

# An Evaluation of Dome Architecture in Bengal: Historical Development and Comparative Analysis

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## ABSTRACTS

In Bengali architecture, domes were commonly found in mosques and palaces. It has become our national architectural identity, influenced by Muslim kings. The dome was first utilized in mosques but is currently found in other structures. Permanence was the dominant feeling in the dome. The dome's style varies from time to time. Muslims attempt to alter buildings' design, form, and style using domes in many buildings. That is why we can observe different types of domes. The Muslim style was the first to have an influence, followed by the rural hut style. Mosques are occasionally categorized based on their dome designs. The idea of dome design has evolved over time to accommodate the desires of both the ruling class and the general populace. Mosques worldwide shared specific characteristics, even though Muslims had a highly developed style of mosque design characterized by arches, domes, minarets, and mihrabs. A distinct Islamic architectural style was created when Muslims introduced this architectural element into the region's customary architectural lexicon. Muslim designers considered and investigated Bangladesh's environment, available local materials, and the experienced craftspeople who made them. Since then, the Bengal region's architectural characteristics have changed due to the valuation of the mosque's dome. Most mosques' interpretations of the fundamental principles of Islam are domes, and this study shows how the morphology of these structures has changed over time and pinpoints the key elements that have influenced this development.

**Keywords:** Domes, Architecture of Bengal, Identity of Dome.

## INTRODUCTION

The dome is basically an impeccable geometric architectural feature. It amassed enormous proportions in one form, and the aesthetic features of architecture flourished.

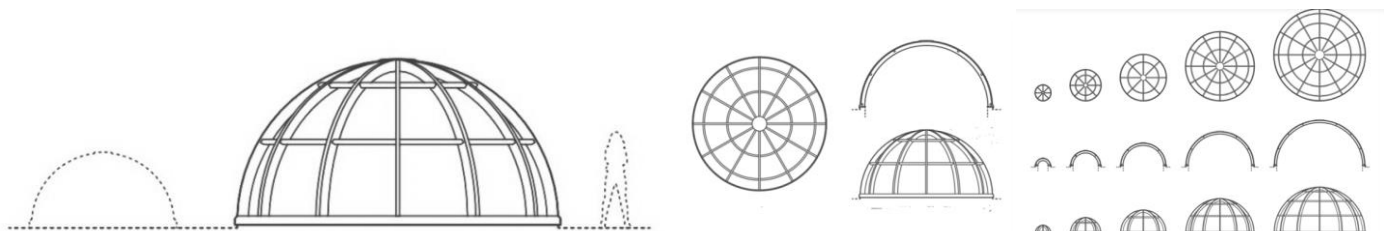


Figure.01(a),(b) and (C) Shows, A Figure Ground Analysis of Dome Plan, Elevation and Differentiate Scheme. (Dimensions. Com, Fantastic Offense, ©2024 Dimensions.com)

And through this shape type, the installation attains perfection, develops. It is basically a semi-circular shape. The shapes were derived from traditions of pre-historic shelters made from various impermanent pliable materials and were only later reproduced as vaulting in more durable materials. (Earl Baldwin Smith, 1950) The individuality and courtesy of this size are much more evident. This shape of the sphere is a special semi-circular

shape. There is no curvature or obscurity. There is only one geometric range. The radii of this range are sometimes much smaller and sometimes much larger. It depends on the area and size of the installation.

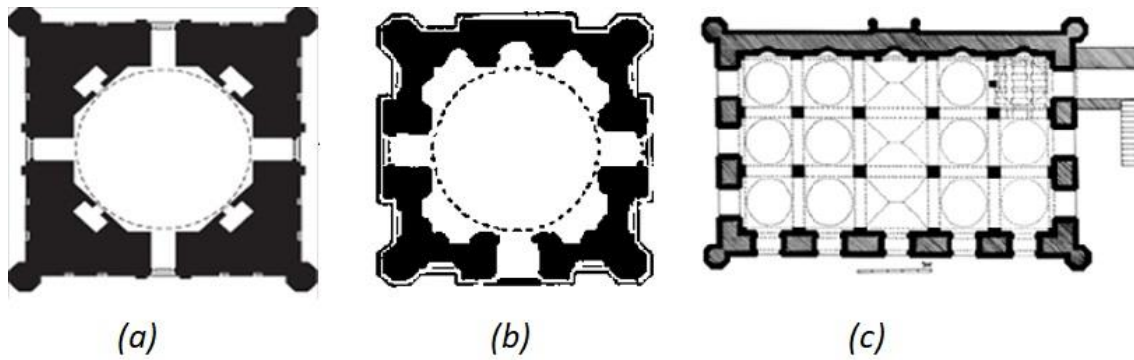


Figure shows:: Mosque and Tomb Dome Plan, Figure.02(a) Shows:: Eklakhi Tomb plan with dome In Pandua, Photo Courtesy from Banglapedia, 02 (b). Shows:: Allahkuri Mosque plan with dome, Photo Courtesy from VDLion IIIId section of Mosque (Allakuri Mosque fl.JI,pp. 195. 196J and) and 02 (c) shows:: Choto Sona Mosque with Dome Plan (Banglapedia)

It is impossible to get what is wanted in the installation if the frame of an installation does not fit the dome suitably for what size or type it should look. Thus, the dome is known as a unique, prestigious architectural feature. Hence, a dome's only primary and secondary definition is "the dome is also a hemisphere. Where is the use of the dome? Unlike the installation's eight to ten architectural features, the dome is not seen everywhere. Again, it is seen in all religious establishments. More or less especially in many architectural monuments of Islam, the dome can be seen spreading widely. Domes are also found in mosques, Darbar Sharif, Hammam Khana, Ozukhana, Dargah Sharif, Mazar, Samadhi installations, Islamic meeting rooms, Huzurakhana, Nahabat Khana, Khankah, Madrasa, Andhakup, and Islamic libraries. This demand is widespread not only in Bangladesh but all over the world. The use of domes can be seen in other religions besides Islam. Such as Hinduism, Hebrew religion, Sikhism, Punjab religion, Bihari, etc. Apart from all religious institutions, it is also seen in government and administrative buildings. Especially court or court establishment, courthouse, qazi's house, or sultan's house.

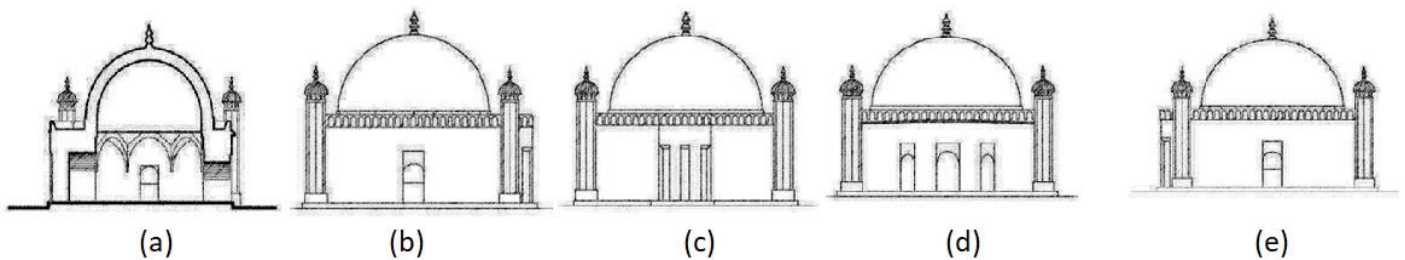


Figure.03(a),(b),(c),(d),(e) Shows The Elevation of A Dome in Architecture of Bengal (Shahi Mosque at Bandar, Narayanganj),

In earlier days, the work and use of many domes could be seen in the houses or palaces of the kings. The use and application of domes has diminished over time. However, a closer look at the current trends reveals that the time will come when the demand and lack of features of the dome will re-emerge. I was waiting for that good day. The main reason for the use of the dome. What is the dome of the palace? The building, the mosque, or the roof of the temple is special! So what? Now this issue is no longer tied to that trend. Now the specialty of the dome is much more. It can be seen that the dome is basically a symbolic log. Like a flame or peak. A dome enables an installation to embrace its visitors from afar. A powerful means of identification.

