MOSQUES IN RURAL AREAS ARE A FORM OF CULTURAL ACCULTURATION IN INDONESIA.

Case study: mosques in Muntilan Village, Central Java, Indonesia.

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***Abstract**: Architectural form is a physical manifestation of culture as it acknowledges and responds the surrounding cultural context. Religious architecture also belongs into this principle. In Indonesia, the encounter between Islam coming from foreign Muslim merchants and the high culture of indigenous people fostered a process of cultural assimilation, which was also evident in the physical appearance of religious architecture products such as mosques. Demak Mosque, one of the earliest examples of this process, was completed during the period of nine pioneering Islamic scholars (Walisongo) c. 1401 AD and adopted the traditional tiered tajug roof from Pura (Balinese Hindu temple) and some other principles based on Hinduistic values. This paper set out to observe the process of cultural assimilation in form and construction of six mosques in the area of Muntilan, Central Java by comparing them to Masjid Demak, and to understand whether the alterations found in these mosques were done due to changes in religious values. The results show that most mosques have similar-looking exterior to Masjid Demak while there were increasing amount of alterations in newer mosques, mainly to improve the mosques' functionality.*

***Keywords:** Development, Form and Construction, Islamic Architecture, Java, Mosque*

Title: Mosques in Rural Areas Are a Form of Cultural Acculturation in Indonesia; Case study: mosques in Muntilan Village, Central Java, Indonesia.

***Abstrak**: Bentuk dalam konteks arsitektural merupakan wujud fisik budaya yang mengakui dan merespon konteks budaya sekitarnya. Arsitektur religius juga termasuk dalam prinsip ini. Di Indonesia, perjumpaan antara budaya Islam dari pedagang Muslim asing dengan budaya hinggil masyarakat adat menimbulkan proses asimilasi budaya, yang juga terlihat pada tampilan fisik produk arsitektur religius seperti masjid. Masjid Demak, salah satu contoh paling awal dari proses ini, diselesaikan selama periode sembilan wali Islam perintis (Walisongo) c. 1401 M dan mengadopsi atap tajug berjenjang tradisional dari Pura (Pura Hindu Bali) dan beberapa prinsip lain berdasarkan nilai-nilai Hindu. Makalah ini bertujuan untuk mengamati proses asimilasi budaya dalam bentuk dan konstruksi enam masjid di kawasan Muntilan, Jawa Tengah dengan membandingkannya dengan Masjid Demak, dan untuk mengetahui apakah perubahan yang ditemukan pada masjid-masjid tersebut dilakukan karena perubahan nilai-nilai religi. Hasil penelitian menunjukkan bahwa sebagian besar masjid memiliki tampilan luar yang mirip dengan Masjid Demak sementara ada peningkatan jumlah perubahan pada masjid baru, terutama untuk meningkatkan aspek fungsional pada masjid.*

***Kata kunci:** perkembangan; bentuk dan konstruksi; arsitektur Islam; Jawa; masjid*

INTRODUCTION

Mosque or *masjid*, an Arabic word meaning 'a place for prostration', is a place of worship for Muslims (people who practice Islam), and mosque as a building typology emerged in Indonesia alongside the beginning of the spread of Islam in the 13th century. A process of cultural assimilation was at work as Islam encountered the powerful high culture of Old Java (Rickelfs, 2008). The new religion eventually made its way to the people through soft diplomacy – by tolerating and immersing some Islamic rituals into local culture and traditions. Therefore, characteristics of previous faiths borne by local people (for example, Hindu and Buddhism) could still be seen in the daily lives of Indonesian Muslims.

The Sultanate of Demak, the first Islamic kingdom in Java which was established in the 15th century, was famous with its official mosque, the Demak Mosque (1401 AD). Demak Mosque is one of the finest physical products of cultural assimilation between Islam and local culture in which the main building uses *tajug* roof and the foyer uses *limasan* roof. The tiered *tajug* style roof was influenced by similar roof-like shape used in Buddhism and Hindu-era

buildings, such as Prambanan & Borobudur Temple and Balinese Pura. Traditional Hindu cosmology perceives every space as a replica of the universe in miniature—a microcosm of the macrocosm (Davidson & Granquist, 2012), and buildings were designed in this respect as well. The high roof orienting upwards embodied the relationship between the 'humanly world' at the bottom towards the top or the heavens.

