

An Analysis of Vine-Leaf and Bush-Style Ornamentation in Stone Carvings in Medieval Bengal's Muslim Architecture

Md. Mintu Ali Biswas*

Abstract

From the very beginning of the creation of architecture, people have tried to beautify this art form with various decorative motifs. The stone carving style occupied a special place in the Muslim architectural decoration of Bengal during the Middle Ages. A variety of decorative styles are noticeable in the stone carvings. Vine-leaf and bush design is one of the types of decoration that have been depicted in stone carvings. The Muslim rulers were able to present a variety of styles of creeper-leaf and bush designs in stone carving. The most beautiful decorative medium depicted in stone carving is the decoration of flora. Vine-leaf and bush motifs are identified as a popular addition to create a sense of beauty. The application of the motif as its own style in the Bengali region dates back somewhat to before the arrival of the Muslims. Ornamental stone carvings of vine-leaves and bushes took their place as they did not conflict with Muslim religious philosophy. Stone carving is a very important style in Bengali architecture, with varied representations of vines and shrubbery motifs. In the discussion article, there is an attempt to bring out the decoration of creeper-leaf and bush style in the stone carvings of Bengal in the Middle Ages.

In architecture, regardless of whether it is constructed from brick, stone, wood, or earth, there are always two key components: construction and decoration. One represents the structure, while the other enhances it through ornamentation.¹ The human instinct to create beauty and be drawn to it is ancient, and architecture has long been a canvas for decorative expression. The architecture built by Muslims, like that of other cultures, was richly adorned with ornamentation.² The choice of

* Dr. Md. Mintu Ali Biswas, Associate Professor, Department of Islamic History and Culture, Jagannath University, Dhaka, Bangladesh

1. Mosharraf Hossain, 'Indo-Musalima Sthapatyera katipaya alankarana: utsa o kramabikasa', *Abu Mahamed Habibullah Memorial Book*, Dhaka, Bangladesh Institute of History, February 1991, p. 247
2. Mohammad Shamsul Haque, 'Bharatiya Sthapatyasilpera itihase banlara Musalima Sthapatyera abasthana', *Abu Mahamed Habibullah Memorial Book*, Dhaka, Bangladesh Institute of History, February 1991, p. 292

construction materials and decorative elements is heavily influenced by geographical and environmental factors. The arrival and subsequent rule of Muslims in Bengal marked a significant development in the region's architectural and cultural traditions, including the creation of ornamented structures. Among the various decorative techniques, stone carving holds a prominent place in the Muslim architecture of Bengal. While Bengal's alluvial soil made fire-burnt brick the predominant building material, stone was also used, albeit to a lesser extent. Muslims often sourced stones from the ruins of pre-Muslim structures, modifying them for their own architectural purposes. Additionally, stones were imported from foreign countries, especially *Rajmahal* in India.³

Although Muslims did not fundamentally change the techniques of architectural decoration, they did introduce new motifs. Their decorative repertoire included stone carvings, terracotta plaques, tiles, paintings, mosaics, and innovative brick arrangements. Stone carving, in particular, emerged as a significant feature of Muslim architectural decoration in Bengal, expressing their aesthetic sensibilities. The tradition of terracotta art and stone sculpture in Bengal, which predates the arrival of Muslims, served as an artistic foundation for the region's stone carving practices. Local artisans contributed to this tradition, bringing indigenous influences into the carving style.⁴ Consequently, decorative motifs from this period show connections to earlier, pre-Muslim techniques, though the artisans carefully avoided any elements that conflicted with Islamic religious beliefs. Stone carving was used extensively in the decoration of buildings, doors, windows, pillars, foundations, bastions, cornices, and inscriptions.⁵ Analyzing the stylistic variation in stone carvings requires archaeological observation and data collection from scattered architectural remains and museum visits. Among the most prominent designs in Muslim stone carvings are vine-leaf and bush-style ornamentations. Muslims introduced diverse styles of these motifs, demonstrating their mastery in stone carving. This study aims to examine the ornamentation of vine-leaf and bush designs in the stone carvings of medieval Bengal, focusing on the period that corresponds to present-day Bangladesh. Through a close analysis of these motifs, the article seeks to illuminate the rich tradition of stone-carved decoration in Bengal's Muslim architecture.

The vine, leaf, and shrub motifs have long been recognized as popular decorative elements, contributing to the aesthetic appeal of architecture. Since the inception of architectural design, humans have sought to enhance its beauty with various ornamental motifs; a tradition that persists to this day. Nature and the surrounding

3. Ahmed Hasan Dani, *Muslim Architecture in Bengal*, Dacca, Asiatic Society of Pakistan, 1961, p. 130
4. A. Goswami, *Indian Terracotta Art*, Calcutta, Rupa & Co., 1959, p. 13
5. Ahmed Hasan Dani, *ibid.*, 1961, p. 19

environment have played a significant role in influencing architectural decoration, with abstract vine and leaf motifs being prominent from the earliest construction patterns. In the Muslim world, the use of vine and foliage motifs became a hallmark of stone ornamentation, and this influence extended to Bengal. Just as pre-Islamic architecture featured motifs of vines, shrubs, and plants, Muslim architectural decoration in Bengal continued this tradition. Vine motifs were intricately carved into terracotta plaques and executed in stone ornamentation, often utilizing fire-burnt bricks. Depictions of trees, creepers, and bushes are also found on stone elements in pre-Islamic architecture.⁶ These motifs appear in the decorative styles of stone fragments used in pillars, sculptures, and other artifacts preserved in museums, as well as in stone materials uncovered during archaeological excavations. The integration of local environmental themes was central to the stone decorations in Bengal. Muslim artisans incorporated these motifs into their stonework as they were religiously permissible. In Bengal, there was continuity between the decoration of stone panels and that of terracotta plaques. During the medieval period, the use of vines, trees, and leaves was ubiquitous in buildings adorned with stonework.

