



THE TYPOLOGY OF MOSQUE ARCHITECTURE IN WEST ACEH

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ABSTRACT

Aceh is well known as the center of spreading Islam in South East Asia. West Aceh has contributed to present their best people in the history of the battle against colonialism when the heroic war in the past. Thus, Acehnese are considered a religious society. However, the research on the typology of significant Islamic buildings, such as mosques, has been very limited in this area. This study aims to determine the typology of mosques in West Aceh. This study was conducted based on observation data in West Aceh and a literature study. The number of twenty-five mosques is included in this study. The locations of mosques were in Meulaboh, the capital city of West Aceh, and in the rural area of West Aceh. The result shows that the typology of mosques in West Aceh has similarities with Masjid Raya Baiturrahman which stands in the capital city of Aceh. The similarities are found in the typology of the roof, door, window, column, and façade ornamentation. Meanwhile, the minaret did not have a significant influence on the typology of the mosques in West Aceh. There is still research to be done and data to be collected about other mosques in other areas in Aceh. Then, the date period of construction data should be added to give a comprehensive perspective of the influence.

KEYWORDS:

Typology; Mosque Architecture; Aceh; West Aceh; Archetype

INTRODUCTION

Aceh is well-known as “seramoe Mekkah” or the “verandah of Mecca” because of its historically significant role in spreading Islam in Indonesia [1]–[3]. Acehnese are also known as a religious Muslim society that applies Islamic values in life. On top of that, Islam became part of the culture of the community. However, the study of mosque typology—as a significant building in the Muslim community—in Aceh is limited, including the study of mosque typology in West Aceh. Many Muslim fighters (mujahidin) during the famous Aceh war (from year to year) were from West Aceh originally. Teuku Umar, Cut Meutia, and Pocut Baren are some of the notable figures from this period. It has to be noted that when many mujahidin are from one area. The people of that place are religiously devoted since they fought in the name of jihad (holy war).

Many mosque typology studies are focused in Iran [4]–[13]. Some studies of mosque typology also developed in Indonesia and Malaysia [14]–[23]. The rest examine mosques in Saudi Arabia, Bangladesh, Greece, Oman, Libya, Britain, Azerbaijan, Iraq, and India [24]–[32]. There is also an ambitious study about the typology of mosques in Southeast Asia and China [33]. The aspects investigated in typological studies of mosques varied in a wide range. Some studies focus on physical and spatial typology for instance of the façade, spatial configuration, form, structure, and

ornamentation [4], [5], [7], [8], [13], [14], [18]–[20], [25], [26], [28], [29]. Some others take the function, access, spiritual preference, style, and time as observant factors of mosque typology [9]–[12], [21], [23], [31]. In terms of modernity, some studies are interested in traditional or historical mosques, while some others tend to examine contemporary mosques as their focus [6], [10], [12], [15], [16], [18], [28], [30], [31]. The wide range in geography of mosque studies shows that the mosque is a significant building that should be noticed in Muslim society. Thus, this typology study is one of the study types that can share information about the building and the society.

Out of all the studies related to the mosque typology conducted in Indonesia, only one study has taken place in Aceh, particularly in Banda Aceh [34]. No studies have examined mosque features in West Aceh. The study of mosque typology in Banda Aceh showed that many mosques imitated the form of Baiturrahman Grand Mosque (Masjid Raya Baiturrahman) [34]. This study stated that the role of Masjid Raya Baiturrahman (MRB) as a landmark of the city contributed to the development of mosques in Aceh, particularly in the city of Banda Aceh [34].

This study stands on the argument that MRB in Banda Aceh, the capital city, has become the archetype model for mosque design in West Aceh too. This argument is in line with a study that suggested carrying an ideal type object as a base for controlling the level

of changes developed in the models under every typological building study [35]. In this study, MRB acted as the controlling object. However, there is no proper study that has investigated the typology of MRB. Therefore, this study used the categorization of elements that make up the characteristics of MRB as the control against which other mosques will be compared [36]. An additional element is added since the element mentioned in the previous study did not cover all the characteristics of the mosque as mentioned in other studies [17], [37], [38]. The element added was ornamentation, particularly in the façade.

