

# The Contextual Issues in the Islamic Architecture of Bengal Mosques

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## Abstract

The history of the settlement in Bengal region is probably more than 3,000 years old. The Muslim rule was introduced by the invasion of Ikhtiyar Uddin Muhammad bin Bakhtiyar Khilji at around 1204 A.D. In the later years lots of Muslim rulers came in this continent and contributed in the construction of Masjid, Madrasa, and Mausoleums. Unique building materials, climatic considerations, social and contextual impact on spatial quality has given such prominence in these structures that it has become identical as "Bengal Style" among the other styles practiced in Indian sub-continent and outside of India in other Muslim countries during 12<sup>th</sup>-15<sup>th</sup> century. This paper is an outcome of the search on contextual issues of Bengal mosques practiced from 12<sup>th</sup> -15<sup>th</sup> century and put light on the existing practice of mosque architecture in Bangladesh.

**Keywords:** Islamic architecture, Building materials, Climate, Context, Bengal style.

## Introduction

Bangladesh is country of deltaic formation. Monsoon climate and fertile land has made this delta a prime habitable land. The history of the settlement in Bengal region is probably more than 3000 years old. This region was ruled by the Buddhist and Hindu rulers till 11<sup>th</sup> century B.C. The rich civilization and the cities of Gaur

and Mahasthangarh tells the story of the golden era of Bengal when this region was one of the main educational center of Buddhist religion. The Muslim rule was introduced by the invasion of Ikhtiyar Uddin Muhammad bin Bakhtiyar Khilji at around 1204 A.D (<http://www.historyfiles.co.uk/KingListsFarEast/IndiaBengal>). In the later years lots of Muslim rulers and saints came in this continent and contributed in the construction of Masjid, Madrasa, and Mausoleums. The early Muslim rulers were originated from Turkish or Afghan and they brought the technology and spatial character of the West; specially the Persian style. But through the course of time this style merged with local architectural style and formed a unique style called "Indo-Islamic" style. During the Sultanate period (1342-1576 A.D.) the use of unique building materials, climatic considerations, social and contextual impact on spatial quality has given such prominence in these building forms that it has become identical as "Bengal Style" among the other styles practiced in Indian sub-continent and outside of India in other Muslim countries

during 12<sup>th</sup>-16<sup>th</sup> century (Husain, 2007). There are some key contextual issues behind the practice of "Bengal Style" in Mosque Architecture during Sultanate period. The term "contextual issues" not only covers the climatic and geographical context but also political and socio-cultural aspects. The objective of this paper is to determine the effect of contextual

issues which enforced the design evolution in the architecture of mosques during sultanate period.

### Political Background of Bengal in Medieval Period

The timeline of sultanate period in Bengal (Figure 1) can be counted from 1204 to 1576 A.D. Following the invasion of Ikhtiyar Uddin Muhammad bin Bakhtiyar Khilji this region was ruled by the governors of Delhi Sultans from 1204-1339 A.D. But most of the time this governors ruled freely without having any direct controls from their sultans. The rivers and marsh land made this region invincible to the foreign invaders. The local governors took the opportunity of the landscape and often declared them as an independent ruler. But due to the minimum duration of the ruling period, most of the governors had very few chances to contribute in architecture and building construction. Among them, Sultan Shamsuddin Firuz Shah ruled for 21 years (1301-1322 A.D.) and it was the longest duration for a single ruler. Firuz Shah was the founder of “Pandua Nagar” and few other buildings (Figure 2). It is assumed that many other buildings were founded by the “Gazi’s, who were the saint come warriors and worked as a joint force with the governors to expand the glory of Islam. Most of the “Gazi” came from Persian-Turkish region and Syria. They brought the construction technique and design approach with them which actually founded the design ideology of “Bengal Style” in later phases (Husain, 2007).