The earliest surviving stone structure in present-day Bangladesh is the mausoleum of Ghiyasuddin Azam Shah. In the stone ornamentation of tombstones, vine motifs were used sparingly, often in combination with hanging lamp-like designs, tree leaves, and buds, as seen in the arch designs (Fig. 1).⁷ A dense cluster of creepers can also be observed in the stone decoration of the Moazzampur Mosque, though much of this has been lost due to ill-conceived renovations and painting.⁸ Vine and leaf motifs are evident in the stonework of the mosque's three Mihrabs on the qibla wall, as well as above the entrances on the north and south walls. In the southern section of the central Mihrab, vine and shrub-like designs decorate the lower and middle parts of the Mihrab columns, and the Mihrab arch itself. Unfortunately, much of the central Mihrab's stone decoration has been destroyed. On the northern Mihrab, which has been partially covered with tiles, vine motifs are still visible in the concave portion of the arch, while the upper rectangular panel is adorned with a row of vine-leaf patterns (Fig. 2). The creeping rows of vines resemble intricate, jewel-like designs.

The present Bagerhat district, once a prominent city in medieval Bengal, features notable use of the vine-leaf motif in its architectural decoration.⁹ Although stone carvings are present, terracotta plaques and decorative bricks predominately characterize the region's ornamental features.¹⁰ This motif is prominently displayed

6. Mohammad Shamsul Haque, *ibid.*, p. 292

7. Data obtained from field observation

8. Data obtained from field observation

9. Data obtained from field observation

10. Data obtained from field observation

in the central Mihrab of the Sixty-Domed Mosque and in the stone decoration of Khan Jahan's tomb. In the Sixty-Domed Mosque, the column adjacent to the Mihrab is adorned with intricate designs of trees, vines, and leaves. Two flowering vine motifs are featured at both the base and the top of the column, with flowers, buds,

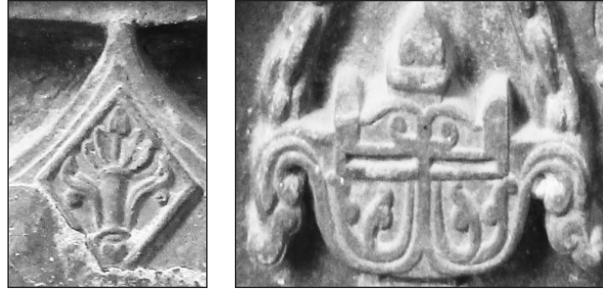


Fig. 1: View of vines in stone decoration of Ghiyasuddin Azam Shah's tomb



Fig. 2: Vine design in stone decoration, lateral Mihrab, Moazzampur Mosque

and leaves incorporated into the arch design. Each groove of the column stem showcases individual floral vine designs extending from the base to the top (Fig. 3). The artist's craftsmanship is evident in these carvings. Additionally, a tree-like design is present in the concave arch of the Mihrab, with tree trunks, branches, and foliage depicted in the arch construction. However, due to the shallow stonework and inconsistent restoration efforts, a comprehensive understanding of the ornamentation is challenging. The Mihrab arch's stone carvings reflect an aesthetic



Fig. 3: Scenery of vines in stone decoration, column head, Sixty-Dome Mosque

and dramatic style featuring flowers, shrubs, and vines (Fig. 4). From the top of the Mihrab columns, two rose trees with flowers, buds, and leaves extend up to the arch. The vine motif is subtly evident in the oblong panels, panel surfaces, border



Fig. 4: View of vines in stone decoration in the Sixty-Dome Mosque

designs, and concave stone carvings of the Mihrab. Khan Jahan's mausoleum, constructed from brick and stone in a square plan, exhibits the use of stone up to a certain height on the mausoleum walls, entrance corridors, and within the three-tiered structure. Geometric vine-leaf designs are featured in the stone carvings on the north and south sides of the middle tier.¹¹ The western side of the mausoleum houses the open tomb of Khan Jahan's Diwan and friend, Muhammad Tahir, with the three-stepped stone mausoleum engraved with Quranic verses, the deceased's identity, date of death, and vine-leaf motifs.

The stone carving at Mahisantosh Mosque also display vine-leaf and tree motifs. Fragments of this ornamental stonework are preserved at the Varendra Research Museum.¹² Carvings of vine-leaf designs are visible on scattered stone blocks around the mosque grounds. Various representations of vines and trees are preserved in the concave Mihrab structure at the museum. The lower part of the Mihrab column features three rows of stone carvings, with the upper and lower rows arranged in geometric vine-leaf patterns. The lower concave part of the Mihrab displays a row design of creepers, bushes, vines, and leaves (Fig. 5). Diverse styles of vines and shrubs are ornamented throughout. The central concave structure of the Mihrab consists of ornate stone panels with geometric designs interwoven with creeper petals at both the upper and lower parts of each panel. The vertical edges of the panels exhibit vine-leaf styles. The central panel features a chain bell-like design in a vine-leaf pattern, with the entire panel adorned with geometric vine-leaf designs. The side panels also display geometric vine-leaf styles, while the horizontal band design above the panel between the concave

11. Data obtained from field observation

12. Data obtained from field observation

Mihrab parts illustrates the vine-leaf motif with two spiral vines extending from each end and converging in the center. The upper portions of the Mihrab column feature triangular sections with single twisted creeper flower buds, branches, and leaves.

An extensive array of vine and flowering vine motifs is found in the stone carvings of the Mihrabs at the Khania Dighi/Rajbibi Mosque. Geometric designs, entwined vines, and floral patterns enhance the visual appeal of these Mihrabs. The south side Mihrab features an elaborate collection of vine-leaf designs intricately inlaid in stone. The columns within the Mihrab display vine-leaf motifs arranged in a chain-bell pattern. The concave portion of the Mihrab is almost entirely adorned with vine-leaf and bush designs. A row of tree-like ornamentation is visible at the lower part of the concave area and beneath the semi-domed design. The arch and



Fig. 5: Design of vines and shrubs on the concave part of the Mihrab, Mahisantosh Mosque

its top are elaborately decorated with vines and flowers, with creeping shrubs at the arch's edges forming leafy trees at the apex.¹³ From the top of the columns, rose plants stretch upward, adorned with flowers, vines, and buds. The rectangular frame of the Mihrab is embellished with vertical ridge-shaped designs and spiral vines. Similarly, the central Mihrab features vine motifs prominently. The Mihrab's connected columns are decorated with black vine-leaf designs. The concave part



Fig. 6: Stone carving style of central Mihrab arch, Khaniya Khaniya Dighi Mosque

13. Data obtained from field observation

of the Mihrab, along with its middle section and the lower half-dome, exhibits vine-leaf and bush designs.¹⁴ Shrub-like plants are present between the rows of niche designs in the lower part of the concave area and the half-dome. Two rose trees, with flowers, buds, and leaves, extend from the tops of the Mihrab columns to the arch's apex (Fig. 6). Spiral creepers adorn the edge of the Mihrab arch, while rows of vines are featured along the geometric design of the rectangular frame (Fig. 7).