Islam's standpoint in Indonesia have largely changed over the centuries after its arrival, as Indonesia is now the country with world's largest Muslim population at about 209 million (DeSilver and Masci, 2018). The economy, social, and cultural life of Muslims has moved towards stronger Islamic values, and relation with previous faith and tradition is slowly disappearing. In a striking contrast, newer mosques built in this era, especially in the island of Java, still opted to adopt the traditional architectural form of Demak Mosque. For example, these mosques still use *tajug* roof for the main buildings and *limasan* roof for the foyers.

This paper aims to observe the process of cultural assimilation in form and construction of six mosques in the rural Muntilan of Central Java by comparing them to Masjid Demak, and to understand whether the alterations found in the mosques are done due to changes in religious values or merely to increase the mosques' functionality. Mosques in the rural area were chosen as the case study of this paper, for possible development in their form and construction was less influenced by modernization or an engineer's intervention.

The rural area of Muntilan is a sub-district in Magelang Regency of Central Java with a consistent pattern of traditional mosques, the oldest dating back to 1820 A.D. This area has relatively calm social and religious atmosphere when compared to cities, thus enabling clearer observation of form and construction development.

Theoretical background: cultural acculturation in Javanese mosques

Establishment of Islam in Indonesia went through generations-long of cultural assimilation process, in the form of acculturation of religious values into general life practices. Acculturation of two different cultures will result in a new culture without eliminating the original cultures (Koentjaraningrat, 1990). In the island of Java, the nine pioneering Islamic scholars (known in Indonesia as the *Walisongo*) also utilized this process to introduce Islamic values to a wider audience. For example, they organized shadow puppet/*wayang kulit* shows to introduced Islamic values: a media previously used by Hindu people to spread their religion. Similarly, Indonesia's mosques located in rural areas passed down their form, structure, program, ornaments, or construction phases from one generation to another (Muannas, 1998). Mosques built through this type of knowledge transfer can also be categorized as vernacular architecture, since building experts were usually not involved in the planning and construction process.

In this section, building principles of the pre-existing Hindu society in Java, the original stylistic trend of mosques from earlier Islamic civilizations, and the cultural assimilation process of both principles in Javanese mosques are discussed.

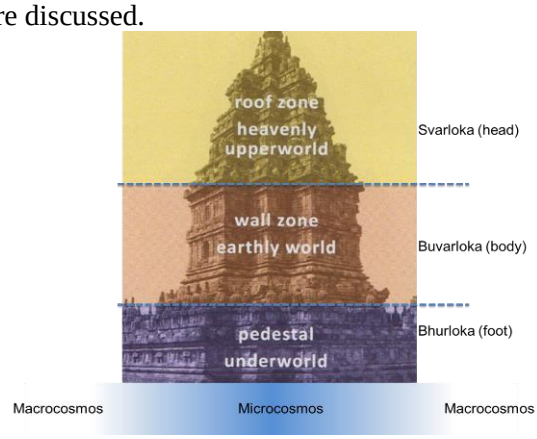

Fig 1. Symbolization of macrocosmic-microcosmic balance in a Hindu Temple
(source: Adaptation from Lehner, 2013)

Building principles of Hindu society

Before the spread of Islam in Java, the predominantly Hindu society believed in the notion that the world consists of cosmoses or *bhuwana*: the macrocosm (*bhuwana agung*) and the microcosm (*bhuwana alit*). When a human being is considered as a microcosm, the house he lives in is its macrocosm. Subsequently, when the house is regarded as microcosm, the village where the house is located is the macrocosm (Stiftel, Watson and Acselrad, 2014).

The microcosm does not only spread horizontally and connects with its macrocosm, but also has a vertical axis in the center orienting upwards. This is the symbol of a harmonious relationship between human beings and its environment (horizontal axis) and human beings

and their God (vertical axis). In later times, this principle was put into various practices, for example in village planning system known as '*Moncapat'* (Ossenberg, 1977) and the construction of houses and religious buildings.

The principle of *bhuwana agung* and *bhuwana alit* can also be seen in Hindu temples (see Figure 1). The vertical axis also divides the universe into three categories, hierarchically ordered in a set of spatial coordinates and correspondent to division of body parts: head/the highest (*Svarloka*), body/the middle (*Buvarloka*), and foot/the lowest (*Bhurloka*) (Davidson & Granquist, 2012).