## RESEARCH METHODOLOGY

In this research paper, we will mention some of the essential beginnings and perimeter lines of dome architecture. Where only the main line of the architecture of the dome will be shown in light of the architectural features of the country and Bengal. Although the beginning of the dome was abroad. However, with the passage of time,

this style of architecture has gained momentum, and as compared to other countries, the architecture of this country has become a significant addition.

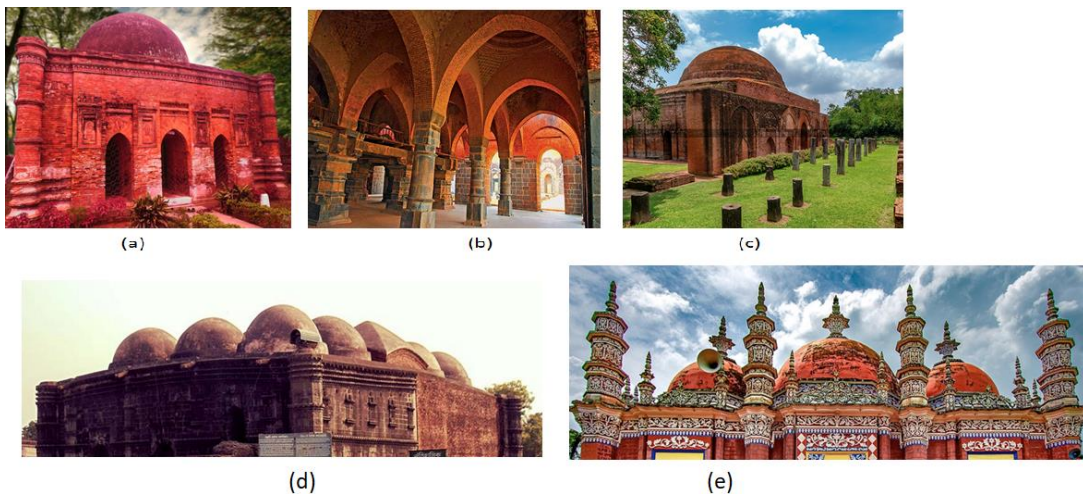


Figure 04(a),(b),(c),(d),(e) Shows:: Different Types of Dome Architecture In Bengal (a). Goaldi Mosque Dome at Sonargaon, Narayanganj (b). 60 Gumbad Mosque Dome at Bagerhat, Khulna, (c). Baro Bazar Mosque Dome at Jhenaidah, (d). Kusumba Mosque Dome at Manda, Naogaon, (e). Miabari Mosque Dome at Karapur, Barishal [All of all photo courtesy from Wikipedia, The Free Encyclopedia]

According to the outline of Bengali architecture, the range of domes in the architecture of this country is from the Sultanate era to the modern era. Where the maximum range of contemporary trends is observed. Pre-Mughal architects in Bengal came up with a distinctive roofing style, commonly referred to as the hut-shaped or curvilinear dome. (Zobayer, Thu Apr 13, 2023) In this paper, the development of dome architecture has been shown in a series of those stages. Also recorded is the different totality of each era. Where, throughout all ages, only the influential factors of dome architecture have been shown as well as deeply considered.

However, in this study, the dome architecture has been divided into a continuous range over a wide period of time. In the course of Bengali architecture, the period of this range has been divided into 6 stages. These include the successive Sultanate period, the Mughal period, the transition period between the Sultanate and Mughal period, the beginning and end period of the colonial period, the Pakistan period, the post-independence period, and the and the contemporary modern period. All that is needed with this research paper is a literary-based religious discussion and review, some survey data or documents, from the beginning to the end of perseverance. Only through hard work, perseverance, and study can the totality of this research paper be recorded. Where the graphical presentation will inevitably remain. Each schedule is accompanied by architectural features and its speed and range.

## HISTORICAL AMALGAMATION OF DOME IN THIS BENGAL

Priests used to worship gods and goddesses in the sanctum sanctorum of most temples. Devotees pray outside the sanctum sanctorum. For the Hindus, this shrine was a confined space, whereas for the Muslims, the house of prayer, i.e., the mosque, was a place of large gatherings for collective prayer. However, many small mosques have been seen in the area. The mosque faced the Qibla where the main work was mihrab, mimbar, minar, shan, dome etc. It can be seen that another era cannot cover one era of architecture. But, from time to time, local Hindu-Buddhist customs have a profound effect on work. With the growth of Islam in Central Asia and Persia, Muslims adopted the arch and dome to construct their buildings and further developed and enhanced their visual and structural qualities. With the growth of Islam in Central Asia and Persia, Muslims adopted the arch and dome to construct their buildings and further developed and enhanced their visual and structural qualities. (Hassan, 2019) The arrival of Muslim elements in the Middle East led to a unique Muslim architectural style, combining Muslim elements with style. Muslims bring structures according to their religious needs and Hindus and Buddhists provide construction techniques. Pendants and squinches began to be used to place arches, columns, and domes on the outside of the front of the building. These are not Muslim elements either, but Muslims can apply that experience in Bengal by extracting them from Roman-Byzantine and Persian sources



prevalent in the pre-Islamic era. Over time, this style of architecture became an integral part of Muslim buildings. The dome's construction was one of the most difficult and challenging of the few architectural features of the region that were brought to the fore from foreign architectural features.

## SULTANATE DOME IN BENGAL

The conquest of Bengal began in the early 12th century. A revolutionary achieves the breadth of change. Bengal was conquered by "Ikhtiyar Uddin Muhammad Tughlaq bin Bakhtiyar Khalji," which led to the rise of Muslim rule in the "Bengal region." Is it possible that a new Muslim government system and the country will not have a touch of Muslim architecture? The strong construction and craftsmanship of Muslim architecture in other Muslim-ruled countries outside the world deeply reveal the country's clever scholarship to other countries. Where the borrowed concept or thought consciousness is used with a deep reflection of one's architectural features, and the journey of something new begins. This can also be seen in the 'Bangla region'. Here, the need to build a mosque can be seen, and from that need, the competition of mosque construction styles can be seen. And the issue was inevitable. In the West, just as Muslims defeated other religions after the conquest of Muslims, so they mixed the architecture of their own mosques with the architecture of different faiths. It is seen that a church has been converted into a mosque. In that sense, the architectural style they created and the architectural style of different religions can be very similar. But nothing like that was possible in India and Bengal. Because there are more temples here than churches. Here the Muslims were there to defeat the Hindus. However, the appearance or work of a temple is located many yojanas away from the mosque. The size and number of domes are converted. Symbols and architectural characters borrowed from the mosque were developed in different regions and reflected their regional introduction. The central dome mosque of Ottoman architecture consists of four Ivan mosques in Persia. Four impressive domes on three sides and three In India, domed Mughal mosques have a different identity and character from the mosques of that time. In the evolution of mosque architecture in ancient times in Bangladesh, Muslim builders adapted a multi-dome type mosque. About half of the mosque is built. In the early stages, several semicircles are covered in small the dome introduces a wide central nave. At first, there was an emphasis on the niche of the central mihrab. In the evolutionary process. This is covered in the central nave. As a long tunnel vault acts as a transporter Adina Mosque in Hazrat Pandua and Gunmanta Mosque in Gaur. Muslim manufacturers a special arch known as Chouchala Dome. Central naves that was wider than the surrounding ones. The cold-domed mosque and small gold of Bagerhat The mosque at Gaur depicts the use of the Chouchala arch. There have also been experiments with different types. The dome of the square mosque. Small square-shaped mosques have a single dome. Ranbijaypur Mosque in Bagerhat, Chunakhola Mosque in Bagerhat, and Goaldi Mosque in Sonargaon An example of a dome mosque.

