MOSQUE ARCHITECTURE

in Bangladesh

Dr. Abu Sayeed M. Ahmed
Photography Syed Zakir Hossain

01: Rajbibi mosque at Gaur
Terracotta panel

UNESCO

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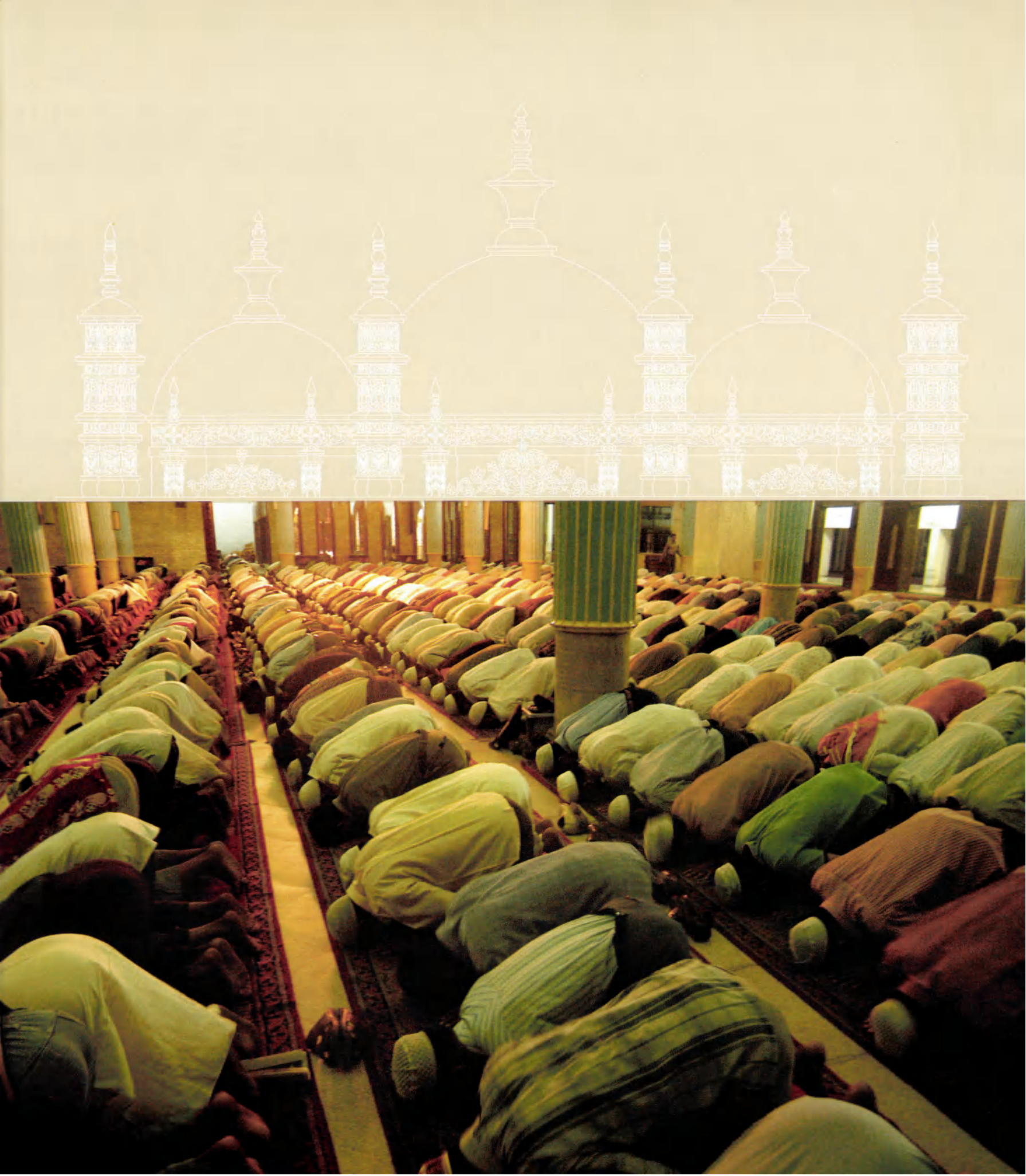


FOREWORD

The project to publish a comprehensive study on the Islamic heritage of Bangladesh has been on the table since long. Finally the publication is off the press and I am honored and happy to submit this book to the attention of an interested public.

