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The architectural transformation of historic mosques in Javanese rural settlements

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Abstract. The formation of traditional Javanese villages often began with the establishment of a center for activity, generally a traditional mosque. Currently, several historic mosques in rural areas have survived with various changes. This study aims to explore the trends in the transformation of mosques. The research focuses on the area around Jatinom Village, Klaten, which is famous for its Islamic and Javanese culture. It assesses five historic mosques in the villages of Jatinom, Kadirejo, and Belangwetan. The research adopts a comparative case study method using observations, literature review, and interviews. The results show that (1) the mosques have changed from its traditional form; (2) four elements remain the same: the 2-3-tiered roof shape, the *soko guru* structure, the *mihrab*, and the main three doors in the front façade; and (3) two elements mostly change: the façade and the terrace. Understanding this trend would help the community to anticipate in preserving the historic mosques.

1. Introduction

The global community has made heritage and conservation as essential elements of urban development strategies. In fact, UNESCO has promoted the protection of cultural heritage as a strategy to achieve sustainable development [1]. Several global heritage initiatives have been adopted worldwide and many countries have national-level strategies for heritage and conservation. These strategies are important for learning about history, particularly at the local level. Local heritage provides a good opportunity for young people to learn traditional values. Therefore, some countries are developing a curriculum that teaches school children about history through heritage [1]. In this context, the integration of cultural-historical heritage in the curriculum would also cover the discussion of various levels of heritage and conservation. Specifically, this discussion is not only related to the mainstream monuments but also to local content.

The challenges related to heritage and conservation surpass the international and national levels. In fact, the heritage challenges at the local level are also crucial to be dealt with. Understanding cultural heritage requires a good comprehension of history. This would not only keep the memories from the past alive but also serves as a basis for future development. Heritage planning is not only about conserving the past but is also future-oriented. This includes the tangible and intangible aspects of heritage with particular attention to sustainability, as they relate to social, economic, and environmental issues [2].

Culture has become the central element of heritage which is passed on across generations. Culture presents a lifestyle, which, in turn, also reflects values and beliefs within society. This is embodied in several forms such as music, literature, art, food, clothing, the education system, etc., including



architecture which is closely related to historic buildings and structures [1]. Historic buildings contain information about the people and culture that built them and serves as symbols of cultural identity (reflecting the complexity of ideas and culture) and heritage [3]. Historic or old buildings have their own unique identity and character. This character is shaped by the elements that form the whole building, its building materials, decorative details, elements and interior spaces, sites, and its environment [4]. If the visual character of the building is not recognized and preserved, essential aspects of its character may be lost in the process of development [4]. One way to maintain old buildings is through building conservation. According to the Burra Charter which was revised in 1999, conservation is defined as all processes of looking after a place to retain its cultural significance [5].

Architectural heritage often links to geographical and socio-political features. For example, in the context of developing countries, such as Indonesia, heritage often involves artistic artifacts, tradition, and religious activities [6]. For example, considering Indonesia's Muslim majority, understanding community characteristics could be through observing the mosque in the area, whether or not it is an activity center.

As the largest Muslim country in the world, discussions of heritage and conservation in Indonesia often revolve around the position of Islamic culture in the country. Islam entered Java in the 14th century through trading activities of Javanese traders in coastal areas, such as Gresik and Tuban, who traveled back and forth between Malacca and Java [7]. Islam was spread by wandering preachers or scholars who became well-known figures in the village. Many established Islamic educational institutions which were later called pesantren, an Islamic boarding school [8]. These appear in the midst of rural areas. Pesantren often sit along the banks of large rivers in Java because at the time rivers were the primary inland access in Central and East Java.

In rural Java, besides establishing public boarding schools, Islamic preachers also often built mosques. This gave them an important status and they became well-known as the village founders. In the past, the mosques were known as the center of activity in rural settlements. Historically, mosques are essential buildings because of their authentic and traditional values. This is related to the history of the villages and the spread of Islam in the countryside. This phenomenon is fitting to the history of mosques as during Prophet Muhammad's era he opened the mosques for most community activities. Traditionally, mosques have two functions: (1) one side was covered with a roof made of palm leaves adjacent to the rooms belonging to Prophet Muhammad and (2) the opposite end of the mosque where the poor people spent the night as well as for those who have dedicated their lives to the learning the Koran and serve the Prophet [9]. The mosque had no specific architectural form. Therefore, a variety of architectural languages, forms, and functions is permitted.