After the governors, this region came under the rule of Ilias Shahi family at around 1342 A.D. Their ruling period was divided in two phases e.g. Early Ilias Shahi (1342-1412 A.D.) and later Ilias Shahi (1436-1487 A.D.) Ilias Shah was the first ruler of the Ilias Shahi family and he was the first independent ruler without the control from Delhi Sultanate. The mosque architecture during this time had a prominent impact of Persian style in the spatial organization and building scale. The largest mosque of Bengal

“The Adina Mosque” situated at Pandua is the prominent example of this phase having a large rectangular courtyard at center which was surrounded by a pillared hall. In between the two








Figure 1: Map of Bengal during sultanate period



Figure 2: Map of Pandua City (Husain, 2007)

phases of Ilias Shahi regime there was another ruler called king Ganasha, who came in power at the death of Alauddin Firuz Shah (the successor of Ilias Shahi family) at 1414 A.D. At the death of king Ganasha, his son Jodu came in throne of Sultanate at 1418 A.D. Within a few days he converted himself from Hindu to Muslim by taking Islam as his religion and was titled as Jalaluddin Muhammad Shah. His contribution in the “Bengal Style” was the innovation of

Table 1: Mosque architecture in sultanate period

1204 A.D.	1339 A.D.	1412 A.D.	1436 A.D.	1486 A.D.	1576 A.D.
Era of the Governors		First regime of Ilias Shahi Family		The regime of King Ganasha and Jalaluddin Muhammad Shah	
Significant construction works					
Zafar Khan Gazi Mosque 	Adina Mosque 	Eklakhi Tomb 	Chamkatti Mosque Lottan Mosque Sixty Dome Mosque 	Choto Sona Mosque Bara Sona Mosque 	

“Eklakhi Style” which was the outcome of single dome prototype structure considering low-cost construction with minimalist design attitude. Jalaluddin Muhammad Shah was in the power of sultanate from 1418-1436 A.D.

Nasiruddin Mahmud Shah was one of the successors of Ilias Shahi family and he took the power of Bengal sultanate at 1436 A.D. He and his successors were in power till the murder of Fateh Shah at around 1486 A.D. these 50 years were counted as one of the golden era in the field of architecture, literature and economical development (Husain, 2007). Apart from the rulers, there were some saint-warriors who contributed in the spread of Islam and construction of some mosques. Among them Khan-e-Jahan was most famous for his contribution in the development and practice of Bengal style in his works. He had good relationship with both the ruler and the general mass. Most notable Khan-E-Jahan works are Sixty Dome Mosque and his own Mausoleum at Bagerhat, Khulna. The Sixty dome mosque was completed before his death at 1459 A.D. After the murder of Fateh Shah at around 1486 A.D., this continent was ruled by the Abyssinian Rulers from 1487-1493 A.D. These six years were counted as one the darkest era of this region having political clash and corruption. At the death of Shamsuddin Mozaffar Shah at 1493 A.D. this region again came under

the rule of Sultanate and the ruler was Sayed Hossain. The regime of his Family (1493-1538 A.D.) is known as Hossain Shahi Era. The Hossain Shah himself and his successors carried out the Bengal Style in Mosque construction by following the design elements and fenestration of Khan-e-Jahan style. Giyasa Uddin Mahmood was last ruler of Hossain Shahi Family and he completely failed to continue his ancestor’s glorious past. He lost his throne to the Sher shah and thus the Era of sultanate end at around 1576 A.D. (Husain, 2007). More than 200 years of Sultanate period (1342-1576 A.D.) was comparatively stable and free from outsider’s invasion. Due to this stability, some of the rulers successfully contributed their effort and resources to the mosque construction and developed the unique “Bengal Style”.

### Local Context and Building Materials

It has been discussed earlier that the Islamic rule had been introduced in this continent through the ‘Nodia’ invasion of Ikhtiyar Uddin Muhammad bin Bakhtiyar Khilji at around 1204 A.D. for the next hundred years the governors of Delhi sultanate and some ‘Gazi’s’ were in the control of power. These rulers first introduced the mosque architecture in Bengal region having the spatial concept and façade articulation of Persian and Byzantine architecture. Before the introduction of Islam, the Bengal region was

ruled by the Buddhist and Hindu kings. They built lots of temples and other structures. The Muslim rulers found long practiced building construction technique by the local masons and they were also introduced by the use of brick and terracotta work. Though most of the buildings were demolished which were constructed in governor's regime due to the use of nondurable materials, one mosque can be noted specially for its partial existence till today. That is Zafar Khan Gazi mosque, which was built by bricks but later had a stone cladding over it for the durability and aesthetic properties (Hasan, 1989). This mosque shows the existence of interior column, multi-dome roof, use of arches for structural load distribution and the use of 'squinch' to distribute the load of domes. Local masons were used to build temples, which were solidly built and had very little interior space inside. Thick walls of temples could take the load of 'shikhara', which could reach up to 15-21m high.