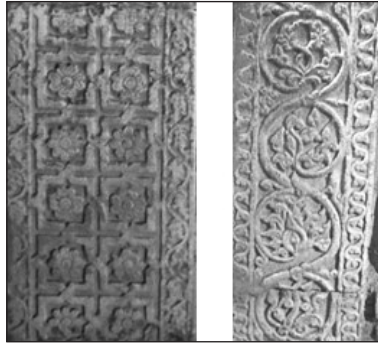


Fig. 7: Rectangular frame stones Carving style, Dighi Mosque

On the north side of the central Mihrab, vine-leaf motifs are also inlaid. The column's lower part is decorated with vine and flower designs, and tree-like motifs can be seen in the concave parts and lower half-dome, following a Kulangi-shaped design. The Mihrab arches and their upper sections are decorated with geometric vine and flower patterns (Fig. 8). The rectangular frame of the Mihrab is highlighted with vertical fringe designs featuring spiral vines (Fig. 7).

The Chota Sona Mosque displays a diverse array of vine-leaf and bush motifs in its stone decoration.¹⁵ This motif is particularly prevalent in the stonework of the



Fig. 8: Stone carving style of Mihrab arch, Khania Dighi Mosque

14. Data obtained from field observation

15. Data obtained from field observation

mosque's outer walls, turrets, inner walls, Mihrabs, and two-storied rooms, representing a significant aspect of Middle Ages Bengal architecture.¹⁶ The west wall of the mosque features five Mihrabs adorned with rich stone ornamentation, including vine-leaf and bush motifs. Many of the decorative stones from the central Mihrab are preserved in the Royal Scottish Museum in Edinburgh.¹⁷ The stonework visible in the current mosque includes designs of vines



Fig. 9: Detail of the stone-built column decoration of the central Mihrab, Chota Sona Mosque

and leaves on the lower part of the concave Mihrab and its columns. Rows of creeping shrubs at the column bases are adorned with geometric patterns (Fig. 9). Above these creeping rows, a design resembling a *Zhaw* or Banyan tree is featured in the middle space. The lower concave area of the Mihrab showcases three rows of tree designs, interspersed with rows of vines (Fig. 10). These creeping rows resemble the border designs used in traditional Bengali *Nakshi Katha*. The vine-leaf motif is also prominent in the oblong panels of the central Mihrab, with stones preserved in Edinburgh illustrating its use.¹⁸ The decoration includes vine motifs on column trunks, the arch, the central concave area, and the semi-domed part, featuring rows of local shrubs and trees.¹⁹

The Mihrabs adjacent to the central Mihrab prominently feature vine-leaf and bush motifs.²⁰ The stone decoration of these Mihrabs can be categorized into three sections: the lower, middle, and upper parts. The flanking Mihrabs also display three rows of *Zhaw*-like tree and leaf designs, mirroring the lower part of the central Mihrab. These tree rows are separated by varying designs that extend to both ends

16. Ahmed Hasan Dani, *op.cit.*, 1961, pp. 136-140

17. S. M. Hasan, 'A Mihrab from Bengal at the Royal Scottish Museum, Edinburgh', *Journal of the Pakistan Historical Society*, vol. xv, part. iii, July 1967, p. 176

18. S. M. Hasan, *op.cit.*, p. 176

19. The style of decoration has been analyzed by observing the photograph of the central mihrab of the Chota Sona Mosque published by S. M. Hasan.

20. Data obtained from field observation

of the Mihrabs. The middle section of the Mihrabs is adorned with stone panels, which are decorated with leaf motifs on their sides. The inner panel designs also



Fig. 10: Mihrab detail decoration, Chota Sona Mosque

feature vines, leaves, and trees, while rows of native bushes are observed atop the panel-shaped stone blocks.²¹ The upper part of each Mihrab consists of four vertically arranged stone blocks. The stone decoration in this section includes a row of trees at the base, with hanging vines at the top (Fig. 11). Vines and bushes appear to hang down from the top of the semi-circular section. The stone decoration around the rectangular frame of the Mihrabs is rich with vine-leaf and bush motifs. The border of the oblong frame is adorned with spiral vines, while the center showcases vines and bushes in various styles. This design is echoed on the upper rectangular frame, which is adorned with a row of tree-like motifs at its top, resembling leaves. Motifs of vines, shrubs, and trees are evident in the frames, panels, and wall panels of the gateways, as well as in the stone carvings of the towers.²² Similar decorative



Fig. 11: Decoration of the upper semicircular part of the Mihrab, Chota Sona Mosque

21. Ahmed Hasan Dani, *ibid.*, 1961, p. 139

22. Data obtained from field observation

styles are observed in the rectangular panels of the entrances, with vine-leaf and bush motifs prevalent. The main entrance, along with four other entrances on the eastern wall, exhibits a consistent construction style and decoration. The vertical panels of these entrances feature creeping flowering trees in geometric designs with leaves and buds, extending to the upper horizontal panels.²³ The upper rectangular panels are composed of two stone blocks, with carvings showing rows of shrubbery between the arches and between the two arches. The horizontal oblong panels are embellished with geometric designs of creeper flowers and leaves. The side entrances are characterized by pointed arches, though the vine-leaf design on the sides of these arches is less distinct. Variation is noted in the stone carving style of the main entrance's rectangular frame, where three vertical panel designs exhibit vine and tree motifs. The upper part of the rectangular frame consists of four parallel stone blocks. On the upper horizontal stone, a row of shrub-like plants, vines, and leaves flows from the middle of the row on both sides, resembling the border designs of *Nakshi Katha*. Below this, a bell-like style is featured, with flower-shaped designs and small plant leaves and flowers hanging down. Between the arched designs along the lower vertical panel of the rectangular frame is a bush with foliage. The inner side of the lower central part of the panel is decorated with vine-leaf designs, consistent with the style of the second stone block in the rectangular panel.