Historically, mosques have a central position within the rural settlement. They used to define the local culture. Nevertheless, several historic mosques have been slowly transformed to embrace a more contemporary style. This underlines the need for this research because, so far, the study of old mosques in Java has focused more on royal mosques or mosques in the Javanese cities, while, studies of old mosques in rural areas have rarely been conducted. The study explores the architectural transformation of historic mosques in rural areas of Java. The research aims to establish the architectural characteristics of these mosques which could help the community in dealing with the heritage and conservation issues of religious buildings. This study offers a different research perspective on mosques which is relevant because a number of historic mosques in the rural area suffer from architectural transformation which contributes to a change of local identity.

2. Research methods

The study was conducted in three villages in Klaten Regency, namely Jatinom Village, Kadirejo Village, and Belangwetan Village. The research objects are the historical mosques in these villages, which were established by Islamic propagators. In Jatinom Village, Alit Mosque and Besar Mosque were studied; Mujahidin Mosque in Kadirejo Village; and Baiturrahman Mosque and Syarifuddin Mosque in Belangwetan Village. The study focuses on the architectural characteristics of the mosques which include the rural area settings, the appearance of the buildings, and their interior. Preliminary

observations showed that these three elements are sufficient in describing the character of all mosques that were used as research objects. Thus, further research focused on these elements.

The paper used a comparative case study approach to explore the architectural elements of five mosques in a Javanese village setting. The mosques were chosen to represent the historic religious building in a village environment in Indonesia. This selection was based on Law 11/2010 that stipulates that a heritage building or site should be over 50 years old. The mosques are located around Jatinom Village, Klaten District, a historical village which is famous for its Islamic traditions and Javanese culture. The fame of Jatinom Village is mostly linked to its position in the past as a land-gift for Ki Ageng Gribig, a famous Islamic figure in Java for his role in the royal service. This village has two historic mosques, inherited by Ki Ageng Gribig, i.e., Masjid Alit (the small mosque) and Masjid Besar (the great mosque). The other three mosques are located nearby Jatinom Village. Notably, one mosque is in Kadirejo Village, and two mosques are in Belangwetan Village.

The research focused on the physical characteristics of the mosques and the pattern of their transformation to reveal information about the mosques in the past and in the present. The study used an inductive approach and the observation began with one case to develop a set of architectural elements that documented how the alteration of the mosques affected it. In the end, it produced a set of elements for comparison among the research objects to see the tendency of architectural change. It is expected that this method would be able to produce recommendations on the best approach to heritage planning in villages, specifically, in conserving the local traditional value reflected by the mosques.

3. Result and discussion

3.1. Jatinom Village: an overview

Jatinom Village is located in Jatinom Subdistrict, Klaten Regency. This village once had the status of *perdikan* (land of gift) given by Sultan Agung to the Islamic propagator Ki Ageng Gribig, for his services to the sultan. After obtaining the status of *perdikan*, Ki Ageng Gribig built the first village and mosque in Jatinom, the Alit Mosque, as a starting place to spread Islam. The historical sites in Jatinom Village include the two Ki Ageng Gribig relics mosques, the Alit Mosque, located in the center of the village and the Besar Mosque with Ki Ageng Gribig's tomb situated in the south of the village near the Soka River.

The historic development of Jatinom Village is colored by significant historical events, such as the Dutch aggression, scorched earth events, Chinese uproar, and PKI rebellion. These events affected the socio-economic and cultural conditions of Jatinom Village. In the period that followed the Islamic reform movement, Muhammadiyah developed rapidly in the 1980s. After the Chinese uproar, shops on Jalan Raya Jatinom have been mostly owned by native Muslims. At present, Jatinom Village has a quite strategic position because it is crossed by the highway between Klaten and Boyolali that also connects the sub-districts around Jatinom. Jatinom Village has become a kind of small-town for its surrounding villages because of its trade area and two markets along the highway.