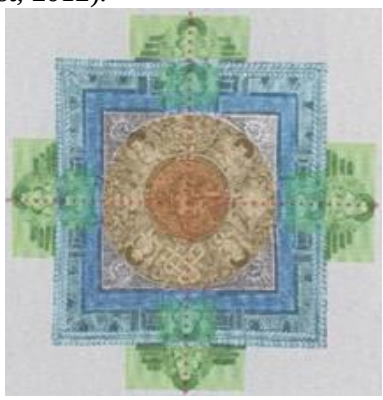

Fig. 2: A mandala
(source: Lehner, 2013)

The floor plan embodies mandala, a spiritual and ritual symbol in Hinduism and Buddhism representing the universe. The basic form of the mandala is a square with four gates containing a circle with a center point. The center point, often the center of the radial balance itself, orients upwards and often ends in a pitched top, symbolizing the relationship between the creature and The Creator. The mandala shape is believed as the way to inner peace, and shows *'manunggaling kawula lan gusti'*, the unification between human and God (Laksono, 1985).

Mosque in earlier Islam civilization

Mosque serves an integral function in Islam as the place of worship and the center of Muslim community, as Muslims pray at least five times in varying hours of the day. Prayers are oriented to the Kaaba, a building at the center of Al-Masjid Al-Ḥarām mosque in Mecca, Saudi Arabia. During the course of history, Islamic architecture in Islamic caliphates was strongly influenced by Byzantine-styled buildings (330-1453 AD), which together with Early Christianity period, used dome roof for sacred buildings (Ariestadi, 2008). When the Ottoman Empire conquered Istanbul (present day Constantinople) from the Byzantine Empire, the dome church of Hagia Sophia was directly reused as a mosque without major alterations to the church structure. They found that the dome roof of the church provided a spacious room, free of columns, therefore suitable for a large congregation. The concave inner surface of the dome gave acoustic benefits as it reflected imam (worship leader)'s voice well to the congregation members.

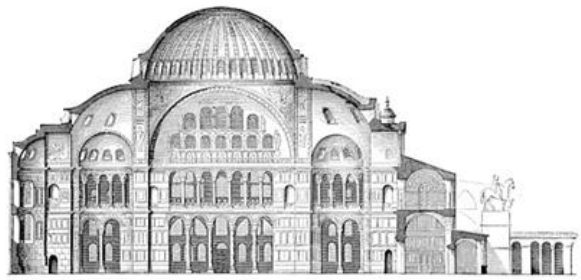

Fig. 3: Cross-section of Hagia Sophia, showing the space under the dome
(source: Wikimedia Commons)

Another benefit of using dome structure is its stability during construction, as each level is made as a complete and self-supporting ring. Similar to 'shell' structure, domes have bigger span-to-dimension ratio and can be made from reinforced concrete (Schodek, 1999). Since then, domes become an indispensable characteristic for mosques all over the world.

Mosques in rural areas of Central Java, Indonesia: cultural acculturation at play

Fig. 4: Tower-like edifice, Meru, which inspires tajug roof at a Hindu temple of Pura Taman Ayun, Bali
(source: kintamani.id)

Many mosques built in the early days of Islam in Indonesia used three-tiered *tajug* roof, resembling Hindu temple. The *tajug* is a multi-tiered pyramidal hip roof with the top tier supported by four principal columns called *soko guru*. This *tajug*-roof, *soko-guru*-columned

mosque model superficially resembles meru deity towers (Rujivacharakul et al., 2014). According to Mangunwijaya (1988), the three-tiered *tajug* roof of Balinese Hindu buildings shows their high spirituality and importance.

In Javanese Islam's case, as mosque is the most important building and prayer is the most important activity, the space underneath *tajug* roof is considered a sacred area for prayers while the other (profane) activities are situated under another type of roof namely *limasan*. Fixed-type windows (to be referred as 'top windows') are put at the gaps between the roofs, allowing natural light to enter the main praying area. Besides enhancing the functionality of the room, the light also symbolizes 'blessing' from *bhuwana agung* to *bhuwana alit*.

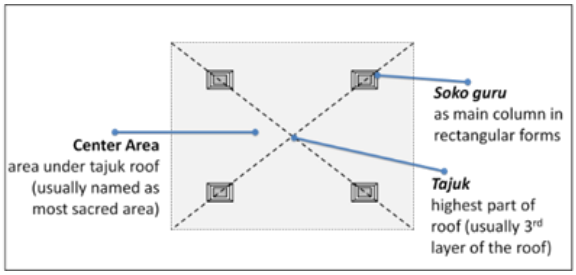

Fig. 5: Typical main room in a mosque under Tiered Tajug Roof (source: research analyses)

Fig. 6: Demak Mosque
(left: three-tiered roof exterior, right: interior, with dark wooden columns)
(source: Survey images)

Fig. 7: Keraton Yogyakarta Great Mosque and Mataram Great Mosque
(source: Private collection)