When the project started, we all agreed that this book should meet two requirements: first, it should collect and analyze all available scholarly knowledge on the evolution and influence of mosque architecture in Bangladesh and thus make a significant contribution to research on Islamic architecture; second, there was the requirement for a convincing collection of photographs and drawings depicting the major mosques in the country.

It is heartening to see that both conditions have been met in an excellent manner, thus allowing the reader to widen his/her horizon and acknowledge the impressive cultural heritage of Bangladesh, which in the eyes of many is still a new country. The various styles of mosque and their capacity to adapt to local climatic and soil conditions. Text and photographs provide visual evidence of a significant Islamic architectural heritage that goes bock many centuries.

This is also an opportunity to express my most sincere thanks to all those who have been supporting the project of this publication since its inception, in particular the author Prof. Abu Sayeed M Ahmed, who spent considerable time in collecting all the materials and drafting a convincing analysis of the evolution of Bengal Islamic architecture. Warm thanks also go to the photographer, Mr. Syed Zakir Hossain who spared no effort to capture the visual nature of these monuments. Finally I wish to thank also Dr. Nazimuddin Ahmed for his editorial book review and editing.

It is hoped that this publication may further contribute to enhancing our knowledge and understanding of the cultural heritage of Bangladesh.

Wolfgang Vollmann
Director & UNESCO Representative in Bangladesh

02: Bazra Shahi mosque at Noakhali, Chini Tikri Ornamentation

ACKNOWLEDGEMENTS

The text of this acknowledgement page, while it was being outlined and drafted, was a source of profound pleasure due to two reasons. Firstly, getting an opportunity to say thank you to a wonderful group of people is a delightful experience by itself, and secondly this page stirs up the fond memories of getting in touch and working with a number of individuals who were particularly forthcoming and energetic and without whose support this book would not have come out.

Firstly I would like to express my deepest gratitude to the publishers of this book, UNESCO, and especially to its representative and director in Bangladesh, Mr. Wolfgang Vollman, and program officer Ms. Shahida Parvin, for the constant encouragements, constructive suggestions and all kinds of supports. Ms Parvin took the trouble of reminding me, time and again, that I was running out of time - and at the end succeeded in keeping the delay just within reasonable limits.

This book and I benefited immensely, through the discussions with Dr. Nazimuddin Ahmed, Mr. A.U.M. Fakhruddin Ahmed and Architect Haroon Ur Rashid. They most considerately shared their knowledge and insights and patiently read and gave suggestions about rewriting parts of the text. I am also thankful to my present and former students, architect Asifur Rahman for helping me in the preparation of the drawings, and architect Safiqul Islam for producing 3D drawings of three mosques, and Shehab for helping and suggesting on page layout and graphics.

I acknowledge my sincere gratitude to everyone in the teachers' room of the Department of Architecture, the University of Asia Pacific, who rendered assistance in the various detailed aspects of making the book.

There are, of course, a few more people whose position is beyond the spectrum of this acknowledgement statement, yet somehow are to be mentioned. My father, Abdur Rashid, who lived a long life of almost a hundred years but missed out this publication for only thirteen months, was my greatest inspiration through his disciplined and active life. I thank Yasmeen for her patience and unconditional support and to Rasheek and Tazkia for being the welcome distractions.