## ARCHITECTURAL FEATURES OF SULTANATE DOME

### Sultanate Dome:

The pre-Mughal period started from 1338–1538. About three-quarters of the total number of mosques built in Bengal during the Muslim period was built between the mid-fifteenth and sixteenth centuries.

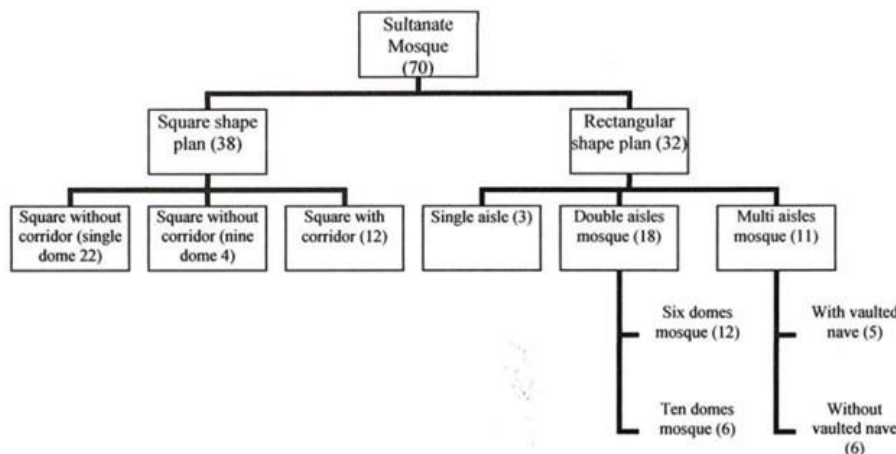


Figure.05 Shows Classification of Sultanate Mosque Dome(., 2006)

## Typology of Sultanate Dome

Domes of the Sultanate period vary in size. During the Sultanate period one dome, three domes, six domes, nine domes, sixty dome mosques can be seen. Majorly types of mosques were built during the pre-Mughal sultanate, and in each type they used domes to place crowns.

They are:

01. Square Single-Dome
02. Rectangular Four-Dome
03. Rectangular Six-Dome
04. Square Nine-Dome
05. Rectangular plan with Number of Domes (Banglapedia, 2021)

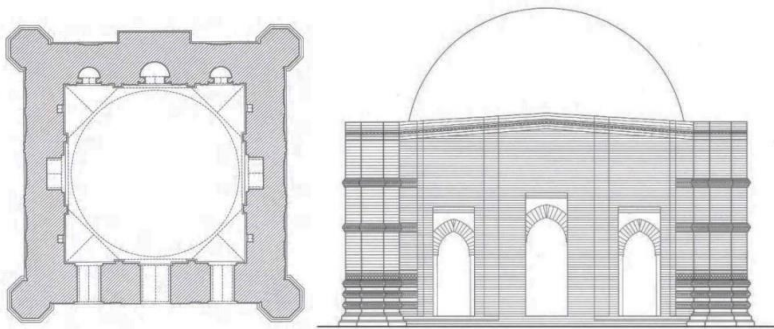


Figure 06 Shows, Square Plan and Front Elevation of Jor Bangla Mosque at Kaliganj, Baro Bazar and Jhenaidah that shows Square Single Dome, Mosque Drawing Collected from Historical Book “Mosque Architecture In Bengal”

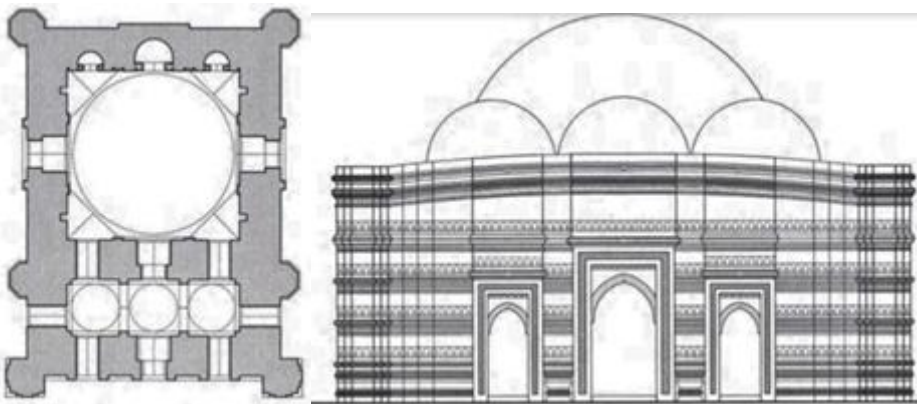


Figure 07 Shows, Rectangle Plan and Front Elevation of Ghorar Mosque that shows Four Domes. Mosque Drawing Collected from Department of Archaeology (DOA)

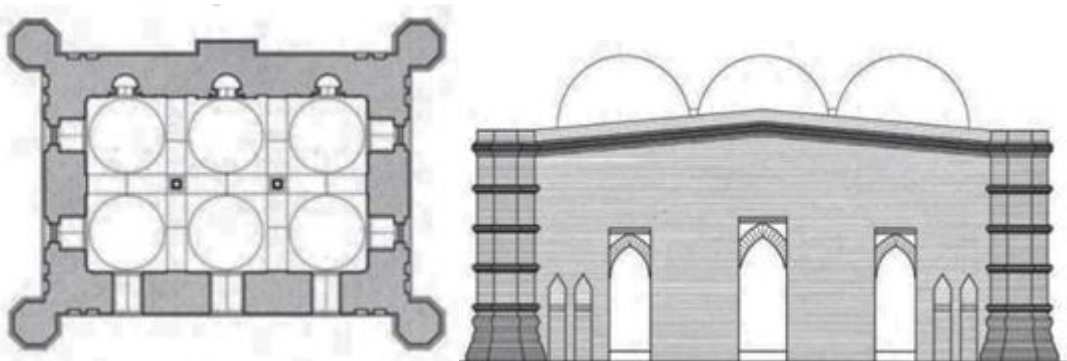


Figure 08 Shows, Rectangular Plan and Front Elevation of Golakata Mosque that shows 06 Dome. Mosque Drawing Collected from Department of Archaeology (DOA)

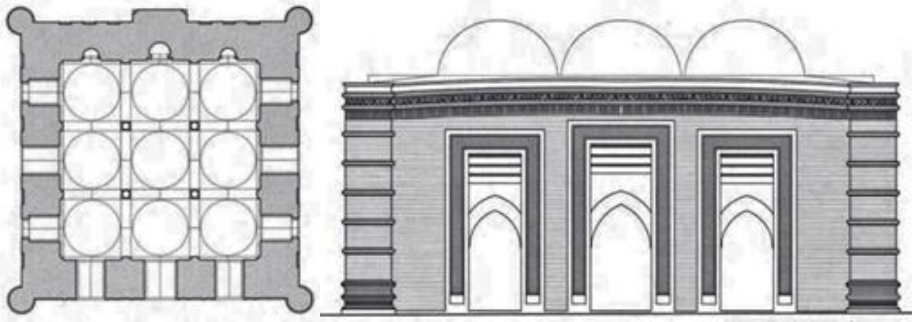


Figure 09 Shows, Square Plan of Noy Gombuj Mosque that shows 09 Dome.( collected , Anonymous )