Demak Mosque, the first mosque ever built in Central Java, was situated at the center of Sultanate of Demak and established in 1401 AD. Demak Mosque uses tiered *tajug* roof supported by massive *soko guru*s. The mandala concept of the roof remains intact within the strictly rectangular floor plan of the mosque, with an additional nook on the direction of the Kaaba as the place for the imam/worship leader. Islamic kingdoms then continued spreading to the south by the establishment of the Sultanate of Mataram in Yogyakarta, in which another state mosque was constructed. The Mataram Great Mosque in Kotagede, Yogyakarta and Kauman Great Mosque are two examples of these state mosques, both using tiered *tajug* roof at the main building and *limasan* roof at the extending porch. The mosques' architecture thus influenced many smaller mosques in the region.

CASE STUDY: RURAL MOSQUES IN MUNTILAN SUB-DISTRICT, MAGELANG, CENTRAL JAVA

Muntilan sub-district in Magelang, Central Java was one of the centers of Islamic teaching. Some renowned Muslim scholars are known to come from Muntilan, namely Kyai (Javanese salutation for Muslim scholars) Krapyak of Watucongol and Kyai Raden Santri of Gunungpring. The analysis of the mosques in this area is done based on comparison of form and construction of six mosques built in different periods to those of Demak Mosque. The assessment criteria for the analysis are the type of the roof, existence of top windows, existence of main columns, division between sacred and profane area in the floor plan, and other additional features.

Mosque in Gunung Pring (c. 1820)

Fig. 8: Kyai Raden Santri Mosque
(left: exterior, right: tajug roof with iron sheet crowning on top)
(source: Survey images)

Mosque in Gunung Pring was built by Kyai Raden Santri, which according to popular beliefs, was the biological brother of Sultan Agung (the first Sultan of Sultanate of Mataram in Yogyakarta).

Despite having undergone major renovations, the mosque retains most of its features such as the tiered *tajug* roof and the iron sheet crown at the top of the uppermost tier. The tiered roofs are supported by four main columns made of teakwood (previously durian wood) with 25 cm diameter each, standing upon 1.5 meters high concrete pedestals. Top windows at the gap between the roofs are made with wooden frames and filled with painted glass.

The mosque's floor plan can be divided into two parts: sacred main area under the tajug roof (marked orange in Figure 10) and profane area under limasan roof (marked green and purple in Figure 10). The profane area, covering the porch and a newer two-floor extension, is usually used for education and social activities, sometimes also as additional praying space.

Fig. 9: The soko guru and top windows (source: Survey images)

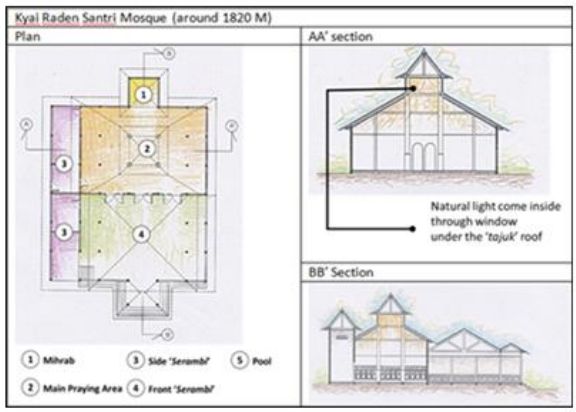

Fig. 10: Floor plan and section (source: Research analyses)

The sacred praying area is separated with the profane porch by a brick wall and glass door. The porch is then separated from the courtyard by a 90 cm high solid wall.

Fig. 11: Division between sacred and profane area (source: Survey images)

Following the principle of spatial hierarchy, a slight difference of elevation between sacred and profane areas can be seen at the mosque. Worshippers need to step on a few stairs before reaching the porch and another set of stairs to the main praying area. Mihrab, a semicircular niche in the wall of a mosque that indicates the qibla, can be seen on the west wall of the mosque. The side of the wall in which a mihrab is located sometimes called the "qibla wall", is adorned with more decorative arts than the other.

Mosque in Jangkang (c. 1830)

The Jangkang mosque was built from the contribution of an Islamic community coming from Dongkelan area in Yogyakarta. Historians recount that there is a possibility that the community consisted of followers of Raden Santri, Sultan Agung's brother.

Fig. 12: Mosque in Jangkang (left: exterior, right: tajug roof) (source: Survey images)

The mosque in Jangkang still retains its original form and construction. The mosque has four main columns (*soko guru*) which support the tiered *tajug* roof. The main columns accentuate men's praying chamber whilst being connected to the exposed *dada peksi* (main beam). However, there are no top windows in the gaps between the tiered roofs and the gaps are filled with wooden panels instead (see Figure 13). The

mosque gets its natural light from wall perforations in absence of the top windows.