In Jatinom Village there are two village traditions that are still carried out today, namely Pekenan and the Yaa Qowiyyu or Saparan Traditions that are held in the middle of the Safar month. The Yaa Qowiyyu tradition attracts people from various regions, even from outside Central Java. Pekenan is a market tradition that is organized with four other villages in the vicinity. At the time of the harvest, the market is crowded with animal traders and agricultural equipment coming from the surrounding villages. Today, the hustle of both traditions greatly influences the use of space in Jatinom Village.

As a village with a Muslim majority, the existence of a mosque is important in the lives of its people. The two existing mosques, the Alit Mosque and the Great Mosque, mark the legacy of the local Islamic scholars and founder of the village. He intended to establish the village as a center for religious orientation in Jatinom and its surroundings. As the mosque was established by a famous Islamic figure, the coverage of the two old mosques is quite extensive. The mosques cover the area around Jatinom and have religious as well as cultural roles, in this case as a place of local tradition. The architectural conditions of the old mosques have undergone adjustments or changes due to physical, social, and cultural developmental demands. Mosques traditionally are important for the

community in Jatinom Village and its surroundings such as the villages of Belangwetan and Kadirejo. Two mosques in Belangwetan and one mosque in Kadirejo face the same problem as their original state has been altered.

3.2. The landscape

Old historic mosques in rural areas were mostly established by Islamic scholars. In the past, the mosque served as a starting place for the spread of Islamic teaching. There is an interesting phenomenon related to the position of old mosques in villages as they tend to be near water sources, in this case, rivers. These locations may be related to the process of spreading Islam, considering that in the past, rivers were the main access inland on Java Island [7]. The location close to a water source could also be because of the ease of accessing water for worship purposes. The location of old mosques in villages was different from the royal mosque in the old cities of Java, which were situated close to the center of government or power. These royal mosques were an integral part of planning the city center [10]. The setting of royal mosques was influenced by their proximity to political power, while rural mosques are more influenced by geographical or natural factors.

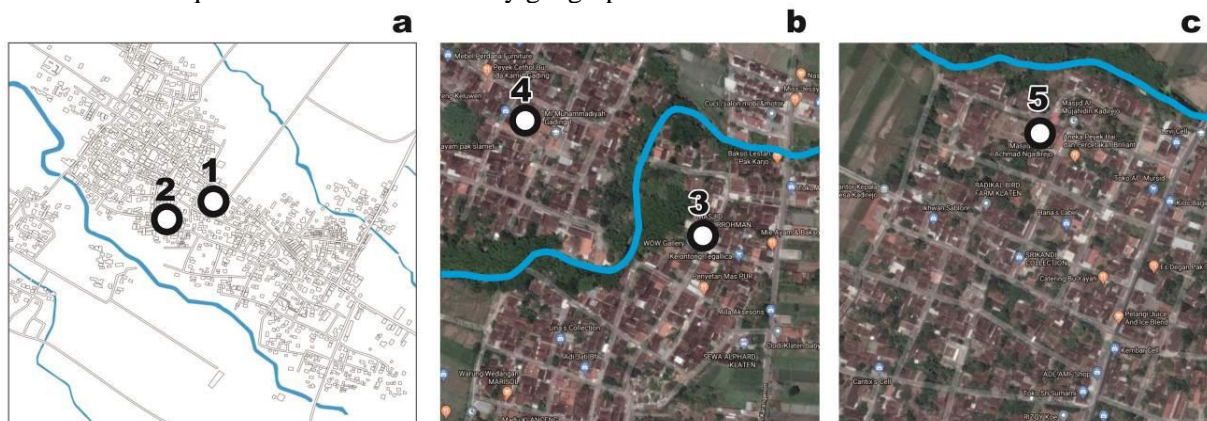


Figure 1. The setting of historic mosques in the three villages: (a) Jatinom Village: (1) Alit Mosque; (2) Besar Mosque; (b) Belangwetan Village: (3) Baiturrohman Mosque; (4) Syarifuddin Mosque; (c) Kadirejo Village: (5) Al Mujahidin Mosque

3.3. Historic mosques in the village

3.3.1. Case 1: Alit Mosque in Jatinom Village, the small mosque

Alit Mosque was founded by Ki Ageng Gribig in the mid-17th century. As the name suggests – Alit means small - it is a small mosque. Alit Mosque is located in the middle of the village, and there is a tomb to the west of the mosque. As the first mosque in the village, Alit Mosque is a symbol of the village's history. The manifestation of this role is seen during the village traditions, where processions start with prayers at this mosque. As a result of its small size, the mosque is only used for five daily prayers.