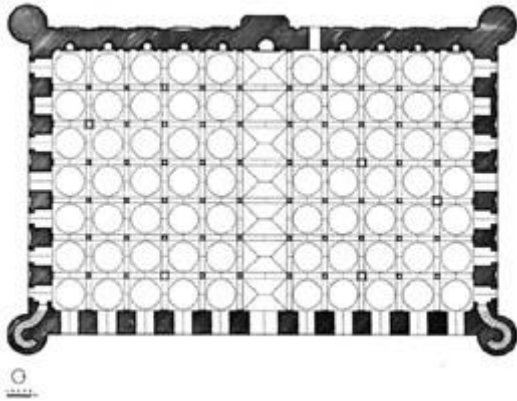


Figure 10 Shows the Rectangular Plan of the 60 Dome Mosque at Bagerhat, Khulna, which shows 81 Dome. Mosque ( banglapedia)

### Typology of Dome in Sultanate Architecture according to Isles and Bays::

Mosques built in a rectangular plan are divided into isles and bays according to the number of domes on the roof. So the size of these buildings depends entirely on the number of domes they use. A single aisle with a bay on each side of the nine-domed mosque. The most popular form of mosque in pre-Mughal Bengal was the one-domed room. This design was probably made from a pre-Islamic temple in Bengal. Two types of domes were used during this period, and they are:

A) Semi-circular domes, the central isles broken into smaller square units, each covered by a semicircular dome which is circular as planned. Place in round or thick walls or columns in shape.

B) Chow-chala domes, central isles divided into small rectangular units, each covered by a chow-chala dome. These chahu-chalas are small forms of roofs found in village huts in Bengal. These domes consist of four parts that lean on four sides. The long slopes above a rectangular chamber form a ridge at the top and the last slopes are triangular in shape. The lower edges of the slope are usually curved. Such domes are a rare division and are now extinct over time.(Khandakar, 2004)

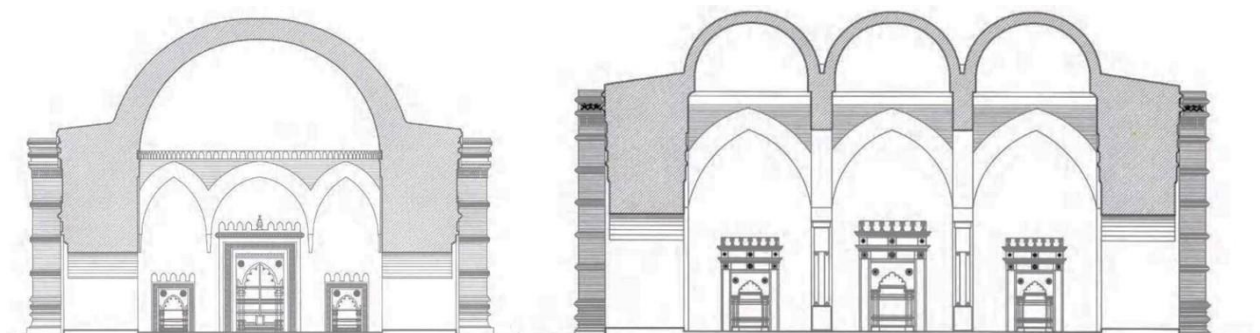


Figure 11 Shows:: Longitudinal Section of Chunakhola Mosque and Noy Gombuj Mosque that shows the Varieties of Dome, “Mosque Architecture In Bengal”



## Low Rounded Dome

An architectural feature became necessary when the Sultani architectural features in Bengal became prominent. This could not be withdrawn in any way. That is the low rounded dome. This concept or pattern of domes differs from eight to ten other architectural features. Gradually this architectural feature develops. Every dome drum built at this time is detached. Whose other name is Pipa. That is to say, there is no barrel in this dome. Shaped directly from the base, this dome is distinct and independent. This dome looks like an inverted cup because of the absence of drums or barrels. This is a lot easier. From the beginning to the end of this circular dome, that is, from beginning to end, only low size prevails.

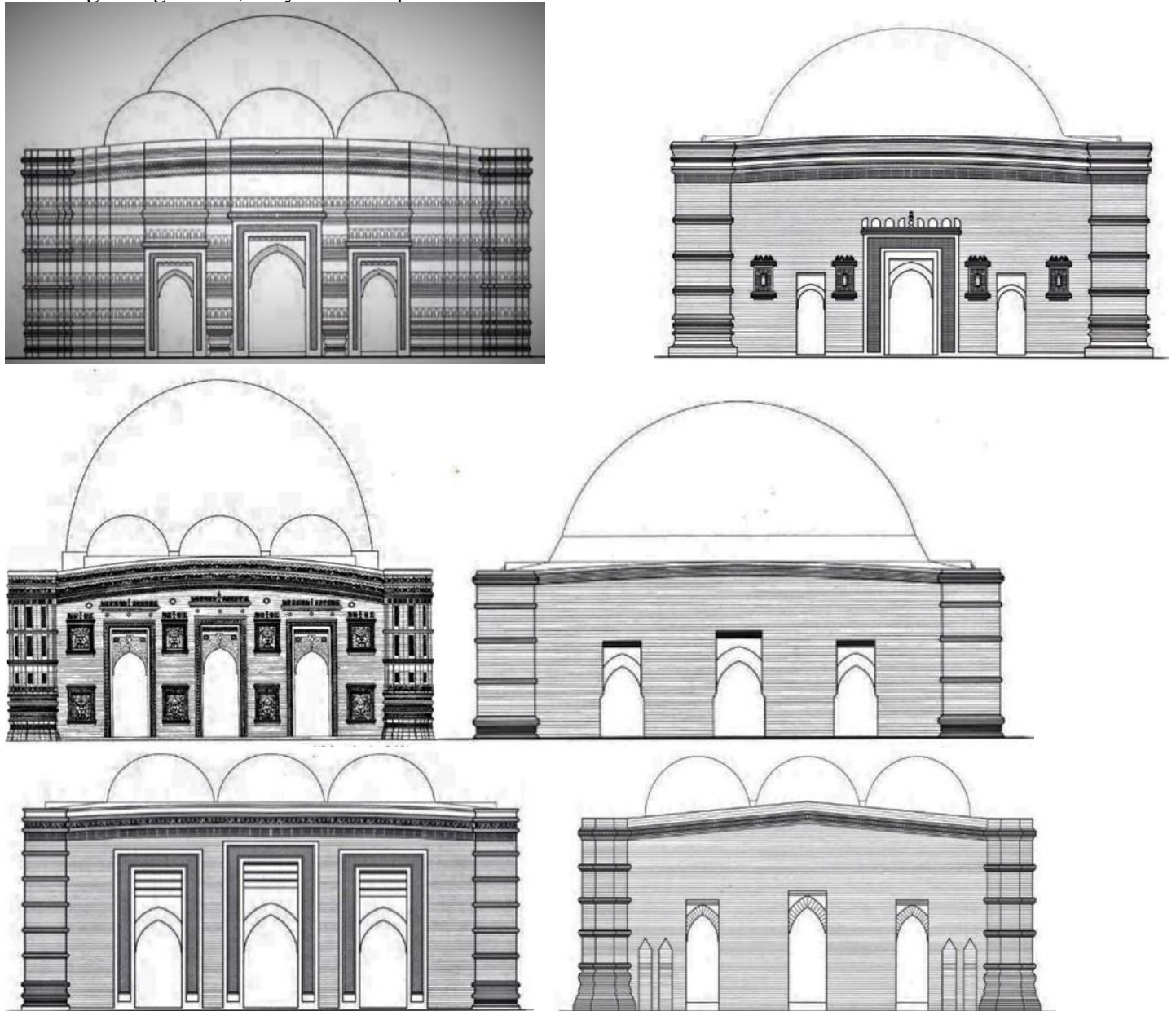


Figure 12 Shows::Elevation of Ghorar Mosque at Jessore, Chunakhola Mosque at Bagerhat and Rajbibi Mosque, Ronbijoypur Mosque at Bagerhat, Nine Dome Mosque and Golakata Mosque Elevation Shows the Dome without Pipa style. Drawing Collected from Mosque Architecture In Bengal (Book) and Department of Archaeology (DOA)

## Tower at the Top of the Dome

A motif is seen at the apex above the cup shape of the lower dome. This motif is again taken from the architectural process of human body shape or structure. This displays various gestures of anatomy and physique. But whatever he is, in Bengal he is called Kalsachura. At the top of the dome, Kalsachura is Bengal's own property. This is not seen anywhere else. Because, in Bengal, Kalsachura was widely used. Due to this breadth, the range and

range of Kalsachura are wide. It is also a regional feature of the architectural style of Bengal. Gradually, this own feature and style of Bengal took shape as a religious feature.