Unfortunately in a mosque, the interior space had to be free of obstruction and it requires a large pavilion like space for prayer in multiple rows. That is why the Muslim builders faced a great challenge while working with the local masons. First they had to choose brick instead of stone as the main building material. But main structural elements like base and column were entirely made of stones though it was rare in the Bengal region. Stone slab or beam had a problem while taking load in large span. Therefore, the entrance and hallways were made of brick arches and the arches were topped by dome on them. The size of the dome was depended on the width of the arches. This system is called the pendentive system and it was imported from Persian and Byzantine construction technique. The introduction of arch and dome was evolved from structural solution rather than Islamic symbolism and early mosques in Bengal region had direct influence of the mosque architecture practiced in Delhi that time (Husain, 2007).

In the regime of Sikandar Shah (Son of Ilias Shah) the largest mosque was built named 'Adina Mosque' at 1373 A.D ([http://en.wikipedia.org/wiki/Adina\\_Mosque](http://en.wikipedia.org/wiki/Adina_Mosque)) (Figure 3). It was in the urban area of his administrative center at Pandua (Husain, 2007). The enormous size of the mosque represents the political power and dignity of the ruler and could accommodate huge number of peoples during prayer (Husain, 2007). Adina mosque is the only mosque in Bengal, which had direct influence of Arab mosques in spatial organization (Figure 4). Even it had great similarity in plan with Qwat-ul-Islam mosque at Delhi, which was founded by Qutub Uddin Aibek almost hundred years earlier. Both of the mosques had a central courtyard surrounded by a pillared hall. This complex module of spatial arrangement was commonly seen in the Arabian and Persian region. The central nave which leads to 'Mihrab' was covered by huge vaults due to the wider span than the other areas. The pillared hallway was covered by the domes supported by the pendentives and columns (Figure 5). Though the main building material was brick, but lower part of the walls were covered by stones. Adina mosque is not the true example of 'Bengal Style' due its direct influence of western world, but this mosque clearly represented the power and dedication of the builder through its scale, structural innovation and the majestic appearance. Both the innovations and the failures in Adina mosque were the inspiration for the mosque builders of later phases. This huge Mosque is considered as a prominent example of Early Ilias Shahi style (Husain, 2007).

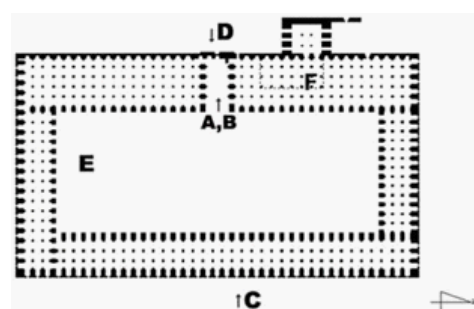


Figure 3: Plan of Adina mosque



Figure 4: Ruins of Adina mosque



Figure 5: The conceptual visualization of Adina mosque's interior

When the Muslim builders started to build small mosques, they had taken the inspiration from the form of rural homestead or 'Hut' (Figure 6). Apart from the temples, it was the only built form type from which they could be inspired to respect the climatic context and achieve the acceptance from the local mass. The first outcome of respecting the local context, building material and inspired by the origin can be seen in the tomb of Jalaluddin Muhammad Shah, which was a single dome structure with thick walls and known as 'Eklakhi Tomb' (Figure 7 & 8) (Hasan, 2007). The innovation in the Eklakhi style was the representation of rural hut having curved cornice for rainwater drainage and symbolized the pitched roof (Husain, 2007). The corner minarets with circular bands represented the bamboo support in rural huts. The dome in this structure was revolutionary because of its size. The Eklakhi style was minimalist in design approach and it was cost efficient. It also generated the concept of independent model of the mosque for a small community (Hasan, 1989). In later phases lots of mosques were built having single dome over the main prayer area. The curved cornice and minarets with bands at each corner became the symbol of 'Bengal

Style' which lasted for the next 200 years. The Eklakhi tomb of Jalaluddin Muhammad Shah was entirely built on bricks (Hasan, 1989).