In front, the mosque has a yard with a gate on the east side. In the past, there was a pond around the mosque. The mosque has a 2-tiered roof with decorations on the top. This roof is supported by a structure of four main columns with interconnected tops called a *soko guru* structure. This structure is commonly used in Javanese traditional architecture. The four columns are positioned in the middle of the prayer room on a high foundation. In the interior of the prayer room, there is an interesting element, the *mihrab* (the place of prayer leader) with carved shapes on the edges. The interior elements of the mosque are still original, as only damaged parts have been replaced with material similar to the original. This is the policy of the mosque manager. In the front façade of the mosque, there are three doors to the prayer room from the terrace. The terrace is now used as a prayer room for female worshipers who previously prayed in the northern part of the mosque. The façade of the terrace

was altered by the addition of an arch shape at the terrace columns and the addition of a fence. These changes significantly change the appearance of the mosque's façade.

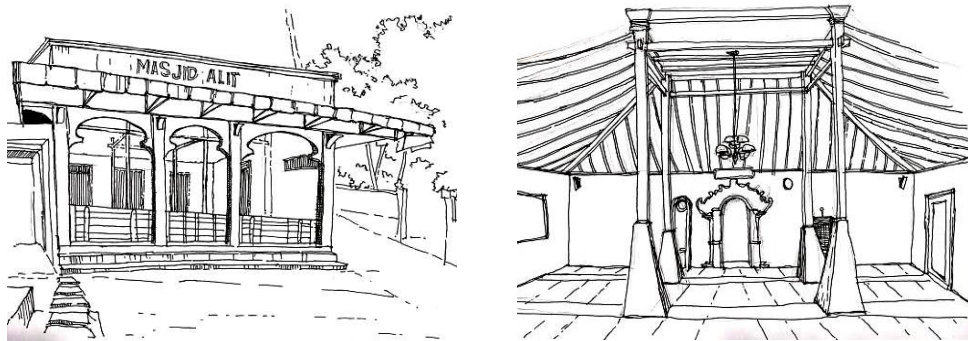


Figure 2. Alit Mosque

3.3.2. Case 2: Besar Mosque in Jatinom Village, the great mosque

The Great Mosque was built after the Alit Mosque. Unlike the Alit Mosque, the Great Mosque is located near the river in the southern part of the village. West of the mosque is the tomb of Ki Ageng Gribig, the founder of the village. This tomb and mosque are crowded with pilgrims during the Safar month. The mosque is heavily involved in the process of this pilgrimage tradition. At the front, there is a courtyard with a gate on the east side and access from the north and south sides. In the past, there was a pond around the mosque. The Great Mosque has a 3-tiered roof that tapers upward. Initially, the roof support structure was the Javanese traditional *Soko guru* structure made of wood. Currently, the structure of the *soko guru* is still maintained, but the material is replaced with concrete. In the interior of the mosque, there is a *mihrab* on the west side with a new, simpler form. The mosque's interior has changed quite significantly, especially with the use of new materials and forms, including the main columns. Above the prayer room, there is a circular shape with a picture of the sky. In the front façade of the mosque, there are three doors that connect the front terrace with the prayer room. The terrace is quite extensive, with a new façade in the arch form. The overall appearance of the Great Mosque is like a new mosque. This is because of the emergence of the Islamic reform movement in Jatinom Village, which has had an impact on the architecture of this mosque.