The central entrance is defined by multi-grooved arches, with the arch slightly raised. Its top is adorned with two creeping trees bearing leaves, buds, and flowers on either side.²⁴ This style is absent from the stone carvings of the side entrances. The arch's top features a Crown, *Taj*, or Bell-like design in foliage with vines. The eastern wall is decorated with stone panels at the entrance and carved stone panels in the spaces between entrances. Twelve stone panels are arranged in two rows on the east wall, with similar carvings observed on the other three walls of the mosque. Each panel is adorned with vines, plants, trees, and leaf designs, though variations in shape, nature, and engraving are apparent between the two rows.

Notably, one panel from the lower row and one from the upper row emphasize the vine style. The lower panels are larger and exhibit delicate carvings, resting on four rows of stone slabs from the base. A row of parallel tree-like designs, resembling shrubs or leaves, is visible on the eastern wall's stone slabs. This style is also evident in the stone carvings below the upper panel row on the four walls. The rectangular panels on the north side of the main entrance are particularly aesthetic, featuring vines and trees. The top of these panels includes a row of trees with leaves, each enclosed in an arched design from base to top. An ornamental vase-like design emerges in the center of the plant row, with

23. Ahmed Hasan Dani, *ibid.*, 1961, p. 136

24. Ahmed Hasan Dani, *ibid.*, 1961, p. 136

foliage visible on the urn-shaped structure. Between the rows of plants, a shrub with creeping leaves is observed beneath the English U-shaped design (Fig. 12). The top of thirteen U-shaped vine structures is enclosed in a hanging leaf design, with a half-bloomed flower stem hanging from the center.

The artist's meticulous attention is evident in the decoration of the middle section of the panel. Echoing the vertical panels of the lateral entrances, the central panel features two vine-like trees extending downward from its center (Fig. 13). These vines encircle the panel with leaves, buds, and flowers. The arched design within the encircled area employs palm tree trunks as columns or *pilpas* (Fig. 13). The columns or *pilpas* at the edges of the multi-grooved arch are adorned with spiral vine-leaf patterns, reminiscent of the borders seen in *Nakshi Katha* (Fig. 13). Scattered vines extend to the top of the two arched designs. The top of each column in the arch design is embellished with rose trees bearing flowers, buds, and leaves (Fig. 13). Below, two additional rose



Fig. 12: Vine-leaf style between U-shaped structures, Chhota Sona Mosque

trees, featuring bell-like styles and hanging chains with flowers, buds, and leaves, are observed. Hanging leaf designs are present on both sides of the chains. Such vines, plants, leaves, and stems reflect the style of stone carvings found on the inner walls of the mosque.

The stone carvings of the upper row panels are somewhat less refined and less intricate compared to the artistic lower panels. Both rows of panels display similar motifs in their stone carvings. Vine designs with leaves are prominent along the edges of the stone panels. The top of the arch design also features vine-style stone carvings. Above the panel, there is a row of herbaceous plants. At the panel's base, a row of parallel trees with a bell-like pattern hanging below them is observed. The stone-covered turrets at the four corners of the Chota Sona Masjid exhibit vine motifs. The lower part of these towers features limited vine designs, with each section displaying a chain bell pattern, a row of trees, and bushes with creeping leaves in an English U-shaped design. Bell-like designs with a vase shape and flowers are interspersed between the bells (Fig. 14). The cornice of the Chota Sona

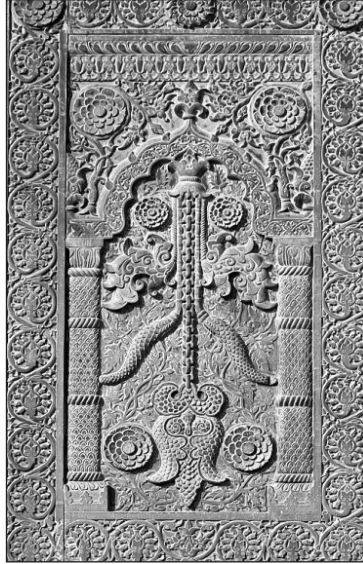


Fig. 13: Stone Carving Style of a Panel, Chota Sona Mosque



Fig. 14: Chains in the stone carving of the tower Bell shaped design, Chota Sona Mosque

Masjid also features vine-leaf designs, with a border-like vine-leaf motif prominently visible in the stone carvings.

Terracotta plaques are predominant in the decoration of the brick-built Goaldi Mosque. The mosque's western wall houses three Mihrabs. Although it is stated that the Mihrab is constructed from three stones, actual observations reveal stone

decoration on the central Mihrab.²⁵ The concave Mihrab within the rectangular frame features stone carvings in a vine and floral style. Due to the lack of gray sandstone and inadequate preservation, the stone carvings' decorative style has been largely obscured. The vertical stone carving on both sides of the rectangular frame of the Mihrab is not clearly visible today, though the stone carving on the right side remains partially discernible. This frame is adorned with vine-leaf and bud designs. The upper part of the Mihrab's rectangular frame consists of five horizontal stone blocks, each decorated with designs of flowers, buds, leaves, and fruit. The stone is segmented into eleven parts, resembling a lotus leaf or terracotta plaque. This style is similarly evident in the lateral Mihrabs, with slightly raised sections featuring various vine motifs. A comparable style is observed in the stone carvings above the frame of the central Mihrab of the Sixty-Domed Mosque at Bagerhat, where flowering plants with vines and leaves are prominently featured. Additionally, there are representations of trees with sunflower flowers, creeping flowering plants, trees with fruit-like vines, and other plant types. A bird or pigeon-like figure is visible at the base of a tree with vines and leaves, specifically in the fourth position from the right. Concave Mihrabs are supported by conical columns, though their stone carvings are no longer visible. Stone carvings at the top of the arched pillars display concave Mihrabs within multi-grooved arches. The stone carving style of the concave Mihrab can be analyzed in three sections: the lower, middle, and half-dome portions. The lower part features a row of spiral vines with leaf and flower bud designs, akin to *Nakshi Katha* borders. The center of the concave Mihrab is decorated with ornate stone panels, where vine-leaf styles are visible in shallow carvings along the arch design's edge. Aesthetic vine-leaf styles are present in the stone carvings above the multi-grooved arches. Two floral vines extend from the tops of the Mihrab columns, with one vine running straight upwards and the other along the edge of the arch to the top (Fig. 15). The vines' flower buds and leaf styles are skillfully rendered. A horizontal row of similar vine and flower petal styles is noticeable at the top of the arch (Fig. 15).