**Pendentive Method**

Pendentive, in architecture, a triangular segment of a spherical surface, filling in the upper corners of a room, in order to form, at the top, a circular support for a dome. (Parrott-Sheffer.) Usually ornamented and four to a dome, pendentives make the dome appear as if it's hanging in the air, like a "pendent." The word is from the Latin *pendens*, meaning "hanging." Pendentives are used for stabilizing a round dome on a square frame, resulting in enormous interior open space beneath the dome.

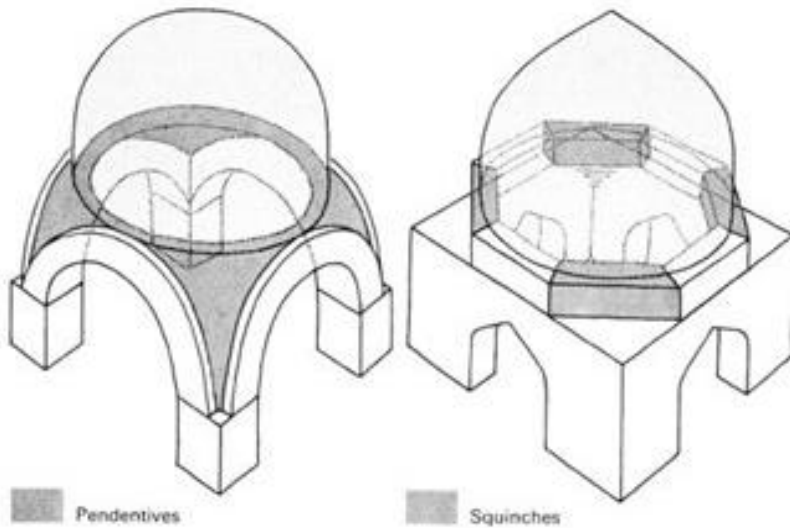


Figure.13 Shows Pendentive and Squinch Methods. Photos Collected ( Anonymous)

**Pendentive**

- The concave triangular section provides a transition between a dome and the square base on which it is set, and transfers the weight of the dome.
- Pendentives transfer the weight directly downwards into the corner piers by resting the dome on a second, larger, partial dome (a circle drawn around the corners of the square formed by connecting the pendentives.)
- Pendentives allowed vastly larger domes to be built but at a significantly higher cost of skilled labour and finer load-bearing materials.

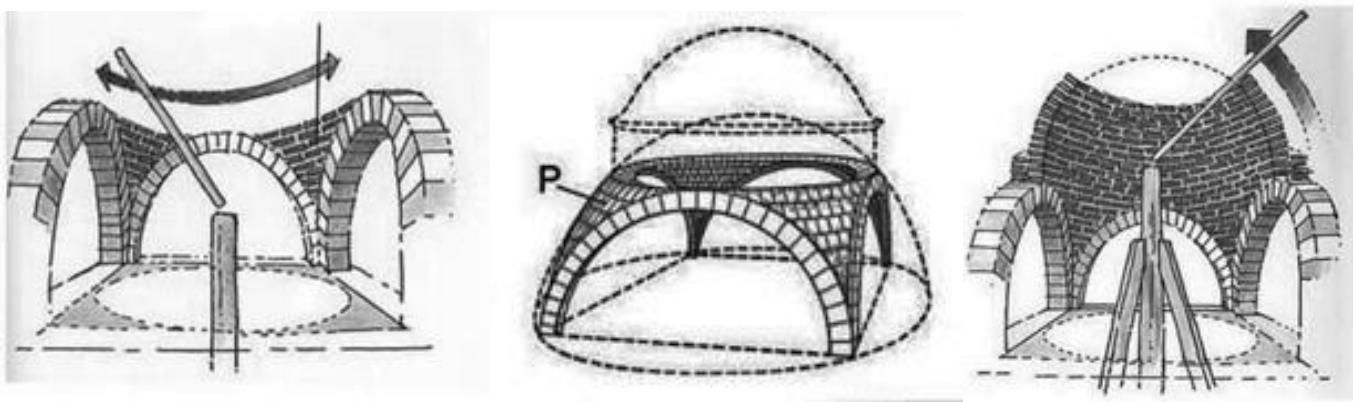


Figure 14 Shows:: The Pendentives System of A Dome, Photos Collected from Pinterest.com

**Dome size**

The size of the dome of the Sultanate period is quite large. The domes of the Sultanate period look like cups or guavas.



## Presence of parapets

Slight parapets can be seen around the dome.

## Ornamentation and Decoration

No ornamentation is usually seen in the domes of the Sultanate period. There is no decoration in the dome. This dome looks very ordinary.

## Dome Material

Domes of the Sultanate period are usually made of bricks. The interior of the dome is covered with brick plaster so that the arch or style from the Vine country can be seen. Brick masonry or assembly in that style

## Dome Construction Systems



Figure 15 Shows:: Dome Construction Systems, Photos Collected ( Anonymous)

One-domed mosques were popular in the pre-Mughal period because they were familiar with the climate and vegetation of the Bengali countryside and were structurally more convenient to build. It is not very large in size as it uses a single dome. It was more realistic to build a small mosque for the people living in the huts. Seventeen such mosques still exist. All were built in 1457 and in the mid-sixteenth century. Many domed mosques were large. Four of these have been found in Bengal since the fifteenth century. The construction system of such mosques is a series of pillars forming a vault, which is divided into small squares, and then domes are placed in each square. Due to the unavailability of stone in Bengal, bricks were used in the construction of domes. And it also enriches the aesthetic feeling inside the mosque. The arch was first made to hold the structure of the pillar. And then place the bricks on top of the arch, which occupies an almost octagonal shape in the plan. Then, when the bricks are placed one after the other, it takes the shape of a dome.