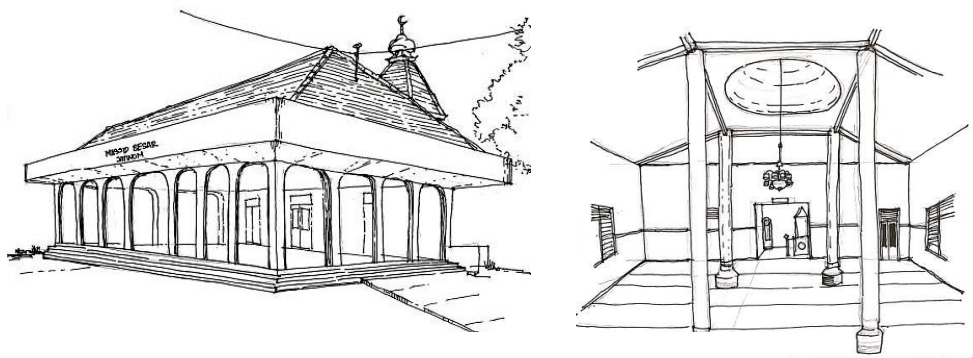


Figure 3. Besar Mosque

3.3.3. Case 3: Baiturrohman Mosque in Belangwetan Village

Baiturrohman Mosque was established on March 2, 1886. The founder of this mosque is unknown. Baiturrohman Mosque is located in the middle of the village found by the river. In the western part of the mosque, there is a tomb. At the front, the mosque has a courtyard with an entrance in the east without a gate, and access from the north and south sides. In the past, there was a pond north of the mosque. The Baiturrohman Mosque has a 2-tiered roof supported by four main columns (*sokoguru*) made of wood with a high foundation (*umpak*). This structure is situated in the middle of the main

room. A *mihrab* is found in the western part of the room. In front of the mosque, three doors lead to the prayer room. This section has been altered as the façade was extended to the outer edge of the terrace to gain extra prayer space. Consequently, at present, the Baiturrohman Mosque no longer has a foyer/terrace. Even though the overall look of the front part of the mosque has changed, the presence of three main doors remains the same. The transformation includes the change of the front roof from tiles into concrete. Consequently, the exterior of this mosque displays a completely new look.



Figure 4. Baiturrohman Mosque

3.3.4. Case 4: Syarifuddin Mosque in Belangwetan Village

The Syarifuddin Mosque was founded by Kyai Syarifuddin, an Islamic propagator. The exact year this mosque was established is not known with certainty but it was built earlier than the Baiturrohman Mosque (case 3) which was established in 1886. The Syarifuddin Mosque is near a river that flows in the middle of Belangwetan Village opposite the Baiturrohman Mosque (case 3). There is a tomb in the western part of the mosque and in front, there is a courtyard with a gate on the north side. In the past, there was a pond on the south side of the mosque. This mosque has a 2-tiered roof, which is supported by a structure of four main columns that are connected to the top (*soko guru* structure) made of wood. On the west side of the prayer hall, there is a *mihrab* with a new ornament at the top. Some interior elements have been updated but the authenticity of the *Sokoguru* in the middle of the room is still maintained. In the front façade of the mosque, there are three doors from the front terrace to the prayer room. Currently, the shape of the doors has changed, whereas, a curved shape with new styles and materials were added to the front terrace façade. The terrace is used by women for praying and studying. Overall, the outside appearance of the mosque resembles a new mosque. This mosque area also accommodates an Islamic elementary school.

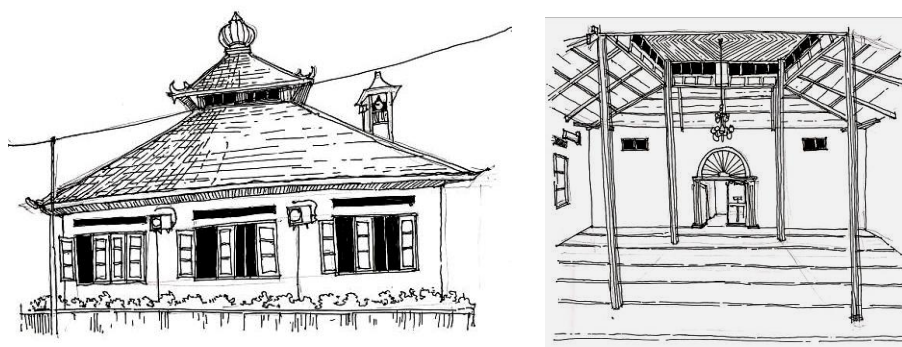


Figure 5. Syarifuddin Mosque

3.3.5. Case 5: Al Mujahidin Mosque in Kadirejo Village

It is not known with certainty when Al Mujahidin Mosque was founded. However, this is estimated to be around the time the Syarifuddin and Baiturrohman mosques were established, which is around the end of the 19th century. This mosque is near a river that flows in the northern part of the village. In the