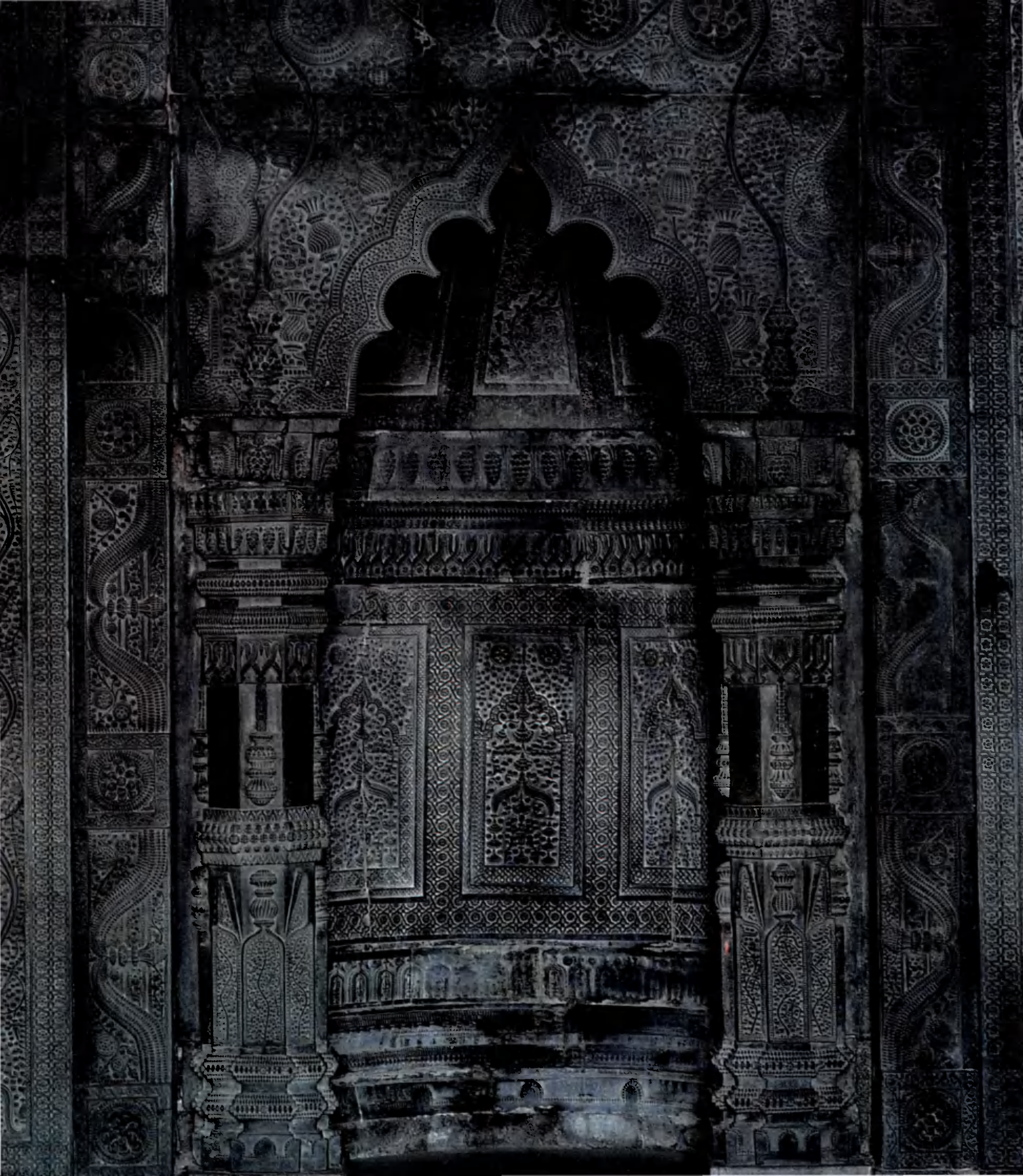
Dr. Abu Sayeed M. Ahmed
Department of Architecture
The University of Asia Pacific

During the process of making of this book "Mosque Architecture in Bangladesh", I have found some social elites, along with others, maintaining the heritage of their own locality and the mosques within their area with a collective efforts. This is due to their consciousness towards preservation of their own heritage. I would like to express my sincere gratitude towards these people. It is because of them that we are still able to witness these wonderful mosques and work on them.

At the same time, I cannot help feeling deeply concerned noticing some of the mosques are being modified, at the whims of the authorities concerned, to accommodate increasing number of mosque-goers. For the modification, we are losing our history and heritage lying with the mosques. However, the need for more space for increase in the population can met by building another mosque within or adjacent to the periphery. Such instances can be found in many areas of the country and doing so will also ensure the preservation of our history and heritage.