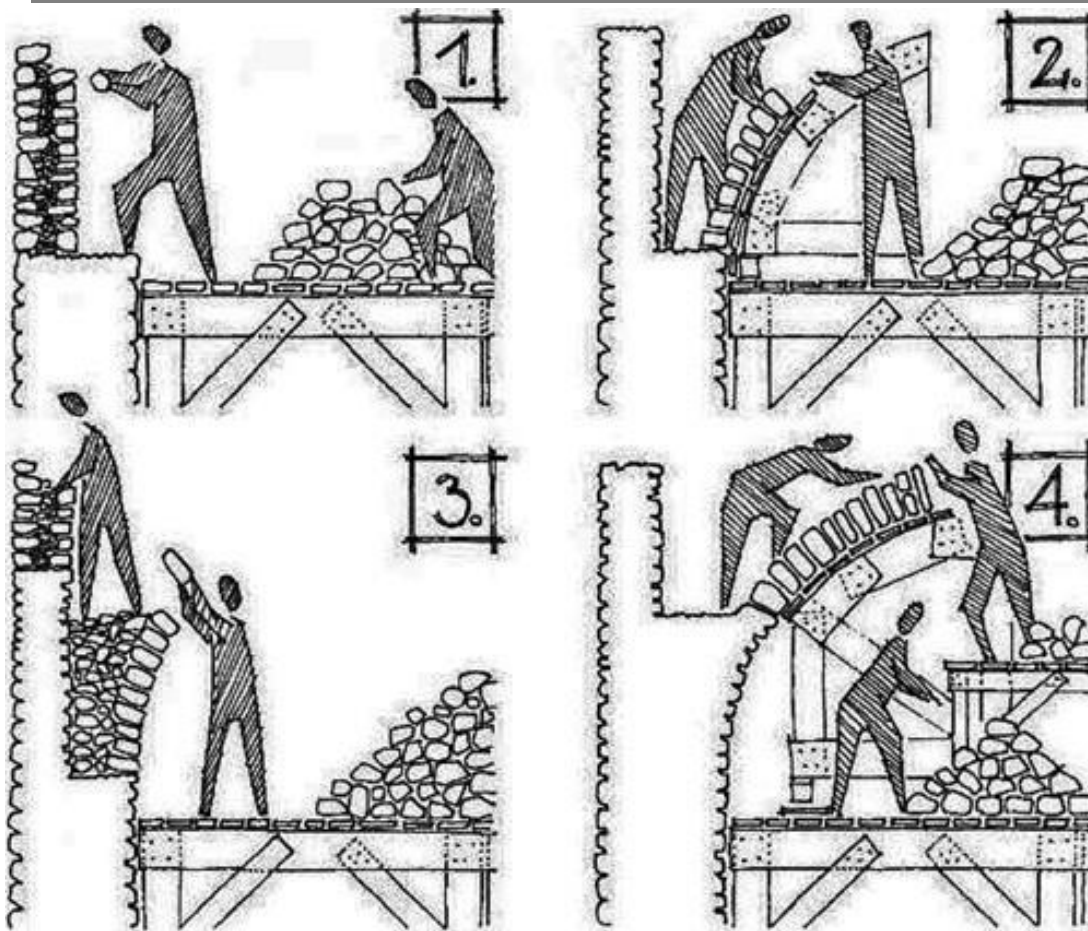


Figure 16 Shows:: Dome Construction Systems, Photos Collected ( Anonymous)

## MUGHAL DOME IN BENGAL

In Bengal, Mughal architecture, which flourished from 1565 to 1658, was a notable fusion of Islamic and indigenous architectural forms. It included not just religious edifices but also secular buildings and fortifications. During this time, domes with various forms and designs that reflected native Bengali themes were widely used.

Important examples are the brick tomb of Pir Bahram in Burdwan (1562–63) and the six-domed Kusumba mosque (1558–59). While the latter features a significantly curved cornice typical of pre-Mughal architecture, the former is distinguished by its stone facade. These buildings serve as examples of the architectural legacy of the area, which shaped the Mughal style.

Under Akbar, dome designs changed to include thin shapes, progressive curves with floral embellishments, and octagonal forms with metallic elements. A distinctive Bengali architectural identity was produced by this complex combination of styles, and it is still recognized today.

### Typology of Mughal Dome in Bengal::

Domes of the Mughal period vary in size. During the Sultanate period single dome, three domes, four domes, seven domes can be seen. Majorly types of mosques were built during the pre-Mughal sultanate, and in each type they used domes to place crowns.

They are:

01. Square Single-Dome
02. Rectangular Three-Dome
03. Square Four-Dome
04. Rectangular Seven-Dome (Khandakar, Mediabale Muslim Architecture In Narayanganj)

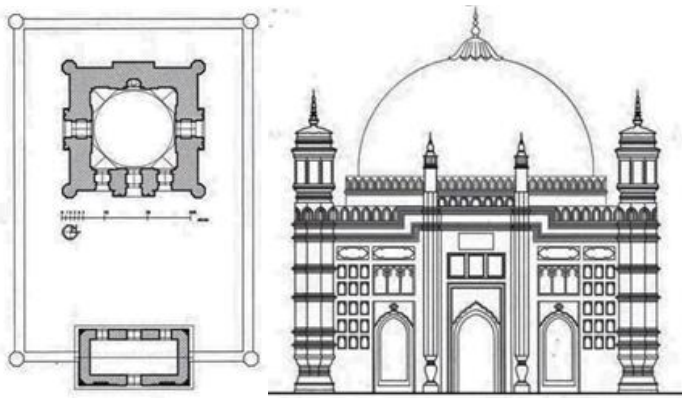


Figure 17 Shows, Square Plan of Shah Muhammad Mosque that shows 01 Dome. Mosque Drawing Collection from Department of Archaeology (DOA)

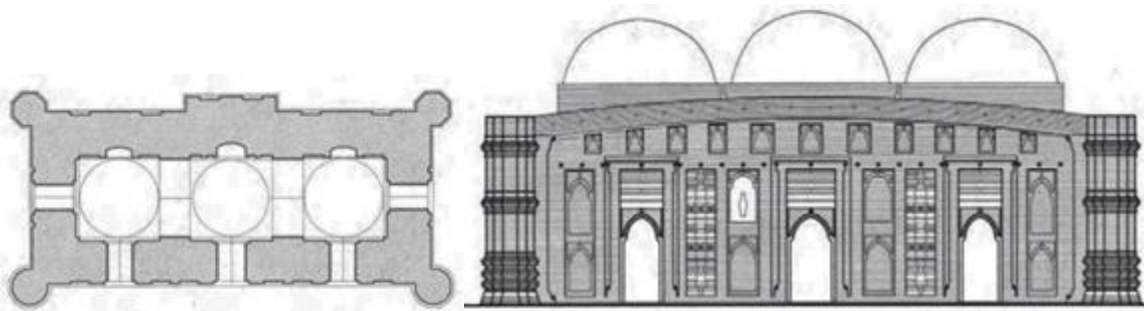


Figure 18 Shows, Rectangular Plan of Kheruya Mosque that shows 03 Dome. Mosque Drawing Collection from Historical Book “Mosque Architecture In Bengal”

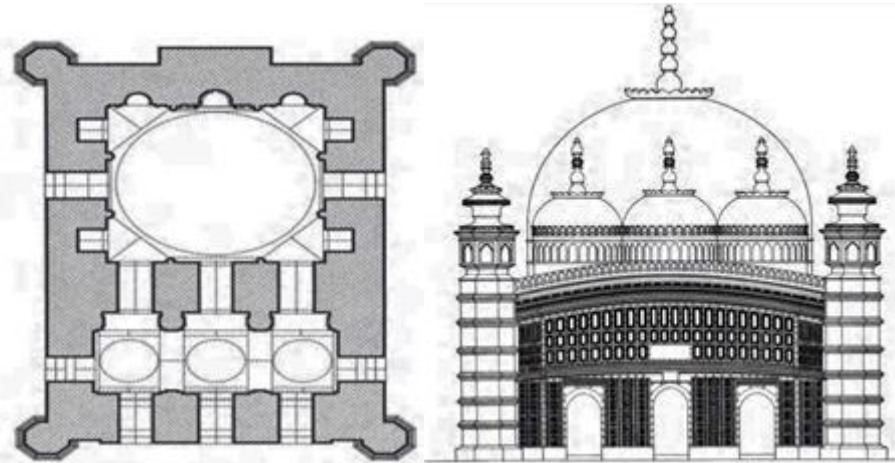


Figure 19 Shows, Square Plan of Atiya Mosque that shows 04 Dome. Mosque Drawing Collection from Historical Book “Sher E Bangla Nagar to Pundru Nagar”