Fig. 13: View to the wooden panels and 'dada peksi' main beams in Jangkang Mosque
(source: Survey images)

The sacred area under the tiered *tajug* roof (marked orange in Figure 14) is surrounded by porches, profane areas under *limasan* roof (marked green and purple in Figure 14). The sacred praying space is separated from the profane area by brick walls and perforated wooden windows. Due to lack of space, the porch on the south and east side is used as women's praying area. The south porch is also used to store the *bedug*, a large double-barreled drum to preclude Muslim sign of prayer.

The porch is set apart from mosque's courtyard with perforated brick walls. A slight difference in elevation between sacred and profane area is also present. A mihrab can be seen on the mosque's west wall. The mihrab also has small perforations to let in natural light to the mosque. Additional, water ponds are placed upon the mosque's north and east entrance and are normally used by worshippers to cleanse their feet before entering the mosque.

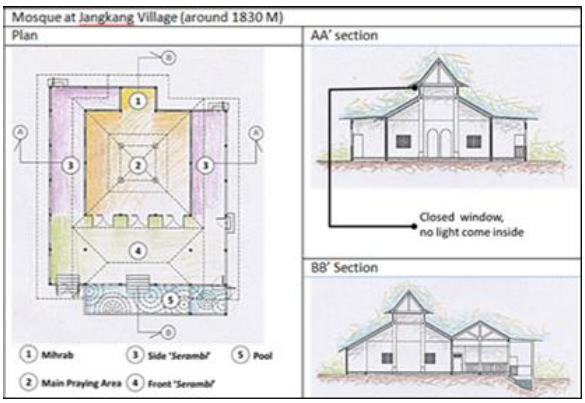

Fig. 14: Plan and sections of Mosque in Jangkang
(source: Research analyses)

Fig. 15: Water pond at north entrance
(source: Survey images)

Mosque in Sudimoro

Fig. 16: Mosque in Sudimoro (left: exterior, right: tajug roof and top window)
(source: Survey images)

The mosque in Sudimoro was built in a later period than the two aforementioned mosques, and was named Darussalam Mosque. The main building of the mosque adopts a modified tiered *tajug* roof with a small dome on its uppermost tier. Main columns/*soko guru* under the *tajug* roof are no longer present (see Figure 16), and the roof structure is supported by hidden columns in the mosque's walls. The removal of main columns results in a bigger, unobstructed praying space that is able to accommodate more people. Top windows in the gaps of the tiered roof are painted in translucent colors and provide natural light into the mosque.

Fig. 17: Mosque in Sudimoro (left: sacred area, right: structure of hanging *tajug* roof)
(source: Survey images)

The mosque is composed of two distinct areas: the main sacred building (marked orange in Figure 18) and the profane porches (marked green in Figure 18). It only has a porch on the east side, sheltered by a *limasan* roof.

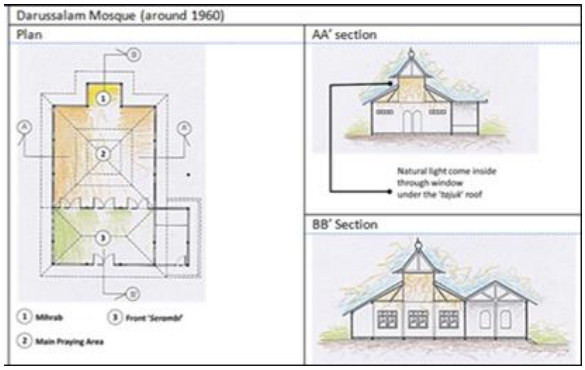

Fig. 18: Plan and sections of Mosque in Sudimoro (source: Research analyses)

The sacred area is separated from the profane area by wall and glass doors. The profane area is also set apart from the mosque's courtyard by perforated brick walls. The elevation difference found in traditional temples can also be found in the mosque. The profane and sacred area is located higher than the mosque's courtyard. The mosque's porch and interior is kept clean and safe by a set of iron gates at its entrance.

Fig. 19: Main gate of Sudimoro Mosque (source: Survey images)

Mosque in Menayu (c. 1925)

Raudhatul Jannah mosque in Menayu was built during pre-independence times and underwent renovation in 1925 without changing the tiered tajug roof structure. There are four main columns made of teakwood with 20 cm diameter, which stand upon natural stone pedestals and support the tiered roof. A traditional style crowning is placed at the uppermost part of the tiered *tajug* roof.

