enclosure walls. This argument is reinforced by the fact that all of the enclosure walls in this type are freestanding walls and not structurally supporting elements.

3. According to the main type, the rectangular plan with four soko guru of Cirebon and the Soko Tunggal mosque type become a very significant base to study the origin and early development of the Javanese mosque. At Hindu-Buddhist temples in Java, many soko tunggal structures occurred on several Javanese temple reliefs. My next study will deal with further research on this topic. A study on the origin and early development of the Javanese mosque will need not only historical and archaeological evidence but also an architectural point of view/analysis.

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Endnotes

1 The Masjid2000 was a group-conducted research and documented the Nasantara (archipelago) Mosques. At the first stage, the group did research and documentation on mosques in Java in 1999 and 2000, by a grand from the Institute of Technology Bandung (ITB[0]), Indonesia.

2 Bambang Setia Budi: 2004, pp.189-191.

3 According to Creswell, the Prophet's house was not considered a mosque because of its meager expression and multitude of secular functions. The architectural concept of a mosque held by the Prophet does not fit the model of the later Muslim civilization. For a detailed discussion, see Rasdi: 1998, p.52; Creswell: 1978, pp.4-6.

4 The legend of Menjangan Wulung described it. However, this local story is an extraordinary tale rather than a logical explanation of the structure of a mosque. It is believed that the Grand Mosque of Cirebon originally had a mustaka (crown) surmounting the top of the roof, but the crown was removed as a result of an incident brought about by a mystic named Menjangan Wulung, who attempted to eliminate Islam and its followers from Cirebon. See also Achadiati: 1990, pp.27-28.

5 In fact, the material is not stone. Probably, because of the thickness of the wall, people said stone, so-called Selo or Watu.

6 The term Langgar in Java means not only a small mosque, but also is not used for Friday prayer. This mosque is usually only for praying at the five prayer times and reciting the Koran.

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