western part of the mosque, there is a tomb. At the front, there is a courtyard with a gate on the north side. In the past, a pond surrounded the mosque. The architecture of this mosque is characterized by a 3-tiered roof shape which is supported by a structure of four main columns (*sokoguru* structure). The interior of the mosque is mostly original; on the west side of the room, there is a *mihrab* with curved openings. The mosque's façade has three doors that connect the terrace to the prayer room. This terrace is renewed by the addition of a reception room in the center and a series of curve-shaped elements. The terrace area is partly used for praying by female worshipers. While the interior is mostly original, the outside resembles a new mosque. Currently, the Al Mujahidin Mosque is merged with an Islamic elementary school building, and in the past, there was a boarding school located nearby.

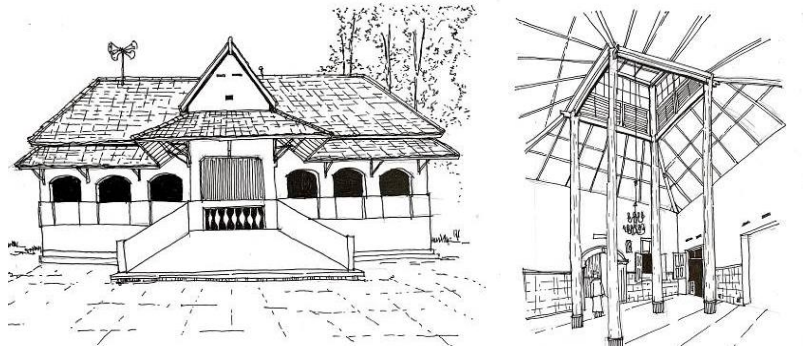


Figure 6. Al Mujahidin Mosque

3.4. The architectural transformation of historic mosques

The characteristic elements of the five village mosques are relevant to the study findings of Pijper and Tjandrasasmita [11, 12]. Mosques in Java circa 1925-1950 have six characteristic elements: (1) a square-shaped floor plan, (2) standing on a rather high solid foundation, (3) a pointed roof consisting of two to five layers, (4) the west or the northwest sides are prominent parts for the *mihrab*, (5) an open or closed terrace in the front and sometimes on both sides, and (6) a wall with one or two gates surrounding the courtyard of the mosque [11]. Tjandrasasmita confirmed most of Pijper's findings that the architectural style of old mosques is similar to mosques design in Indonesia in general. However, Tjandrasasmita did not mention the *mihrab* and the courtyard around the mosque in his findings [12]. Tjandrasasmita did add one more characteristic, namely a pond surrounding the mosque.

In the three cases under study – Jatinom, Belangwetan, and Kadirejo – the old mosques have either two or three-level roofs. The roof is supported by a structure of four main columns called the *sokoguru* structure situated in the middle of the prayer room of the mosque. In all cases, the columns are still maintained, but in one case, the structure has changed from wood to concrete. Royal mosques or those in the center of the old city have *tumpang sari* structures above the four main columns which are formed from stacking wooden beams. These structures bind the four main columns at the top. None of the cases that were studied have *tumpang sari* structures; the mosques only have wooden beams between the columns. In some cases, the columns in the *sokoguru* structure are supported by a high foundation (*umpak*) as in cases 1 and 3. Yet, in cases 2, 4, and 5, this foundation is not seen. The structure of four main columns is not mentioned by Pijper as a characteristic of old mosques. However, in the cases in this paper, the visual character of the mosque interior is dominated by four main columns in the middle of the prayer room. The form of the *mihrab* in rural mosques varies in all cases.

The front façade of the main building is characterized by three main doors that connect the terrace with the prayer room. In some cases, the shape of the doors has changed. One case even presents an extreme change in the shape and position of the door. This has been extended to the front terrace which is now missing. Pijper also does not specifically mention the three doors in the front façade of the mosque. All cases had a front terrace, whereas, its façade has been altered in the form of additional arches or the fences between the external columns on the terrace. In some cases, the function of the terrace has also changed into a prayer area, especially for female worshipers. Historically, the five

mosques used to have a pond either on one side or around the mosque. By now, these have been removed for various reasons.