Figure 6: Rural Hut of Bengal



Figure 7: Eklakhi Tomb showing curved cornice

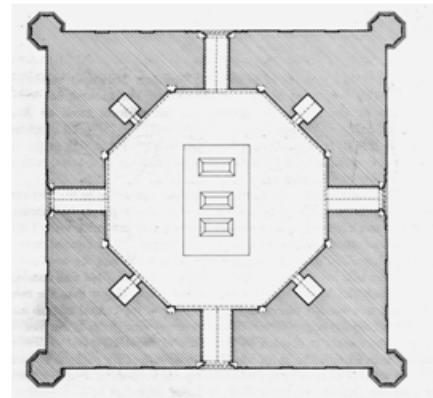


Figure 8: Plan of Eklakhi Tomb (Hasan, 1989)

Ilias shahi family came in power for the second time through Nasiruddin Mahmud Shah. He and his successors ruled this continent peacefully and had great contribution in mosque architecture. The Bengal style in mosque architecture got prominence and became profound in their regime. They had introduced mixed structural

system in independent models and built a number of small mosques for local community. The notable Example of this phase is the Chamkatti Mosque (Figure 9) at Gaur, Maldah (<http://www.asikolkata.in/maldah.aspx>). It was founded by the Yousuf Shah at 1475 A.D. An additional approach verandah with the main prayer area is the unique feature of this mosque. Similar feature can also be seen in the ‘Lottan Mosque’ (Figure 10), but Chamkatti Mosque was much older than it. Unlike the Eklakhi tomb, the wall in the Chamkatti Mosque was thinner; less than 1.5m wide. The Squinch at each corner takes the load of the central dome. The verandah was topped by the ‘Chowchala Vault’ at the central grid and one small vault at both sides (Husain, 2007).

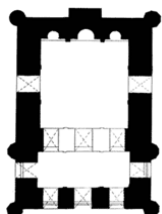


Figure 9: Plan and image of Chamkatti mosque

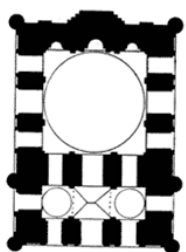


Figure 10: Plan of Lottan mosque

The vault was made having the similarity with the “Chow-Chala roof” of rural hut (Hasan, 2007). By using the Vault over the central nave

of the verandah represents both local heritage and structural symbolism. The vault over the central nave became so popular that many of the large mosques had this feature in later decades. Another feature that made Chamkatti mosque special was the using of stone at the base and beneath the arches to reduce decay and increase the structural strength. Using of the mixed material is also a part of innovation in this unique mosque which added additional features in ‘Bengal style’.

Khan Jahan was a Saint-warrior who came in Bengal during the regime of Jalaluddin Muhammad Shah (1418-1432 A.D.) (Husain, 2007). He conquered the Khulna and Jessor region under the command of Sultan Nasiruddin Mahmood and became the governor of that area ([http://www.banglapedia.org/HT/H\\_0136.HTM](http://www.banglapedia.org/HT/H_0136.HTM)). After conquering, Khan Jahan formed a city and named it “Khalifatabad” (Zakaria, 2007). He ruled there for more than forty years and during that period he developed a unique architectural style in mosque architecture which is known as “Khan Jahan Style”. He had developed an independent prototype composed of pendentive and dome. Repeating this single prototype in rows can generate the horizontal expansion of prayer space. This invention virtually opened the opportunity to build a large mosque under a single roof; though the roof was composed of multiple domes. Having this prototype, he built ‘Sixty Dome Mosque’ at Bagerhat, Khulna (Figure 11) at around 1459 A.D.

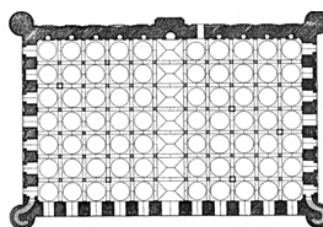


Figure 11: Plan of Sixty Dome Mosque

It was the second largest mosque in Bengal (after the Adina mosque) and was the most notable work of Khan Jahan. The size of the

mosque was 48m x 32.45m and interior space was composed of eleven bays and six rows. The mosque was also used as the Madrassa and Darber hall in between prayer times. Though it was known as Sixty Dome Mosque, the number of dome is actually 70 (Zakaria, 2007). The Middle bay is rectangular and topped by seven “Chow-chala” Vaults and it is wider than the other grids which are square in shape. The structural system is pendentive system (Figure 12) having slender stone columns beneath the brick arches and a hemi-spherical dome over it. Khan Jahan showed the respect to the local heritage and climatic context by using curved cornice, “Chow-chala” vault, Corner Minarets with bands (which elements were used in previous mosques) and austere building aesthetics (Zakaria, 2007).