My sincere thanks go to Mr. Wolfgang Vollmann, Director & UNESCO Representative in Bangladesh, for giving me this opportunity to work in such a project, and to Ms. Shahida Parvin for her continuous cooperation. Their encouragement has been my inspiration to complete the project. Last of all thanks to Mr. Mahfuz Anam, Editor and Publisher of The Daily Star, who has always focused on the heritage of Bangladesh through his newspaper and has been a source of inspiration and motivation for me.

Syed Zakir Hossain
Photographer



PREFACE

Author's title of the treatise, "Mosque Architecture in Bangladesh", may appear at first glance to be paradoxical, for, while discussing about the various aspects of the Mosque architecture in Bangladesh, he has stepped beyond the frontier of Bangladesh to cover also the medieval mosques at Gaur and Pandua and other mosques in India. In his defence, however, we may point out that the political geography of old Bengal or the areas ruled by the Muslims during the Middle Age, have been constantly fluctuating like the ever-shifting courses of rivers of the delta, either expanding or contracting in response to political changes. Astonishingly however, the fundamental unity of the cultural life of Bengal seems to have continued unaffected for two millennia. Dr. Abu Sayeed M. Ahmed often crossed the present political boundary and referred to architectural development in neighbouring West Bengal for a fuller understanding of the subject. The changing pattern of its development in various periods could not have been otherwise studied or understood in isolation.

The author has aptly pointed out that although religious edifices everywhere in the Islamic World followed certain basic form, such as the dome, *mihrab*, pulpit, *minar* etc. but these forms differ from region to region. Today no country of the World preserves its art and architecture in its original pristine form unvarnished by surrounding cultures around. Its origin, morphology and enrichment have been conditioned by the prevailing art stream of other ambient countries with whom it associates. But despite such extraneous blending, following its association with the outside world, every country retains its individual regional identity, distinct from others which is dictated by climate, geographical environment, availability of building materials and above all, the local craftsmen's traditional skill.

Architectural development of the Sultanate period in Bengal for well over four hundred years can only be studied properly in the desolate ruins of the fortified twin cities of Gaur and Pandua. In vastness and splendour the city ruins are unparallel to any other ancient city-site in the sub-continent. The ruins stretch between the old courses of the Ganges and the Mahananda, for about 20 miles in unbroken continuity; mostly located in present Maldah district of West Bengal and a small suburban area beyond the fortified area is situated in Chapai Nawabganj district of Bangladesh. Amid the welter of spectacular city ruins - aptly called the graveyard of the four centuries of Muslim rule in Bengal - magnificent palaces, tumbled forts, free-standing victory towers, splendid mosques, mausolea, Hammam, roads and bridges still precariously survive in the deserted ruins.

During two hundred years of Bengal's independence between 1338A.D. and 1575A.D., it broke away from the base of central power at Delhi and drifted in isolation from the main stream of efflorescence of the imperial art and architecture of Delhi. Because of its location thousands of miles apart from the heart-land of the Central Govt. at Delhi from where the great Mughal emperor ruled a vast empire far greater than

04: Kusumba mosque at Noagaon, Central Mihrab

past, from his resplendent peacock throne and created art and architecture of everlasting fame - Bengal remained a backwater of history. During this period the Sultans of Bengal vigorously patronized regional art and architecture and even Bengali literature. The indigenous elements fostered by the independent Sultans of Bengal - especially by the house of Haji Ilyas (1342-1487A.D.) and Alauddin Husain Shah (1493-1538A.D.) are represented in a luxurious richness in embellishing their buildings with beautiful terracotta floral scroll and introducing a pronounced curvilinear profile in their buildings, simulating the familiar thatched huts of rural Bengal while adopting covered domed roof rather than open court mosques as a protection against copious monsoon rain. These indigenous features are the logical outcome of a people keenly aware of an unfriendly climate affecting their daily life, emanating from an ingenious, but practical mind. Therefore, although the title of author's empirical thesis appears to be somewhat paradoxical, it was unavoidable, in fact, essential for the proper understanding of the subject.