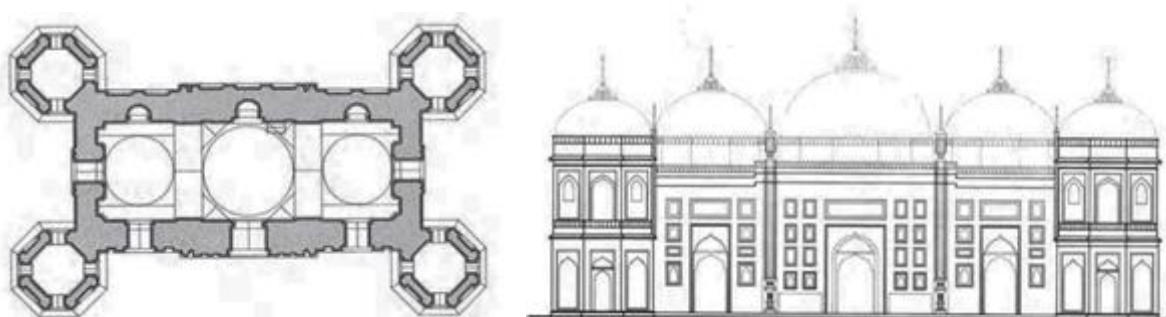


Figure 20 Shows, Rectangular Plan of Sat Gombuj Mosque that shows 07 Dome. Mosque Drawing Collection from Banglapedia



## Mughal Dome Analysis:

### Lalbagh Fort Dome:

To create a circular supporting area for the dome, two rectangular side bays were first squared by introducing half a vault on the east and west walls. These square fields are again converted into octagons by pendants at the corners and then into circles, on which the small domes rest. The domes on either side are in the shape of pure bulbs and with flutes, which seems to be the oldest example of Bangladesh. The domes have an octagonal shoulder decorated by blind marlon and finally crowned. With the exception of the empty west walls, the upper part of the surface of the remaining three outer walls is paneled with plaster arch niches, and ornamental rows of marlons are observed at various stages of the straight parapet. The mosque has three domes, and is relatively small for a large site, with a water tank for ablutions in front. The mosque has an oblong plan of 20.34 m × 10.21 m (66 ft 9 in × 33 ft 6 in) externally and 16.36 m × 6.15 m (53 ft 8 in × 20 ft 2 in) internally. (Reza, April, 2017)

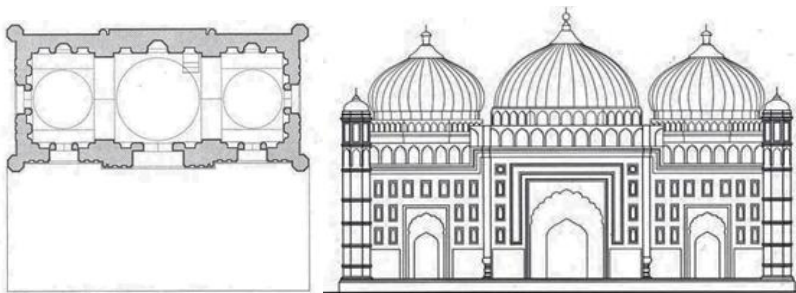


Figure 21 Shows, Rectangular Plan and Elevation of Lalbagh Fort Mosque at Lalbagh, Old Dhaka that shows 03 Dome.

### Mughal Dome Analysis and Findings:

01. Pendentives Systems
02. 3 Categories of Domes
03. Octagonal Shoulder
04. Much More Ornamentation
05. Attendance of Marlons
06. Rows of Marlons
07. Parapet in The Dome.

### Mia Bari Mosque Dome:

The rectangular hall divides its whole length into three uneven bays of domes with two arches, each measuring 1.05 meters in width, that emerge from the east and west sides. The center bay is larger and square in shape than the side bays, which are rectangular and narrower in width. Brick pendentives are used to convert the square center bay into an octagonal area. Additionally, squinches at each octagonal corner provide a circular supporting section that serves as the dome's support. The domes have elongated finials on top and an octagonal shoulder.

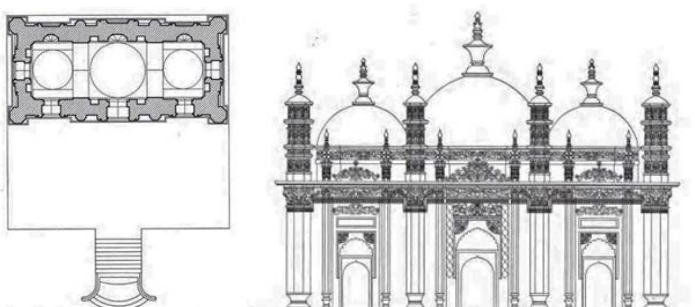


Figure 22 Shows, Rectangular Plan and Elevation of Mia Bari Mosque at Karapur, Barishal that shows 03

Dome. Mosque Drawing (“Mosque Architecture In Bengal”)

## Mughal Dome Analysis and Findings:

08. Pendentives Systems
09. Squinch Systems
10. Octagonal Shoulder
11. Much More Ornamentation
12. Attendance of Marlons
13. Rows of Marlons
14. Parapet in The Dome.(Mostaque, 2006)

## FINDINGS

Comparism between Sultanate and Mughal Dome in this Bengal

### Comparism between Sultanate Dome and Mughal Dome In This Bengal

**Dome Architecture** – Sultanate Architecture is A Mixture of Indian (Hindu) and Iranian (Islamic) Style and Mughal architecture is the type of Indo-Islamic architecture the 16th to 18th centuries throughout the ever-changing extent of their empire in the Indian subcontinent. That derived from Iranian and Central Asian architectural traditions, particularly Timurid architectural style.

**Particular Looking** - Sultanate Architecture is an Islamic Architectural Style and Mughal architecture is a Timurid Architectural Style.

**Characteristics Feature and Generation of the Dome** - The domes of the Sultanate period are sub-spherical in shape. Arguably, this is the most common feature of domes of this period. Moreover, the domes of this period are devoid of drums or casks. Due to the absence of a drum or pipa, this dome looks like a graceful inverted cup. This cup is semi-circular in shape. Only, there is nothing better than Kalaschura to achieve the creativity and aesthetics of low domes. There is no sense of aesthetic detail in this Kalaschura either. However, it is said that at one time, i.e., during the tropical period or during the Mughal period, this Kalaschura attained its greatest popularity. The domes of the Mughal period are highly spherical in shape. Arguably, this is the most common feature of domes of this period. Moreover, the domes of this period include drums or casks. Due to the presence of a drum or pipa, this dome looks like a full-size round circle. This shape is the highest spherical shape. The creativity and aesthetics of the highly rounded dome also had many other aesthetic elements besides the spire. This pitcher also has a sense of detail. Earlier, it has been said that at one time, i.e., during the tropical period or during the Mughal period, this Kalaschura attained its greatest popularity.

**Comparism-** Lower than the Mughal Domes and Higher than the Sultanate Domes

**Number of Dome** – In Sultani Architecture, Number of domes are Single, 03, 06, 07, 09, 60 dome etc. In Mughal Architecture, Number of domes are Single dome, 03, 07 domes etc.

**Number of Single Dome** - In Sultani Architecture, shows A lot of or, maximum priority. And Mughal Architecture shows Minimum priority.

**Number of Three Dome** - In Sultani Architecture, there was no priority and Mughal architecture there was maximum priority.