Fig. 20: View to the top window (source: Survey images)

The *tajug* roof houses the mosque's sacred area (marked orange in Figure 21) while the profane area located in its east side uses *limasan* typed roof (marked green in Figure 21) and the profane area in the north side uses concrete deck roof (marked purple in Figure 21). Top windows are present at the gaps of the tiered roofs. The roof rafter structure is exposed and connected to columns and the '*dada peksi'* main beams, symbolizing the unification of good intentions toward God.

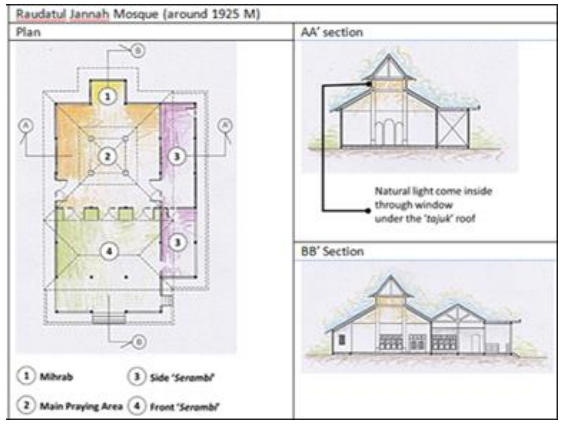

Fig. 21: Plan and sections of Mosque in Menayu (source: Research analyses)

The west side wall where the qibla and the mihrab are oriented are covered in white, glossy ceramic tiles. This differentiates the mihrab wall subtly from other walls.

The space under the tiered *tajug* roof is regarded as sacred, thus is mostly used for religious activities, while the porch serving the profane function can also be used for social and educational activities.

The sacred and profane area is separated by a brick wall with a glass door for access. The mosque is kept clean and safe by a set of iron

gates at its entrance, preventing animals to enter the regularly cleaned surfaces.

Fig. 22: Exterior of Menayu Mosque
(source: Survey images)

From the courtyard, a difference in elevations of the mosque can be clearly seen. There is also a temporary pergola with zincalume roof sheets in front of the mosque entrance, which is used to house the worshippers of Friday congregation.

Fig. 23: Profane area of the mosque, seen from the courtyard (source: Survey images)

Mosque in Pasekan (c. 1935)

The mosque in Pasekan is located within a close distance to the mosques of Sudimoro and Gunung Pring. The main columns (*soko guru*) are made of teakwood, measuring 25 cm in diameter, and supporting the mosque's tiered *tajug* roof. The translucent-clad top windows are located in the gaps of the tiered roofs and provide natural light. The roof rafters are exposed and connected to the columns and the *dada peksi* (main beam), symbolizing the unification of all the elements of the mosque.

Fig. 24: Mosque exterior view
(source: Survey images)

The mosque mainly contains two areas: the sacred main building (marked orange in Figure 25) and the profane porch (marked green and purple in Figure 25). The main praying area is separated from the profane area by brick walls with glass windows and glass doors.

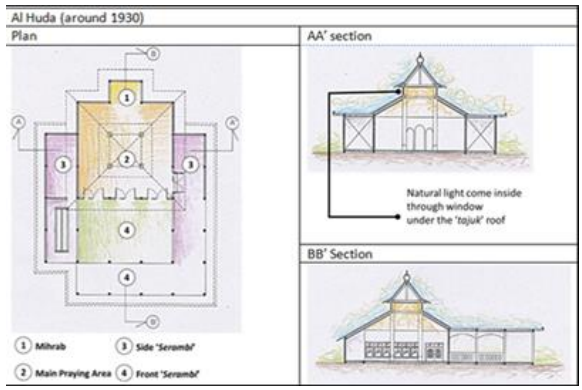

Fig. 25: Plan and sections of Mosque in Pasekan
(source: Research analyses)

The porch is located on the northern side of the mosque, and is not rigidly separated from the courtyard. However, fences are still present in some parts of the porch to prevent animals from coming in. A small dome with the "Allah" symbol on it tops the uppermost part of the tiered *tajug* roof.