The Sura Mosque, constructed on a rectangular plan using brick and stone, features a central Mihrab adorned with an abundance of tree-like designs, including vines, leaves, and flowers in stone carvings. The tops of the columns flanking the concave Mihrab are decorated with leaf designs. Vine-leaf motifs are present in the stone carvings of the Mihrab's rectangular frame, with the vertical and upper rectangular frames divided by leaf designs. Each segment of the frame displays a leaf pattern on all four sides and a vine-leaf pattern in between (Fig. 16). At the top of the upper rectangular panel, a parallel row of eighteen trees is

25. Catherine B. Asher, 'Inventory of key monuments', George Michell (ed.), *The Islamic heritage of Bengal*, UNESCO, 1984, p. 133

visible, featuring branches, leaves, and flowers. Urn-shaped vases are interspersed in the middle of the tree rows, decorated in a pomegranate-like style. Stone carvings below these vases display rows of betel leaves. A betel leaf-like row of



Fig. 15: Vine-leaves and bud design in stone carving on Mihrab arch of Gwaldi Mosque

stone carvings, reminiscent of hanging jewels, is also observed. The lower, middle, and half-dome stone carvings of the concave Mihrab in the Sura Mosque showcase vine-leaf and bush designs.²⁶ The lower part of the concave section, consisting of five stones, features a row of shrub-like trees on the top stone. An additional row of eighteen trees is visible, similar to the upper rectangular panel. The median stones are adorned with three panel designs in stone, depicting vine-leaf styles in shallow carvings. A row of betel leaf-like stone carvings is observed below the half-dome of the concave portion. The vine-leaf design is prominent in the stone decoration of the three panels in the half-dome. The concave Mihrab is supported by biconcentric arches on connected columns. Two creepers extend upwards from the tops of the Mihrab columns, with flowers, buds, and leaves, and arched tops. Additionally, two straight vines are decorated with leaf and bud designs (Fig. 17). The vine-leaf style in the Mihrab arch's stone carvings differs from other buildings. Creepers emerge from each outer groove of the arch design, some bearing flowers, buds, half-bloomed flowers, or bells. Variations in leaf designs are evident, with twisted, vine-like leaves resembling snails. The vines are adorned with bell-like styles and leaf designs at the top of the arched designs.

²⁶. Data obtained from field observation

The upper stone of the arch features two parallel rows of leaf designs, with lower rows appearing like hanging betel leaves.

Chhota Khan/Chotkar Mosque, located in Dewanpur village, Mirsarai Upazila, Chittagong, was originally constructed using stone and brick but now lies in ruins. Preserved stone blocks are found around the current mosque and in the Chittagong University Museum. The museum houses multi-grooved Mihrab arches with vine-leaf style stone carvings, though the decorative style has largely deteriorated due to the use of gray sandstone.

Nusrat Shah Mosque, situated in Fatehabad, Chikondandi Mauza, Hathazari Upazila, Chittagong District, was originally built on a rectangular plan with brick and stone but is now in ruins. Stone fragments are preserved in front of the mosque and in the Chittagong University Museum. Two stone columns in the museum exhibit a vine motif, with floral tendrils ascending each groove of the column's stem.



Fig. 16: Vine-leaf design in stone carving, Sura Mosque



Fig. 17: Vine-leaf design in stone carving, Sura Mosque

Hammadia Mosque, constructed of brick and stone, holds a significant place in the architecture of the Sultanate of Bengal. The Mihrab of the qibla wall, built with three stones, features design of vines and shrubs, though these carvings are largely obscured by paint and tiles.²⁷ The southern Mihrab, made of stone but renovated with tiles, retains some vine-leaf style carvings in its rectangular frame. The vertical frame of the north side of the concave Mihrab shows a geometric vine pattern, with twisted vines and hanging leaves and buds. The upper rectangular panel features bush-like plants similar to those in the Goaldi Mosque. The central Mihrab is rectangular and built in stone, with floral, bud, and leaf designs on the columns and sixty-domed mosque-like arch designs (Fig. 18). Vine-leaf motifs are evident in the stone carvings of the column notches and the concave part of the central Mihrab. The third panel of the concave Mihrab features intriguing vine border designs. The Mihrab's panels include vines, with braided vine edges and hanging vines rising from columns attached to the Mihrab. Each arch groove is decorated with leaf shapes.

Kusumba Mosque is renowned for its aesthetic stone carvings. The Mihrabs on the qibla wall, the Badsha-ka-Takht (double-storied room), and various wall panels, windows, and doors showcase diverse vine motifs.²⁸ The southern Mihrab's concave design on a rectangular plan features two parts: an emergent frame with leaf border designs and an inherent frame with vine-leaf and floral designs. Vases decorated with leaf designs base the creepers rising from the vertical panels. The rectangular Mihrab frame consists of twenty-one stone blocks, with eleven square panels displaying distinct decorations and ten rectangular panels with uniform vine designs (Fig. 19). The central Mihrab and its southern counterpart share similarities in the stone carvings of their square panels and vine-leaf styles. However, the leaf/star flower-like border design of the Sura Mosque is reflected in the stone carvings of the two-storied room's panels (Fig. 20). Despite some differences in style, the three Mihrabs are adorned



Fig. 18: Style of vines and flowers in stone carvings of rectangular panel, Hammadiyya Mosque

with vine-leaf, flower, and bud motifs across thirty rectangular panels in their frames. On one side of the oblong panel in the southern Mihrab of the central Mihrab, a

27. Data obtained from field observation

28. Data obtained from field observation

spiral inlaid vine pattern featuring grains and leaves is intricately carved in stone (Fig. 21). This vine-leaf motif consists of two intertwining vines, adorned with flowers, leaves, and buds extending from each end of the row. Corncob-like designs run parallel to the flowering vines at the other ends, uniting the vase in the center. The vase-like design is divided into three sections, each side decorated with a snail-like leaf motif. This snail-like leaf design is a prominent feature in the Kusumba Mosque. The stone carvings on the oblong panels of the central Mihrab display similar vine-leaf and floral motifs (Fig. 22). One side of the panel showcases rows of floral and leaf designs, with corncob-like patterns incorporated into vases, akin to the southern Mihrab. The oblong panels of the Mihrab in the two-storied room are also adorned with vine-leaf and floral motifs in stone carvings (Fig. 23). One



Fig. 19, 20: Vine-leaf and floral style in stone carving of square panel, Kusumba Mosque

side of these panels features a geometric border design, with grain-style vases interspersed between leaf designs and arch motifs, replacing the corncob-like designs seen elsewhere. The vase design is divided into three sections, mirroring the southern Mihrab of the central Mihrab.