Table 1. Elements forming the mosque's architectural character and its changes.

Case	Character forming elements	Transformation
1	• 2-tiered roof	-
	• <i>soko guru</i> structure	-
	• <i>mihrab</i>	-
	• façade with 3 doors	-
	• terrace	terrace façade style and terrace function
2	• 3-tiered roof	-
	• <i>soko guru</i> structure	new material
	• <i>mihrab</i>	simplification of forms
	• façade with 3 doors	new door shape
	• terrace	terrace façade style
3	• 2-tiered roof	-
	• <i>soko guru</i> structure	-
	• <i>mihrab</i>	-
	• façade with 3 doors	new door shape
	• terrace	closed off to become a prayer area
4	• 2-tiered roof	-
	• <i>soko guru</i> structure	-
	• <i>mihrab</i>	additional new ornament
	• façade with 3 doors	new door shape
	• terrace	terrace façade style, terrace function
5	• 3-tiered roof	-
	• <i>soko guru</i> structure	-
	• <i>mihrab</i>	-
	• façade with 3 doors	-
	• terrace	terrace façade style and additional space

The architectural elements resemble those of royal mosques in Java, but with a more straightforward form and smaller dimensions. The five elements, namely the shape of the roof, the *soko guru* structure, the *mihrab*, the three doors in the façade of the mosque, and the front terrace as characteristic building elements, are still maintained despite minor changes. The part of the mosque that changed the most was the terrace. As a support room, it has a variety of purposes, depending on the region [11]. For example, it is used for prayers when the main room is closed or for travelers to sleep or for wedding parties. The transformation of the terrace primarily changes its function or the style of the façade. Overall, changes to the old mosques tend to alter the 'packaging' into a more contemporary style. One of the changes in the style of the building is influenced by the movement of Islamic renewal in the village, as in Case 2. Changes in the function of spaces in the mosque are need-based and associated with an increase in the number of worshippers.

The unplanned transformation might coincide with the polemic of whether a mosque is defined by function or form [13]. However, the history of mosques clearly shows they are defined by their function rather than their architectural features. Prophet Muhammad himself treated the mosque as a multifunctional space or structure; it accommodated not only prayers but also education, sleep, discussions, and even functioned as a prison. The history of mosques, however, shows that the position of the mosque in Muslim society has transformed. Notably, mosques are transforming from sacred spaces into secular places. They are now perceived as visual signifiers of a religion rather than its connotative meaning. Mosques become not only a cultural element of society but also a structural feature. This phenomenon is happening not only in Indonesia but across the globe. Nowadays, the design of mosques in Malaysia tends to mimic the design from the Middle East and looks more eclectic [14]. In the Western context, the construction of the mosque becomes a legitimate symbol for the Muslim community in gaining social citizenship [15].

The changes in mosque design, in terms of architecture and environment, have breathed new life into the community. On the other hand, 'it also disturbed the tempo of life and introduced a lifestyle that is more exciting and less peaceful' (14: 296). The architectural transformation of mosques influences the way people perceive it, the social norms attached to it, and its aesthetic values. It also contributes to the transformation of the rural landscape. In this context, the architectural transformation of a mosque in a rural settlement goes beyond mere structural change and even leads to cultural heritage issues.

4. Conclusion

Mosque design transformations might be linked to the fact that mosques have traditionally had no association with specific architectural forms. The mosque used to have a simple yet multifunctional design. Mosques currently tend to strictly accommodate the function of worship. This has shaped mosques to have a more formalistic design, which looks more secular.

The transformation of mosques in rural settlement involves six elements that emerged from Pijper and Tjandrasmita's study. In addition to these findings, this study found that changes most often occur in the front terrace, the façade, and courtyard (for example, the removal of the pond around the mosque). The study also highlights the four most enduring elements: the 2-3 tiered roof shape, the soko guru (main column) structure, the mihrab, and the main three doors in the front façade.

Lastly, this research argues that the historic mosque in rural settlements must be maintained. Changes, especially in the constituent elements, must be controlled. Further changes of historic mosques should consider fragile parts and the most enduring elements to protect the mosques as a heritage site. This awareness is necessary because the community might not realize that these design changes could affect local culture and the historic sense of the rural environment.

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