**Shape of Dome** – Sultani Mosque shows large Dome and Mughal architecture shows Small Dome.

**Size of Dome** – Sultani Mosque shows Hemispherical in sizes dome and Mughal mosque shows Circular in sizes.

**Category of Dome** - In Sultani Architecture, One or more domes are seen. But each dome is the same size.

For example: Sixty Dome Mosque, Nine Dome Mosque, Baba Saleh Mosque, etc. No significant difference is observed between each of the two domes. However, it can be said that most are of the same genre. In Mughal Architecture, One or more domes are seen. But each dome is of a different size. It can be seen that the size of the two side domes is smaller than the central dome, and the two dome dimensions are the same. Ex: Atiya Mosque, Kusumba Mosque, Mia Bari Mosque, etc. Substantial differences are observed between every two domes. However, it can be said that most are of different genres.

**Focus Point** – Sultani Architecture Focus on single or, overall number of dome and Mughal Architecture Focus on central dome.

**Rests on Central Dome** – Sultani domes rests on square branch and Mughal domes (where there is one dome) as well as central domes (where there are more than one dome) are placed on a base. This base is an octagonal geometric area. It can be seen that the square bay enclosed in the pendentive system is transformed into an octagonal form, providing a strong structure. Again, where the squinch method is employed, the octagonal base also serves the same function or provides support to the dome. Above all, the dome sitting on an octagonal base is a solid resting place.

**Rest on Small Dome** – In Sultani Architecture, The foundations of the smaller domes are again of a different style. Where two are smaller the rectangular side bays transform into a square supporting area. In Mughal Architecture, The foundations of the smaller domes are again of a different style. Where two are smaller the rectangular side bays transform into a square supporting area.

**Base of the Dome** - In Sultani Architecture, there was no blind marlons. In Mughal Architecture, Base of the Dome is decorated from inside with blind marlons.

**Ornamentation** - Sultanate Dome shows:: Some Presence of Ornamentation in Dome. And Mughal Dome shows :: Much more Ornamentation such as – marlon, exterior and interior marlon, floral pattern, motif, top pit, kalaschura, petals, rhythm, geometric patterns, plastering, one or more stage geometrical frictions ec.

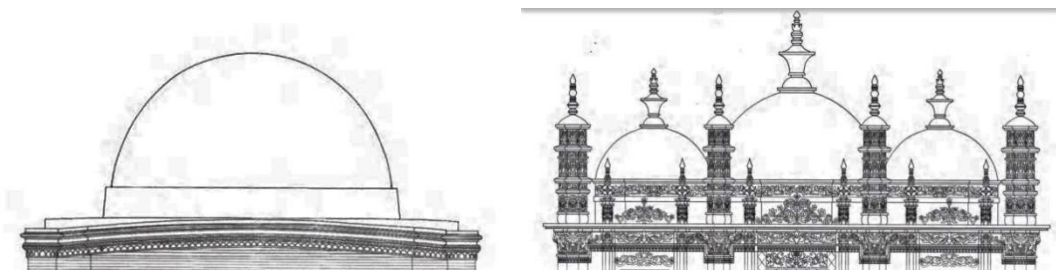


Figure 23 Shows, Dome Ornamentation at Mughal Mosque, and Mosque Drawing Collection from Historical Book “Mosque Architecture In Bengal”

**Lateral Folds On The Dome Body** - In Sultani Dome Kamranga fruits patterns does not appear to have a gradual appearance of lateral frills like the fruit body. There is equal storey’s everywhere. All of which end up looping over and over in such a way that the initial and final or finishing points cannot be verified. Lateral friezes like the body of Kamranga fruit can be seen gradually in Mughal domes. It ends up looping over and over in such a way that the initial and final or finishing point cannot be verified.

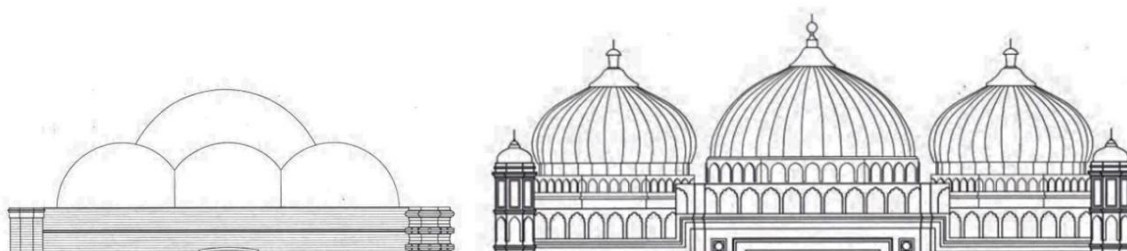


Figure 24 Shows, Dome Ornamentation at Mughal Mosque, and Mosque Drawing ,(Department of Archaeology (DOA))



- 01. Presence of Marlons** – In Sultani Architecture, there was absence of marlon and no exterior and interior marlon. Mughal Architecture that was appearances of marlon. That also showed exterior and interior marlon. Mughal Architecture shows a lot of marlons.
- 02. Presence of Motif** - In Sultani Architecture shows Normal Motif or, Kalaschura and Mughal Architecture shows much more Ornamented Motif or, Kalaschura with petals.
- 03. Construction of Dome** - In Sultani Architecture shows Pendentive System and Squinch System, Especially in Bengali Pendentive System. Corbelling and diagonally placed brick layers are placed alternately to transfer the square supporting area into circular base for the dome. In Mughal Architecture shows Pendentive System.
- 04. Dome Material** - In Sultani Architecture shows Brick Bonding and Mughal Architecture shows Brick Plastering.
- 05. Dome Finishing** - In Sultani Architecture there is no brick plastering and Mughal architecture shows brick plastering.
- 06. Pipa** – In Sultani Architecture there is no pipa but Mughal architecture shows pipa.
- 07. Cupola** - In Sultani Architecture there is no cupola on the top of the dome but Mughal architecture shows cupola on the top of the dome. This is called single cupola. There is the presence of the floral cupola and well organized.

#### Sultanate Mosque Dome Transformation On Mughal Mosque Dome::

Many mosques of the Sultanate period were changed during the Mughal period. Similarly, during the Mughal period, many changes were made in the domes of the Sultanate period. In this case, the changes that can be seen are mentioned below:

1. A change is seen in the aesthetics of the dome
2. Marlon's presence appears around the dome, which was previously absent.
3. Both the interior and exterior of the dome feature Mars, which was previously absent.
4. The presence of copula is seen on the surface of the dome.
5. The presence of the motif can be seen around the copula.
6. Ornamentation occurs in the copula.
7. At the top of the dome there are small panels with various types of decorations painted on them.
8. Kalaschura can be seen at the top of the dome. This peak is decreasing. Which gradually rises from the bottom to medium and large and converges at an apex
9. In the dome, the matte color gradually fades and a variety of polychromatic colors are seen, such as red, turquoise, orange, green, white, and black.
10. The pinnacle that tops the dome is sometimes made of cast iron and sometimes of stone.



Figure 25 Shows:: Sultanate Mosques Transformation On Mughal Mosque Dome(Chowdhury, 2019)

## CONCLUSION

Bengali dome architecture has advanced to remarkable heights, especially during the colonial era. Nevertheless, this important part of our architectural legacy has been neglected since our independence, and some contemporary interpretations have misrepresented its cultural relevance. In order to effectively incorporate our rich heritage of aesthetically significant dome designs into modern architecture and aid in their restoration as a symbol of national identity, more attention and study should be paid to them.

UNESCO-recognized sites like Khalifatabad demonstrate the timeless grandeur of our dome design, yet many of these ancient mosques and mausoleums are falling into disrepair. To protect our architectural past, we must give the protection and restoration of these buildings first priority. By doing this, we may pay tribute to the past while still constructing a dynamic, traditional-inspired architectural future.

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