Observations of the Kusumba Mosque reveal six stone-carved columns or pilasters attached to the three concave Mihrabs. The lower, middle, and upper stone carvings of these columns bear resemblance to the terracotta decorations found on the Mihrab columns of the Bagha Mosque. In the Kusumba Mosque, the central column connected to the Mihrab is segmented by a band design. The stone carvings on the shaft below this band are somewhat varied, featuring two nature-inspired styles. One segment displays a raised lotus petal-like structure in a groove with a vase design (Fig. 24). A. K. M. Yakub Ali interprets this structure as resembling a playing bat, which aligns with the idea that the design may be a representation of a cricket bat.²⁹ However, it could also be seen as a potter's tool for shaping and imprinting clay rather than merely a playing bat. Within the border design, trees with branches, leaves, flowers, buds, and fruits are depicted as growing upwards. The Mihrab of the two-storied room features a bat-like design on the upper part of the column.

29. A. K. M. Yakub Ali, 'Banlara Musalima sthapatya alankaranera anupunkha bislesana (tera-sola sataka)', *Abu Mahamed Habibullah Memorial Lecture Series 1*, Dhaka, Bangladesh Itihasa Parishad, 2016, p. 293



Fig. 21, 22, 23: Vine-leaf style in stone carving of three Mihrabs, Kusumba Mosque

The vine-leaf motif is evident in the stone carvings of other niches on the columns attached to the Mihrab.³⁰ The *matka* design at the junction of the canopies of the two-sheltered house features a vine-leaf pattern (Fig. 25). Above this *matka*-like motif is a boat head-like design with visible vines in the stone carvings. Considering the boat head-like design, the *matka*-shaped design may also be interpreted as part of a boat. However, it can also be viewed as a tool for making and imprinting pottery. A. K. M. Yakub Ali describes this motif as resembling a Kulangi-shaped flower pot.³¹ Mihrab arches rest on columns that are attached to rectangular panels. The Mihrab on the south side of the central Mihrab and the arch of the two-storied chamber exhibit a similar vine-leaf style in their stone carvings. However, there are noticeable differences in the vase motif adorned with vine-leaf designs at the tops of the connected columns in both Mihrabs. Two creepers extend in opposite directions, with a vase-like design at the bottom. One creeper is connected to the vase at the top by an arched rim, while the other

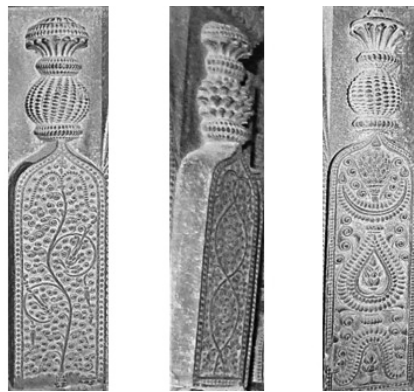


Fig. 24: Vine-leaf style on bat-like structure, Kusumba Mosque

30. Data obtained from field observation

31. A. K. M. Yakub Ali, *ibid.*, 2016, p. 10

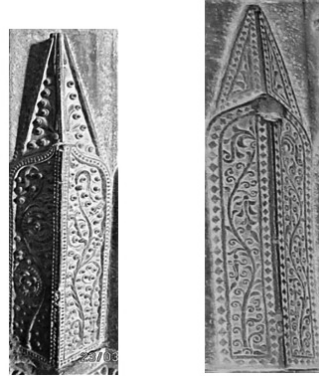


Fig. 25: Vine-leaf style on matka/boat-like structure, Kusumba Mosque

is joined in a spiral design. The vines are embellished with two leaves, flowers, and fruit. Each niche above the multi-grooved arch is decorated with a snail-like leaf design. The lower part of the concave section of the Mihrab on the south side of the central Mihrab features vine, young vine, and leaf motifs in the stone carvings. Above this is a row of floral, leaf, and tree-like geometric designs. The middle part of the concave section comprises five stone panels, with an abundance of leaf designs, many arranged in a snail-like style. The Mihrab of the two-storied room includes a tree-like row at the lower part of the concave section, with a three-panel design. Each panel is surrounded by a vine motif carved in stone, and the central square portion is decorated with inlaid vine blossoms, leaves, buds, fruits, and grain styles.

The rectangular frame of the central Mihrab is divided into two parts, rising and falling, similar to the lateral Mihrabs. The rising frame features geometric creeper and flower designs on three sides. Geometric interlaced vines, with two rows of stars and four rows of leaf-like geometric patterns, are visible in the center. The emerging frame is adorned with a row of leaf designs. A spiral creeper, originating from an inverted U-shaped vase-like design at the lower part of the vertical frame, extends between border-like leaf designs, joining the upper frame with vine leaves, flowers, and buds rising above. Essentially, the spiral vine ascends from the bottom of the rising vertical frame. The style of spiraling vines, reminiscent of sheaves of wheat or barley, and the snail-like leaves in the central portion, are depicted in the stone carvings. The vine-leaf style of the underlying rectangular frame has been discussed previously.