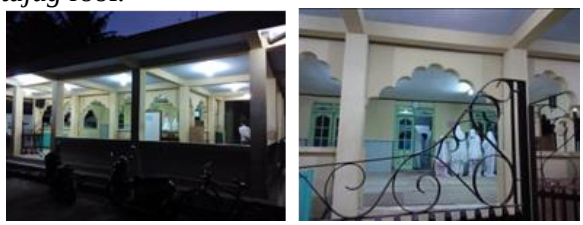

Fig. 26: Mosque in Pasekan (left: porch, right: gate of the mosque)
(source: Survey images)

Mosque in Keji (c. 1980)

Fig. 27: Exterior of Mosque in Keji
(source: Survey images)

The main building of the mosque is Keji is sheltered under a tiered *tajug* roof, while the porch uses *limasan* roof. The peak of the *tajug* roof used to have a *goda*-shape ornamental top, but it was eventually replaced by a small steel dome. In the main building, *soko guru* or main columns are no longer used to support the roof. The load of the roof is distributed to columns hidden in the mosque's walls. The praying space becomes bigger, therefore more people can be accommodated in the room. The removal of the columns also clarify the focus of the prayers in Islam, which is the qibla.

Fig. 28: Interior of Mosque in Keji (the horizontal ceiling can be seen)
(source: Survey images)

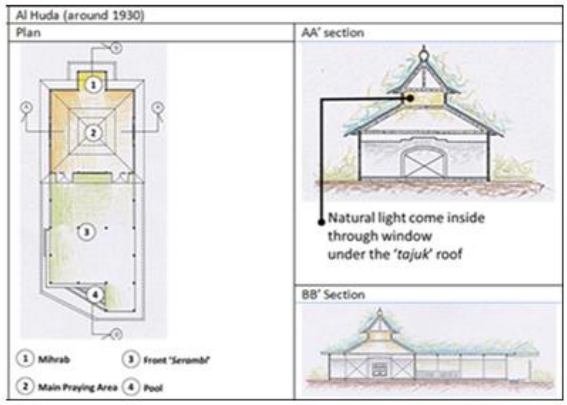

Fig. 29: Plan and sections of Mosque in Keji
(source: Research analyses)

The ceilings of the main building are laid horizontally and completely conceal the roof structure. As a result, the top window feature is no longer present in the mosque of Keji. The profane area is located at the east side of the mosque (marked green in Figure 29) sheltered by *limasan*-shaped roof. Sacred area (marked orange in Figure 29) and profane area of the mosque are separated by a set of glass doors, still allowing visual access to both areas. There is a small water pond in front of the mosque so worshippers can cleanse their feet before entering the mosque. There is also a plan to add a small gate at the mosque's entrance to maintain its cleanliness and safety.

Fig. 30: Small pond at the entrance of Keji mosque(source: Survey images)

RESULT AND DISCUSSION

The following table summarizes the features of the observed mosques in comparison to Demak Mosque.

Table 1: Demak Mosque features in observed mosques

Mosque	Features of Demak Mosque			
	Tiered *tajug* roof	Main columns	Top windows	Sacred-profane floor plan
Gunung Pring	✓	✓	✓	✓
Jangkang	✓	✓	-	✓
Sudimoro	✓	-	✓	✓
Menayu	✓	✓	✓	✓
Pasekan	✓	✓	✓	✓
Keji	✓	-	-	✓

From the table, it can be seen that majority of the mosques still adhere to the similar form and construction as the Demak Mosque, which indicates that the cultural assimilation between earlier faith/culture and Islam is still relevant to date.

Fig. 31: Mosque in Tawangsari, Pugeran Yogyakarta with hanging roof structure (source: Survey images)

All of the observed mosque uses tiered *tajug* roof at the main buildings and *limasan* roof for the porches. Main columns supporting the roof (*soko guru*) can still be found in the majority of older mosques, such as the mosques in Gunung Pring, Jangkang, and Menayu. Some of the mosques built in later period, for example mosques in Sudimoro and Keji, removed the main columns and distribute the *tajug* roof load with the roof load to columns hidden in the wall. The removals were presumably done to expand the praying area, or to clarify the focus of the prayers towards the qibla, without any structural barriers. A mosque in Tawangsari area of Pugeran, Yogyakarta, showcases an interesting exposed structure of the hanging roof (see Figure 31).

In Keji mosque, all the roof structure are covered by horizontal ceilings while in Sudimoro mosque, the top windows and roof structure are still intact despite the absence of the main columns.

The top windows, aside from its spiritual objectives, provide natural light to the mosque which is essential to its functionality. Among the observed mosques, only Jangkang Mosque is absent from this feature, presumably because of the expensive price of glass for the windows at that time. The absence of the top windows may also be meant to clarify the focus of the prayers only to the qibla's direction and not upwards.