Author has classified the mosques in Bangladesh, built between 13th and 18th centuries, into (a) Courtyard type and (b) Enclosed or covered types. These are grouped into rectangular and square types and further sub-divided into 3 classes: multi-unit; multi-unit with fore-room and multi-unit with a wide central aisle. His classification appears to be logical. He also rightly observed that during the Mughal period multi-unit group gave way to the typical 3-bayed or 3-domed type.

In nascent Islam prophet's mosque at Medina had an open courtyard. Likewise most of the early Islamic mosques of the Arabian Countries are of courtyard type, surrounded by a cloister or a wall. However, since 13th century onwards, the mosques built in greater Bengal in general, with a single exception, are of enclosed type. The only exception is the Adina stone mosque (1374A.D.) at Hazral Pandua in West Bengal (India). Such type of vast monumental mosque (507'x285' with 306 domes) with an inner courtyard was never repeated in Bengal.

While elucidating some complicated technical process of masonry construction and their component parts such as pillars, pilasters, squinches, pendentives, trough vault, cloister vault, tunnel vault, groin vault etc, the author has excellently explained these with illustrations. Equally instructive is his explanation of various stages of transformation of square or rectangular base for supporting domes and vaults above. The variations in a wide central nave were sometimes covered by a long tunnel vault which acted as a transept as at the great Adina mosque in Pandua, but often, the builders also used a special vault, popularly known as '*Chouchala*' dome covering the central nave, wider than the flanking ones, such as at the Shait Gumbad Masjid and Chhota Sona Masjid.

Dr. Sayeed Ahmed rightly observed that in order to provide more space for the devotees, to a square-shaped single unit mosque as at Rajbibi Mosque at Gaur, Sura Mosque at Dinajpur, Gorar Mosque at Baro Bazar, etc was achieved by an addition of a fore-room covered by small squat domes, which was wiser and more practical than building a larger single dome with associated structural complications. This type of square single unit with a fore-room is characteristic feature of the Ottoman Turkish architecture with whom we had long association since 13th century onwards.

Fairly large oblong Darasbari mosque at Firozpur, Chapai Nawabganj (30.35x11.92)m, with a fore-room or verandah (3.20m broad), built in 1490A.D. at present is a pitiful wreckage of its old glory. This noble monument is entirely roofless while its corner turrets and verandah on east have disappeared. The prayer

hall is divided into 3 aisles by 2 rows of stone pillars, originally supporting 9 domes over each wing while the verandah or the fore-room was spanned by 6 more domes. Dr. Dani, followed by M. Hasan and C. Asher maintained that the central nave was roofed over by 3 uniform '*Bengali Chouchala*' roofs as the presence of lateral arches prove, like the Chota Sona Masjid and Shait Gumbad Masjid. A similar '*Chouchala*' roof also covered the middle bay of the eastern verandah.

But Dr. Sayeed Ahmed from his recent survey found that the transept of the prayer hall does not have a uniform grid. The middle unit is distinctly square and therefore, he claims, was covered with a semi-circular dome, for, there is no example in Bengal where square unit is covered with a '*Chouchala*' vault. In its present severely dilapidated condition with its roof completely missing and the unfriendly elements of nature playing havoc with this splendid monument, it seems the opposing claims may ever remain a contentious issue.