The concave Mihrab, with its vines, flowers, and fruits on multi-grooved arches, follows a rectangular plan. The arches extend from the columns or pillars attached to the Mihrab and connect to the rectangular panels on the sides. A vase design is visible above the columns, with two creepers emerging from the lower part of the vase and one from the upper part, enhancing the beauty of the Mihrab's arched section. A spiral design of two vines at the bottom of the vase culminates in a vase or pineapple-like style at the top, adorned with flowers, buds, vines, and leaves. The interior of the vine features a grooved

design, while the vine leaves are decorated with a vase or pineapple-like motif. Another spiral vine at the lower part of the vase holds a pitcher-shaped vase with vine leaves and flowers, united at the top along the edge of the smooth grooved arch. A vase or pineapple-like style with vine leaves is also visible from the niches at the top of the arch. The vine rising from the top of the vase above the column includes vine leaves and a vase or pineapple-like design on the arch's stone. A parallel row of vase or pineapple-like styles can be observed at the top of the arch, with two parallel rows of flowers, vines, and ornaments above.

The vine-leaf motif is prominently featured in the stone carvings of the concave portion of the central Mihrab. The decorative style can be understood by dividing this concave section into three parts. The central portion comprises five rectangular panels, richly adorned with depictions of vines and shrubs (Fig. 26). The central area of each panel is embellished with arched designs and an arched border, while the columns and interior sections are intricately decorated with the vine-leaf style. Surrounding the panels are rows of leaf designs, interlaced with geometric patterns and floral motifs, all rendered in stone carvings. The upper part of the concave section is constructed from three stone blocks shaped like a half-dome, with the carvings between the half-dome featuring a creeping plant with leaves, flowers, and grain growing upwards (Fig. 27).

Similar to the central Mihrab, the rectangular concave Mihrab of the two-storied room showcases rectangular panels, connected columns, arches, and vine-leaf motifs. These motifs extend across the concave sections, as well as the depictions of trees. The vine-leaf designs are also evident in the carvings on the stone panels below the two-storied room, the entrance arch, and the outer walls. However, the carvings in these areas are shallower and of lesser quality compared to the central Mihrab. The lattice design on the north and south walls incorporates a leaf-like

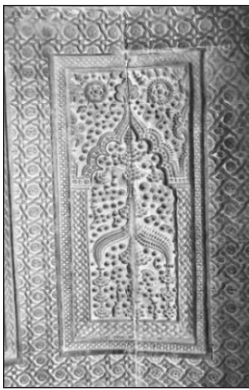


Fig. 26: Vine-leaf style on panel,
Kusumba Mosque



Fig. 27: Vine-leaf style on panel of the
concave part of the central Mihrab
Kusumba Mosque



Fig. 28: Vine-leaf style on panel
decoration, Tomb of
Shah Makhdum (Rh.)

geometric pattern, while the clustering of vine-leaf motifs on these lattice-patterned stones is particularly noteworthy.³² Additionally, the lower part of the stone bastions is decorated with a row of tree and leaf designs. The meticulous arrangement of the vine-leaf motifs in the stone carvings of the original Mihrabs at Kusumba Mosque demonstrates the artisans' skill. These carvings represent one of the final instances of stone carving in Bengal during the Middle Ages. Later structures exhibit vine-leaf motifs, though on a smaller scale.

A similar style of vine-leaf motifs can be observed in the stone carvings of the oblong panels of the mausoleum at Shah Makhdum (Rh.) (Fig. 28). These carvings bear some resemblance to those found at the Kusumba Mosque. A stone sacrificial altar on the southwest side of the mausoleum features vine-leaf motifs carved into the base stones. The spiral vine designs, reminiscent of the borders of Nakshi Kantha, are also depicted in these stone carvings.

Bibi Maryam's mausoleum, constructed in a square plan with brick and stone, features vine-leaf and floral motifs carved into white marble stones, which are laid on black stone floors within the tomb chamber.³³ Bibi Pari's mausoleum stands as a representative example of stone-built structures from the Mughal period in Bengal. Its harmonious arrangement of black stone, gray sandstone and white marble distinguishes the building, while the use of rare stones adds further interest.



Fig. 29: Marble carvings at the tomb of Bibi Pari

Bibi Pari's tomb is set on a low stone platform in a square plan, with the central chamber floor decorated in black and white marble stones featuring floral and leaf designs. The tomb itself is built in three steps of white marble, with flower and vine-leaf motifs carved around each tier (Fig. 29).³⁴

The use of carved stone in buildings from the Mughal period in Bengal is relatively rare. Apart from Bibi Pari's tomb, stone is found sparingly in a few structures such

32. Ahmed Hasan Dani, *ibid.*, 1961, p. 164

33. Data obtained from field observation

34. Data obtained from field observation

as the Khwaja Ambar Mosque, the Khwaja Shahbaz Mosque, and the Musa Khan Mosque. In these buildings, stone is mainly used in the lower parts of walls, door frames, Mihrabs, and pulpits, and the carvings often feature floral and vine-leaf motifs.³⁵ The Mihrab of the Khwaja Ambar Mosque is an example of this, where a parallel row of vine-leaf carvings can be seen above the rectangular frame of the central Mihrab.³⁶ However, the vine-leaf motif in stone carvings is rarely found in any building constructed after the Kusumba Mosque.

Review

The aspects that can be found in the analysis of the style of abstract creepers, leaves and bushes in stone carvings in the Muslim architecture of Bengal in the Middle Ages are presented below- One: The vine, leaf and bush style of decoration is found in pre-Muslim stone carvings in Bengal. In archaeological excavations, stone sculptures, pillars, sardals, terracotta plaques, etc., found in the pre-Muslim period have been observed to decorate this design. Artefacts preserved in various museums bear proof of this. Two: The design of vines, leaves and bushes does not conflict with the philosophy of Islam, so the style of vines, leaves and bushes became a popular motif in stone carving and terracotta art in the decoration of Muslim buildings in Bengal during the Middle Ages. However, Muslims developed a diverse style of stone carving in the use of designs of vines, leaves and shrubs. Three: Source of vine, leaf and bush designs in the decoration of Muslim buildings in Bengal in the Middle Ages. Coming from the decorative style of the pre-Muslim era, the Muslims sometimes directly and sometimes subject to change, carved vines, leaves and bushes in stone carvings. Four: Stones are hardly found in river bed silt soil Bengal. The stone used in the Muslim architecture of Bengal in the Middle Ages was supplied by the ruined buildings of Bengal in the pre-Islamic period, especially the broken Temples. Zafar Khan Ghazi's Tomb and Mosque, Adina Mosque, Mahisantosh Mosque, Chhota Sona Mosque, Mandra Mosque Inscription, Shital Math (Jaipurhat) Inscription, Karotiya Mosque (Tangail) Inscription, Chatmohar Mosque (Pabna) Inscription, Ghaibi Dighi Mosque (Sylhet) Inscription etc. It bears proof. Five: Muslims have been able to show creativity in the decoration of Muslim buildings in Bengal in the Middle Ages in carving designs of creepers, leaves and bushes in stone. The use of this motif in architectural decoration is particularly noteworthy. The terracotta art and stone sculptures of the pre-Muslim period featured vine, leaf and shrub style motifs. Various styles of motifs derived from the nature of Bengal are depicted in stone carvings. The pattern of stone decoration motifs in mosques is similar to the imitation of this style in terracotta plaques and stone sculptures. Six: The addition of various herbs from nature and