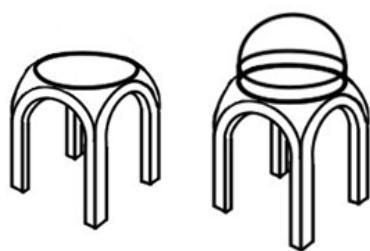


Figure 12: Pendentive structural system with dome

The Minarets are circular in plan where previous mosques had octagonal plan. The simplicity in façade treatment and pavilion like interior space made this mosque unique. The spatial and structural achievements of sixty dome mosque was followed in later phases, e.g. during Hossain Shahi regime. But those mosques had little contribution in the structural innovation and symbolic representation rather those were famous for their rich and detailed façade decoration (Husain, 2007)

### Chronological Contextual Development of Bengal Style Mosques Architecture

In the light of structural innovation, respecting local context and climatic consideration, four most influential mosque of Bengal have been discussed. These mosques show a chronological development in the structural innovation and as

well as symbolic representation of local built forms. These unique characters differentiated these mosques from the other mosques in other Muslim countries of medieval era. The development of the mosques that have been discussed earlier can be summarized in Table 2 in terms of new features and contextual issues addressed there.

Table 2: Chronological contextual development of Bengal style in Sultanate period

Name of Building	Type	Builder	Innovation	Design Inspiration	Address Contextual Issue
Adina Mosque (City of Pandua)	Complex Model	Sikandar Shah (1373 A.D.)	Use of vaults over central nave Domes over pillared hallway Pendentive structural system	Arab & Persian mosques	Expressing political power by large scale construction
Eklakhi Tomb (Pandua)	Independent model	Jalaluddin Muhammad Shah (1418-1436 A.D)	Single large dome Corner minarets of octagonal plan Curved cornice Squinch structural system	Rural hut	Symbolic representation of rural hut by using curved cornice and corner minarets
Chamkati Mosque (Gaur)	Independent model with approach verandah	Yousuf Shah (1475 A.D)	Additional approach verandah Use of vaults over verandah Stone columns and lintels used for structural durability	Rural built form Eklakhi Style	Symbolic representation of rural hut by using curved cornice, corner minarets and approach verandah
Sixty Dome Mosque (City of Khalifatabad)	Complex model composed of multiple independent models	Khan Jahan (1459 A.D)	Use of vaults over central nave Domes over other spaces Pendentive structural system with stone column and brick arch Corner minarets of circular plan	Rural built form Pavilion like multi-functional space austere design approach	Introduced mosque as a multifunctional space Developed the complete Bengal style having the ideology of symbolic representation

It is clear that the ruler, who was in the throne for a long time had notable contribution in the mosque architecture in Bengal. Thus, the stability in political power became one of the key contextual issues in the evolution and development of “Bengal Style” in mosque architecture. Again, Socio-cultural aspect and location also determined the size and detailing of a mosque. Most of the mosques outside of the main administrative area were small and single domed, where the mosques in the main

city were larger due to accommodate larger mass of population and spatial demand. The climatic force like monsoon had pushed the builders to build the structures with better drainage properties. From this challenge the design of curved cornice has evolved by the idea and inspiration from the rural hut. The symbolic representation of hut in mosques also got the appreciation from local mass. Thus the climatic, political and socio-cultural aspects enforced the development of “Bengal Style” in mosque architecture.

### Conclusion

The sultanate period was a glorious time for the development of “Bengal Style” in mosque architecture. The Bengal style was unique among the other styles practiced in Indian sub-continent and outside of India in other Muslim countries during 12<sup>th</sup>-15<sup>th</sup> century in terms of structural innovation and addressing contextual issues. Those mosques and design philosophy lasted for hundreds of years in our continent and considered as the inspirational works for the rulers and builders of later phases, like: Mughol (Imamudin et al., 1985) and colonial regime. Detail study of the “Bengal Style” can also provide us some design ideas which we can incorporate with the modern design and construction technique and glorify our past heritage.

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