Therefore, this study aims to define the typology of mosques in West Aceh, in relation to the MRB. Since this study examines the elements of the mosque related to elements in MRB to define the typology of Mosque in West Aceh, this study is categorized a physical typological study. Different from previous studies, this study did not examine the spatial arrangement aspect. This is because the spatial arrangement of MRB has changed over the years and the characters that shape the icon of MRB do not include the spatial arrangement [36], [39]. This study is crucial in the search for identifying important aspects of the identity of Acehese society. Public buildings can function as the identity of the people [40]–[42]. Specifically, the mosque building is very significant for Muslim society as a religious building. A study of the mosque that emphasized identity has also been conducted [43]. It showed that the study of mosques is significant in defining the identity of a society. Moreover, since typological study is related to a specific place, the lack of research on this topic in Aceh was the main obstacle in conducting this study. This study can be used as reference research for future studies to expand on what has been established about mosque typologies in Aceh.

METHODS

The chosen mosques for this research were on two sites: first, in Meulaboh (the capital city of West Aceh), second, in the rural area along the line road of Lintas Sumatera Highway in West Aceh. The mosques in the urban area were selected randomly. Meanwhile, mosques in rural areas were chosen along the main road from the urban to the North area for accessibility reasons. The number of mosques observed in this study was 25 mosques.

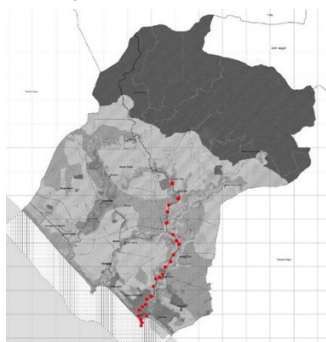


Figure 1. Location of objects of research [source: GoogleMaps with modification from Author]

This study is qualitative. The data was received from observation of the chosen mosques, which consist of six mosques in the city of Meulaboh and nineteen mosques in rural areas in West Aceh. Several pictures were captured during observation. Secondary data was collected from desk review before conducting the formal observation.

The process of the research started with the preliminary observation of some mosques in West Aceh. They, upon examination, were similar to Masjid Raya Baiturrahman in Banda Aceh. After the initial investigation, some information regarding typology and the characteristics of Masjid Raya Baiturrahman were collected. The formal field research was conducted after the elements that needed to be observed were recognized.

The process of data analysis consists of two steps. First, it analyzes the pictures taken from observation. The figures were analyzed based on each element that exists in the mosque building. The elements are roof, door, window, minaret, ornamentation, and column. Those elements determined were based on elements that create the character of a mosque [36][17][44]. These pieces of information are displayed in table form to be able to compare typologies. Second, the typology identified in the previous step was compared to the elements of Masjid Raya Baiturrahman (MRB), as shown in Figure 2. For comparison purposes, the elements of MRB are provided before each section.



Figure 2. Masjid Raya Baiturrahman Banda Aceh [source: Author]

RESULT AND DISCUSSION

The elements that were analyzed are the roof, door, window, minaret, ornamentation, and column. Some elements such as door, window, and column were grouped in one table because the typology of window and door are more or less similar. Meanwhile, the column is commonly part of the door opening. Thus, the door, window, and column are organized in one section. Therefore, the analysis of the typology of mosques in West Aceh is divided into four sections: (1) roof, (2) door, window, and column, (3) minaret, and (4) ornamentation of façade.

1. Roof

The focal point of the MRB roof is the domes, shown in Figure 2. The dome style is onion dome and the color is black. The detailed look is shown in Figure 3.


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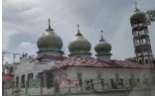




Figure 3. MRB onion domes [source: Author]

From the observation, the result of roof typology analysis is shown in Table 1.