35. Data obtained from field observation

36. Data obtained from field observation

environment is noticeable in stone carvings. The style of drawing vines, leaves and bushes in geometric designs is believed to have come to Bengal through the Muslims. Ornamentation of geometric vine-leaf designs also came from the Arabic style. The assembly of geometric designs in the stone carvings of the mosque's Mihrabs is very impressive. Seven: The lack of proper preservation in the stone carvings of vines and plants in the decoration of the Muslim buildings in Bengal in the Middle Ages has been observed in the observation of the buildings. The plastering, coating of colors on the stone carving style has made it difficult to discern the true style. Bagerhat District i.e. one of the buildings of Bengal, the central Mihrab of sixty domes is decorated with stone carving style, but today it has suffered a lot due to salinity and lack of proper conservation measures. During the renovation of buildings like Moazzampur Mosque, Fakir Mosque, Mograpara Mosque, Hammadia Mosque etc., the stone carving style has been lost due to the coating of plaster and paint. The extensive use of abstract vines, leaves and shrubs in stone carvings in the Muslim architecture of medieval Bengal is notable as has been demonstrated in the above discussion. The enchanting natural environment of Bengal took place in the mind of the artist. Inspired by pre-Muslim terracotta motifs in stone carvings and decorative motifs in stone sculptures, Muslims emphasized the local environment and used the vine-leaf style to decorate their buildings. In the Muslim architecture of Bengal, stone ornamentation in imitation of abstract creeper, leaf and bush designs enabled the artisans to present a diverse style that can be termed as the Muslim's own art style. However, in the creation of this style, the use of native elements of Bengal is observed. This motif has been adopted from the society and nature of Bengal. They have been able to present a unique style of stone carving by combining geometric designs with vine-leaf designs. In the development of diverse decorative art, this motif is in line with Muslim religious philosophy, and the sense of beauty and beauty has blossomed. The vine-leaf style became a popular motif in stone carvings in Bengali architecture in the Middle Ages.

The analysis of abstract creeper, leaf, and bush motifs in stone carvings within Muslim architecture in Bengal during the Middle Ages reveals several key aspects:

1. **Pre-Islamic Origins:** The decorative style of vines, leaves, and bushes can be traced to pre-Islamic Bengal. Archaeological findings, including stone sculptures, pillars, sardals, and terracotta plaques, provide evidence of this style in pre-Muslim artifacts, many of which are preserved in various museums.
2. **Compatibility with Islamic Philosophy:** The design of vines, leaves, and bushes aligns with Islamic artistic traditions, which eschew figural representation but embrace vegetal and geometric motifs. As a result, this style became a favored motif in both stone carvings and terracotta art for Muslim architectural decoration in medieval Bengal. Over time, Muslim artisans diversified the design, enriching its application in stone carvings.

3. **Influence from Pre-Islamic Styles:** The vine, leaf, and bush motifs in Muslim architecture were influenced by the decorative styles of pre-Islamic Bengal. Muslims adopted and adapted these motifs, incorporating them into stone carvings with a mix of continuity and innovation.
4. **Scarcity of Stone and Reuse of Pre-Islamic Materials:** Bengal's landscape, characterized by silt-laden riverbeds, lacked a natural supply of stone. Thus, much of the stone used in medieval Muslim buildings came from the ruins of pre-Islamic structures, particularly temples. Examples such as Zafar Khan Ghazi's Tomb and Mosque, Adina Mosque, Chhota Sona Mosque, and others contain inscriptions and structural evidence of reused stones.
5. **Muslim Creativity and Adaptation:** Despite the influence of pre-Islamic art, Muslims in Bengal exhibited a unique creativity in their use of creeper, leaf, and bush motifs for architectural decoration. The designs, influenced by Bengal's natural environment, were applied not only in stone carvings but also as terracotta plaques, with both art forms imitating one another. This synthesis resulted in a distinctive artistic style within Muslim architecture.
6. **Introduction of Geometric Elements:** The addition of geometric designs, often intertwined with vine and leaf motifs, can be traced to Muslim influence. The geometric vine-leaf patterns likely originated in Arabic artistic traditions and were introduced to Bengal by Muslim artisans. This geometric and vegetal fusion is particularly evident in the stone carvings found in mosque Mihrabs, where the intricate designs are striking.
7. **Challenges in Preservation:** The condition of many stone carvings from medieval Muslim architecture in Bengal has deteriorated due to inadequate preservation. Buildings such as the Sixty-Domed Mosque in Bagerhat have suffered from salinity and poor conservation efforts. Additionally, during the renovation of several mosques (e.g., Moazzampur Mosque, Fakir Mosque), the original stone carvings have been obscured or lost due to the application of plaster and paint over the carvings.

The extensive use of abstract vine, leaf, and bush motifs in the stone carvings of medieval Muslim architecture in Bengal highlights the artistic interplay between the region's natural environment and its cultural traditions. The medieval artisans, influenced by pre-Islamic terracotta and stone motifs, embraced the local landscape while infusing their work with Islamic aesthetic principles. This resulted in a distinctive art style that combined geometric and vegetal elements, reflecting both the beauty of nature and the religious philosophy of Islam. The vine-leaf motif, in particular, emerged as a popular and enduring element in the architectural decoration of Muslim buildings, establishing itself as a hallmark of Bengal's medieval Muslim art.