The mosques' floor plans are divided into two areas: the sacred main building for praying and congregations and the profane porches outside of the main building. The division between sacred area and profane area can also be clearly differentiated in all mosques, following the principle of Demak Mosque and Keraton Yogyakarta Great Mosque. It is always the case in the observed mosques that the main building uses tiered *tajug* roof while the porches use *limasan* roof.

Limasan roof is used for the porches in the observed mosques, except for the mosque in Keji which uses deck roof from reinforced concrete. The mosque in Keji is also different from the other observed mosques in terms of the openness towards the courtyard, which applied the principles of Demak Mosque and Keraton Yogyakarta Great Mosque. The surrounding 70 cm high fences between the porch and the courtyard are only built at several points, providing the possibility for anyone to come to the mosque. The following table summarizes the newly added features of the observed mosques, which were not present in Demak Mosque.

Table 2: New features in observed mosques

Mosque	Features of Demak Mosque	
	Water pond	Dome roof/crowning
Gunung Pring	-	-
Jangkang	✓	-
Sudimoro	-	✓
Menayu	-	-
Pasekan	-	✓
Keji	✓	✓

Water ponds are present in front of some mosques' courtyards as found in Jangkang Mosque and Keji Mosque. This feature can also be seen in royal mosques such as Mataram Great Mosque in Kotagede and Keraton Yogyakarta Great Mosque in the center of Yogyakarta. Water from the pond is used to cleanse the feet before entering the mosque, and serves not only a practical role but also a spiritual one, reflecting the Quran teaching that water gives life and purifies. Water is also used to cool the air, especially during Friday congregations which happens on midday. During Friday congregations, the mosque is usually very full so that some people should attend the congregation from outside.

The tiered *tajug* roof of the mosques in Gunungpring, Jangkang, and Menayu are topped by traditional ornamental crowning made of iron sheets or natural stones, following the peak of Keraton Yogyakarta Great Mosque which is topped by an ornamental crowning from iron

sheets. The traditional crowning is called Topi Raja or 'the king's hat' symbolizing the oneness of God. The mosque in Pasekan, renovated in 1970s, changed their crowning into a small stainless-steel dome. The use of stainless steel dome is also present in the mosques of Sudimoro and Keji, and becomes popular in many newer mosques of Muntilan since 1990s. The dome is usually topped by the writings of "Allah" in Arabic language or the symbol of crescent moon and a star. Referring to the Demak Mosque, its minaret, being a separate structure from the mosque, is also topped by a dome.

Domes are increasingly integrated into mosques in the area, in the belief of strengthening the mosques' identification as religious buildings. In traditional mosque buildings, domes are only used to replace the traditional crowning on top of the roof. In the modern era, domes are incorporated not as a replacement of the crowning, but as the main roof of the mosque. Aside from its identifying function, dome also enables wider span of the room without columns/structural barriers, therefore making the praying area more spacious.

CONCLUSION

This research found that form and construction of rural mosques during the course of Islam's development in Java is still similar to early mosques of the 15th century, represented by Demak Mosque, the royal mosque of the Sultanate of Demak. However, some alterations are increasingly seen in newer mosques, which implies that the cultural assimilation process is still progressing. The findings supporting this statement can be categorized into several aspects as follows:

1. All observed rural mosques in Muntilan, Central Java has similar construction to Demak Mosque. The sacred main buildings use tiered *tajug* roof and most of the profane porches use *limasan* roof. The tiered *tajug* roof is supported by four main columns or *soko guru.* The use of *soko guru* can be seen from mosques that are built before Indonesia's independence. After the independence of Indonesia in 1945, the use of *soko guru* is slowly diminishing due to technological advancements. Nevertheless, top windows are still incorporated in most of the newer mosques.
2. The floor plan division of observed mosques are still similar to the mosques from the early Islam civilization in Java, which follows the principle of mandala or the balance of macrocosm and microcosm.
3. The use of dome as the mosque's main roof is not present in observed mosques. Domes are only used in small size as the crowning of the roofs to clarify the mosques' identity as religious buildings.

In other words, the shape and construction of mosques change very slowly when seen and compared to the beginning of the Demak mosque (15th century) to the present (21st century). The form of religious acculturation between Hinduism and the mosque is very strongly expressed in the appearance of the mosque.

Changes or developments that occur tend to be more decorative, such as floor coverings, crowns to domes, and so on, which do not eliminate the Hindu concept of centralized spatial planning. Changes began to occur in a stronger central orientation or towards the Qibla, after the centre pillars were removed, but the outer structure did not leave its original form, the canopy roof. The form of acculturation in religion in rural areas is felt and manifested in the mosque building, coupled with the calm atmosphere and harmony of the mosque with the natural environment around it.

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