Table 1. The typology of the Roof

No	Name of Mosque	Roof		
		Shape character	Number	Similarity to MRB
1.	Masjid Agung Barat 	Onion dome	5+2	Shape, proportion, and composition
2.	Masjid Mugo Rayeuk 	Onion dome	3	Shape, proportion, composition, and color
3.	Masjid Babul Hasanah Manggi 	Onion dome	1+2	Shape and color
4.	Masjid Babul Hidayah Lek-Lek 	Onion dome	1	Shape
5.	Masjid Mutaakhirin 	Onion dome	3	Shape, proportion, composition, and color
6.	Masjid Padang Sikabu 	Onion dome	1	Shape and proportion
7.	Masjid Sawang Teube 	Onion dome	3	Shape
8.	Masjid Nurul Iman 	Onion dome	1	Shape and proportion
9.	Masjid Gampong Pasie Ara 	Onion dome	1	Shape
10.	Masjid Rambot Meunasah 	Onion dome	1	Shape, proportion, and color
11.	Masjid Putim 	Onion dome	1+2	Shape
12.	Masjid Tanjong Bunga 	Onion dome	1	Shape, position
13.	Masjid Al-Hidayah 	Half sphere dome	1	Position
14.	Masjid At-Taqwa 	Onion dome	1	Shape, proportion, and color
15.	Masjid Al-Mubaraqah 	Onion dome	1	Shape, position, and color

16.	Masjid Baitussalam 	Onion dome	1	Shape, position
17.	Masjid Blang Beurandang 	Onion dome	1	Shape, position
18.	Masjid Nurul Muttaqin 	Onion dome	1	Shape, position
19.	Masjid Nurul Arifin 	Onion dome	1	Shape
20.	Masjid Jamik Tamaddun 	Half sphere dome	1+2	Shape, position
21.	Masjid Teuku Dirundeng 	Onion dome	3	Shape, proportion, composition, and color
22.	Masjid Almuqaddas Kutapadang 	Onion dome	3	Shape, position, and color
23.	Masjid Nurul Huda 	Onion dome	3	Shape
24.	Masjid Babul Jannah Suak Indrapuri 	Onion dome	1	Shape, position
25.	Masjid Al-Mabrur ujung Kalak 	Onion dome	3	Shape, position

From the Table 1, it is clear that most of the mosques were influenced by the shape of the roof of Masjid Raya Baiturrahman, which features onion domes. From the 25 mosques investigated, only two mosques have another shape of dome instead of the onion dome, which is a half-sphere dome. Meanwhile, the rest consistently are topped with onion domes. The efforts of the two mosques which do not imitate the shape of MRB dome may be due to more "modern", considering that the chosen shape is semi-circular, which is more geometric than the classic onion dome. Some mosques imitated the position and proportion, meanwhile, only a few mosques imitated the color. The number of the domes shown in the table shows the main dome and secondary dome, which are usually smaller than the main dome. For instance, the number of 5+2 means 5 main domes and 2 secondary domes. The small dome placed on the top of the minaret is not counted in that, as it is analyzed in the minaret section. The number of domes is always odd. It might relate to the belief in Islam that God likes odd numerals, as mentioned in the Hadith:

Abu Huraira reported Allah's Apostle SAW as saying: Verily, there are ninety-nine names for Allah, i.e. hundred excepting one. He who enumerates them would get into Paradise. And Hammam has made this addition on the authority of Abu Huraira who reported it from Allah's Apostle SAW that he said: "He is Odd (one) and loves odd numbers." [45]

It can be considered that the decision about the number of domes was based on this hadith.

It has to be highlighted that the position of the dome — if the mosque only has one dome — is placed in the middle. This position is quite different from the typology of Middle East mosques, where the dome position shows the location of the Mihrab [46]. However, it is similar to the Masjid Raya Baiturrahman's position of the dome.

2. Door, Window, and Column

The shape of the doors at MRB is known as a keel arch shape, as shown in Figure 4. The door also consists of pillars as part of the overall appearance, shown in Figure 5. The same pillars or columns are also used in the interior part of the mosque.



Figure 4. The door and columns in MRB [source: Author]



Figure 5. The overall look of the door in MRB [source: Author]



Meanwhile, the window is the same shape as the door, just in a smaller size. It is shown in Figure 6.





















Figure 6. The window in MRB [source: Author]






The analysis of door, window, and column typology is displayed in Table 2. For most of the observed mosques, the shape of the door and window are the same or similar. Therefore, the analysis of the door, window, and column are arranged in one table.

Table 2. The typology of Door, Window, and Column

No	Name of Mosque	Door, Window, and Column		
		Shape character of window and door	Column style	Similar to MRB?
1.	Masjid Agung Aceh Barat	Round arch	Round	Yes
				
2.	Masjid Mugo Rayeuk	Keel arch	Doric	Yes
				

3.	Masjid Babul Hasanah Manggi	Pointed arch	Square	No
				
4.	Masjid Babul Hidayah Lek-Lek	Keel arch	round	Yes
				
5.	Masjid Mutaakhirin	Keel arch	round	Yes
				
6.	Masjid Padang Sikabu	Pointed arch	Double round	Yes
				
7.	Masjid Sawang Teube	Keel arch	Doric	Yes
				
8.	Masjid Nurul Iman	Keel arch	round	Yes
				

9.	Masjid Gampong Pasie Ara	Keel arch	-	No	
10.	Masjid Rambot	Meunasah Keel arch	-	Yes	
11.	Masjid Putim	Keel arch and pointed arch	Square	No	
12.	Masjid Tanjong Bunga	Keel arch	round	Yes	
13.	Masjid Al-Hidayah	Round arch	Doric	No	
14.	Masjid At-Taqwa	Keel arch	round	Yes	
15.	Masjid Al-Mubaraqah	Keel arch	round	Yes	
16.	Masjid Baitussalam	Keel arch	round	Yes	
17.	Masjid Blang Beurandang	Keel arch	round	Yes	
18.	Masjid Nurul Muttaqin	Keel arch	round	Yes	
19.	Masjid Nurul Arifin	Pointed arch	-	No	
20.	Masjid Jamik Tamadun	Round arch	round	Yes	

21.	Masjid Teuku Dirundeng	Horse-shoe arch	Round	No
				
22.	Masjid Almuqaddas Kutapadang	Round arch	Round	No
				
23.	Masjid Nurul Huda	Keel arch	Round	Yes
				
24.	Masjid Babul Jannah Suak Indrapuri	Keel arch	Round	Yes
				
25.	Masjid Al-Mabrur ujung Kalak	Keel arch	Round	Yes
				

Most of the mosques imitated the keel arches found at Masjid Raya Baiturrahman. Some of the forms were modified to pointed arches and some arches even were simplified to be round arches. It assumed that this modification intended to give a different image of the mosque while still featuring the most distinguishing characteristic, the onion dome. This also applied to the column style. Most mosques use the round base of cylindrical-shaped columns. In general, the shape of arches used is keel arches, round arches, pointed arches, and horseshoe arches. Meanwhile, the column shapes applied are round-base, Doric, square-base, and double round-base. The doors or opening of the mosques are usually attached to the column because naturally, the mosque structure is without walls. Then, the spaces between the columns act as openings or the door. Therefore, the relationship between the shape used in the column more or less influences the shape of the arches or vice versa.

3. Minaret

There are two types of minarets in MRB. The first one is part of the main building located behind the domes, as shown in Figure 7. The second type is located around 200 meters from the main building, as shown in Figure 8.







Figure 7. The minaret in MRB [source: Author]




Figure 8. The lone-standing minaret in MRB [source: Author]

The observation data of the minaret is displayed in Table 3.

Table 3. The typology of minarets

No	Name of Mosque	Shape character	Minaret	Similar to MRB?
1.	Masjid Agung Aceh Barat 	cylindrical		Yes
2.	Masjid Mugo Rayeuk	No minaret		-
3.	Masjid Babul Hasanah Manggi 	square		Not in shape, but the smaller domes placed on the top of the minarets have similarities to the typology of the MRB dome
4.	Masjid Babul Hidayah Lek-Lek	No minaret		-
5.	Masjid Mutaakhirin	This mosque does not have minarets. However, the smaller domes located as the bigger minaret		-
6.	Masjid Padang Sikabu	No minaret		-
7.	Masjid Sawang Teube	This mosque does not have minarets. However, the smaller domes located as the bigger minaret		-
8.	Masjid Nurul Iman	No minaret		-
9.	Masjid Gampong Pasie Ara	No minaret		-
10.	Masjid Meunasah Rambot	No minaret		-
11.	Masjid Putim 	polygonal		Not the shape, but the minaret top has a similar shape to the dome
12.	Masjid Tanjong Bunga 	square		-
13.	Masjid Al-Hidayah	No minaret		-
14.	Masjid At-Taqwa	No minaret		-
15.	Masjid Al-Mubaraqah	No minaret		-
16.	Masjid Baitussalam	No minaret		-
17.	Masjid Blang Beurandang	No minaret		-
18.	Masjid Nurul Muttaqin	No minaret		-
19.	Masjid Nurul Arifin	No minaret		-
20.	Masjid Jamik Tamaddun	No minaret		-

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21.	Masjid Teuku Dirundeng	No minaret	This mosque does not have minarets. However, the smaller domes located at the top of the minaret
22.	Masjid Almuqaddas Kutapadang	No minaret	
23.	Masjid Nurul Huda	Cylindrical	The top of the minaret is similar to the dome
			
24.	Masjid Babul Jannah Suak Indrapuri	No minaret	-
25.	Masjid Al-Mabrur ujung Kalak	No minaret	-

Most of the mosques in this study do not have a minaret. Several mosques which have minarets are a similar shape to the dome. Some of the mosques without minarets own smaller domes that act as minarets since their location is elevated. This result is in line with a study that indicated that local architectural culture did not consider a minaret as a significant element in the mosque [33]. However, some mosques that have minarets tend to imitate the shape of the minaret at MRB. Some of the observed mosques which do not have a minaret might also be influenced by the position of the minarets at MRB, which is behind the dome. The existence of the minaret did not stand out as the dome. Therefore, some mosque do not have minarets.

4. Ornamentation

The ornamentation observed here was the ornamentation of the façade of the mosques as shown in the façade of Masjid Raya Baiturrahman in Figure 9. The result of the observation can be shown in Table 4.



Figure 9. Façade ornamentation in Masjid Raya Baiturrahman Banda Aceh [source: Author]

Some of the mosques imitated the façade ornamentation of MRB, while some others did not follow its style. Some of the mosques adopted a style of façade ornamentation shows a remarkable similarity to the MRB, as shown in Figure 2. Some others have modified the color, shape, and proportion to be different from the MRB

in other ways. Even though most mosques did not have façade ornamentation, the ones that did, imitated the MRB façade ornamentation with some modifications in color, shape, and proportion.









The study shows the typology of mosques in West Aceh influenced by Masjid Raya Baiturrahman. The influence is explicitly found in the form of roof/dome, door, and window. Meanwhile, there is a small number of similarities in the minaret characteristics, as some of the mosques do not have a minaret. It is assumed that the minaret is not a significant element for the mosque to be used and appreciated by a community.

The influence of Masjid Raya Baiturrahman reflects that the society considered the Masjid Raya Baiturrahman as an archetype of mosque design in West Aceh. It can be concluded that Masjid Raya Baiturrahman is a significant building for Acehnese pecifically in West Aceh.

The wide influence of MRB on the mosques of West Aceh might be explained by the fact that Acehnese travel to Banda Aceh, the capital, for many different reasons and might bring the mosque design ideas back to other parts of Aceh after they leave the capital.

However, this finding on the influence of the MRB is intriguing for two reasons. First, the reproduced form was not the original form of the MRB in the 17th century but the one which was rebuilt in 1879 by the Dutch after they set it on fire during the war in Aceh. Second, following this new construction, Acehnese Muslims rejected the MRB and refused to use the Dutch-reconstructed mosque for about fifty-five years [39]. The behavior then switched from ignoring the mosque to admiring it, and this interesting phenomenon should be noted. Even though this is not the aim of the study, it is important to note that Acehnese started to use it after the layout of MRB was changed from the reversed cross plan previously to an updated layout [39]. Nevertheless, the MRB layout was not the only reason for the rejection by society. The resistance of the public was the reflection of hatred and fury shown to the colonial Dutch.

Table 4. The typology of Façade Ornamentation

No	Name of Mosque	Shape character	Façade Ornamentation	Similar to MRB?
1.	Masjid Agung Aceh Barat 	The shape is different but the ornament of stripes is visible		Yes
2.	Masjid Mugo Rayeuk 	The façade ornamentation is in the shape of stairs in white color with black accent and diagonal stripes		Yes
3.	Masjid Babul Hasanah Manggi	The construction of this mosque is not finished yet. Therefore, there is no ornamentation that can be noted.		-
4.	Masjid Babul Hidayah Lek-Lek		No ornamentation	-
5.	Masjid Mutaakhirin		No ornamentation	-
6.	Masjid Padang Sikabu		No ornamentation	-
7.	Masjid Sawang Teube 	The façade ornamentation is in the shape of stairs in yellow color with a green accent and diagonal stripes		Yes, but in a different color
8.	Masjid Nurul Iman		No ornamentation	-
9.	Masjid Gampong Pasie Ara		No ornamentation	-
10.	Masjid Meunasah Rambot		No ornamentation	-
11.	Masjid Putim		No ornamentation	-
12.	Masjid Tanjong Bunga 	The ornamentation of the façade was not too detailed but the shape is similar to MRB		Yes, but not in detail
13.	Masjid Al-Hidayah		No ornamentation	-
14.	Masjid At-Taqwa 	The façade ornamentation is in the shape of stairs in brown color with dark brown accent and diagonal stripes		Yes, but in a different color
15.	Masjid Al-Mubaraqah	The construction of this mosque is not finished yet. Therefore, there is no ornamentation that can be noted.		-
16.	Masjid Baitussalam 	The façade ornamentation is in the shape of stairs in broken white color with a dark red accent and diagonal stripes		Yes
17.	Masjid Blang Beurandang		No ornamentation	-
18.	Masjid Nurul Muttaqin		No ornamentation	-
19.	Masjid Nurul Arifin		No ornamentation	-
20.	Masjid Jamik Tamaddun		No ornamentation	-
21.	Masjid Teuku Dirundeng		No ornamentation	-
22.	Masjid Almuqaddas Kutapadang		No ornamentation	-
23.	Masjid Nurul Huda 	The façade ornamentation is in the shape of stairs in white color with green accent and diagonal stripes		Yes
24.	Masjid Babul Jannah Suak Indrapuri		No ornamentation	-
25.	Masjid Al-Mabrur ujung Kalak 	The façade ornamentation is in the shape of stairs in white color with diagonal stripes		Yes

This study about mosque typology has shown that each typology has its own model or style. This result demonstrates that a historical and significant building, in this case, the MRB, influenced the community's perspective about design and affected their preference for mosque architecture design which finally made it an archetype. The tendency of the society to replicate the old mosque equivalent to the study in Turkey, showed the same trend [47].

CONCLUSION

This study shows that mosques in West Aceh have similarities to Masjid Raya Baiturrahman in some features, such as dome, door, and window. The MRB's dome is an onion dome shape, and the doors and windows are in the shape of keel arches. The least significant feature of the design of the mosques in West Aceh is the minaret. The other elements are fairly significant in relation to the MRB design.

Overall, it is concluded that the typology of mosques in West Aceh was influenced by Masjid Raya Baiturrahman. In other words, Masjid Raya Baiturrahman has become an archetype model of form in mosque design in West Aceh.

Analysis of the typology of mosques in West Aceh has made it possible to discover a significant theory: The spread of the Masjid Raya Baiturrahman model as an archetype of form has reached West Aceh and implemented in mosques in West Aceh.

The next question of how far the reach of this influence is should be investigated in further research with extended data of other areas in Aceh. This research is limited to the location in West Aceh. It also did not compare and analyze the date of the construction of each mosque. The upcoming study should investigate the date of construction of the mosques to get the information on the period of the influence of MRB with extended the data from other areas in Aceh to get a comprehensive perspective of mosque development characteristics in Aceh and the spread of MRB influence.

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