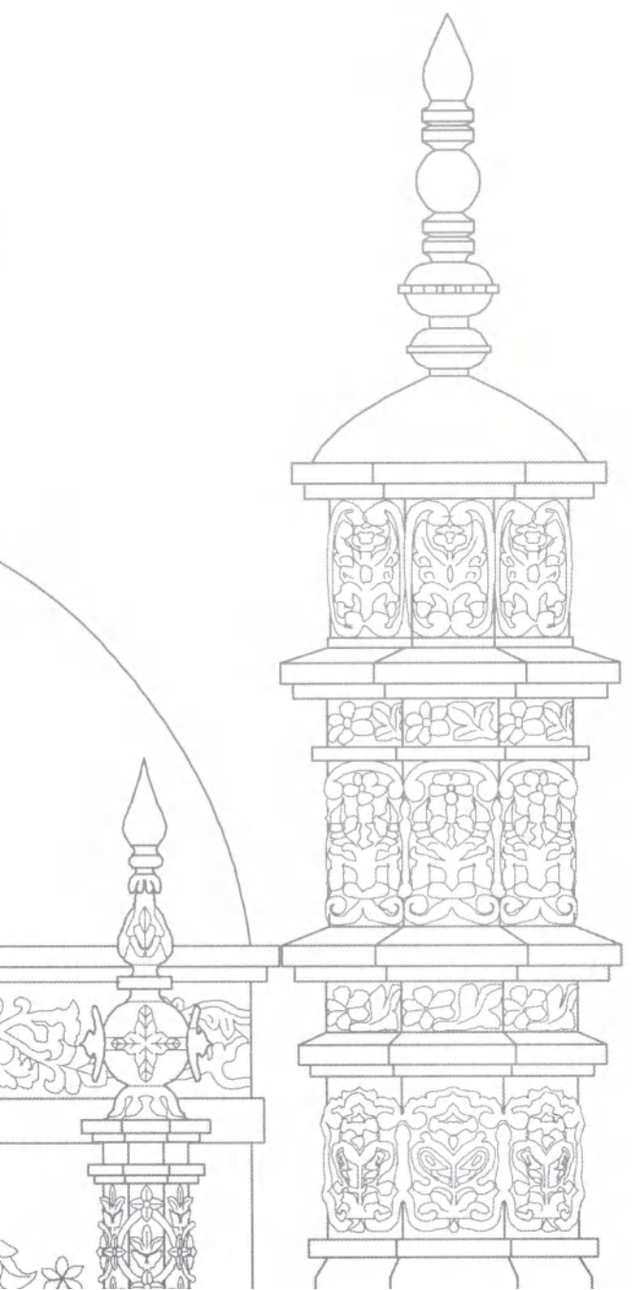
The author probably has some justification when he assumes that the brick-faced walls of the early period had a very thin coating of shell-lime to protect the bare brick surface and retain original ornaments, mouldings and terracotta floral scroll. But the Mughals introduced a plaster of mixture of lime and fine brick powder. As a result the white coloured pre-Mughal buildings gave way to a new pinkish red surface, emulating red sandstone which the Mughals used in their buildings in their imperial capital. Later on the plaster was removed and replaced with '*Chini-tikri*' or broken china pleces during the colonial period.

The author appears to be unsparing in his scathing criticism of the recent renovation and extension of the famous Star Mosque at Armanitala in Dhaka by the Department of Architecture Ministry of Public Works and Housing in 1987. The original Mosque, built in early 19th century in the typical 3-domed Mughal type, was extended in 1926 with a verandah on east but during the last extension and renovation in 1987 the 3-domed mosque was converted into a 5-domed mosque sidewise. As a result, out of 5-domes including 2 new domes, the central one is smaller than the flanking ones. Thereby it has totally upset the harmony of the Mughal period. Even the Islamic idea of emphasizing the Central axis is totally disregarded here due to introducing a small dome in the centre.

In the same strain the author rightly wails bitterly the Archaeological department's outraging the Shait Gumbad Masjid at Bagerhat - a World Heritage - by totally altering certain original architectural features of the five hundred years old unique monument. The triangular pediment over the central entrance on east face has been removed, the floors laid with cheap white tiles as eye-sore and the slender stone columns have been covered with brick work. These renovations, indeed, have destroyed its original composition. This sort of vandalism has been widely condemned in the press and by all culture conscious citizens.

Systematic classification and presentation of a complex subject in a handy treatise is certainly a credit to the author. Those who are interested in further study of the subject will find it useful.

Dr. Nazimuddin Ahmed
Former Director
Directorate of Archaeology & Museum
Govt. of the People's Republic of Bangladesh



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Mosque Architecture in Bangladesh

INTRODUCTION

Bangladesh, having the distinction of being the home to the highest density of Muslims per square kilometre in the world, has been known for its colourful contribution to the wide spectrum of the world cultural heritage. The name Bangladesh or the former "Bengal", which first became known to Europe through Marco Polo's account of his travels, derives from Vanga, the name of an ancient group of people, who lived in what is now the southern part of Bangladesh. This old province of Vanga was said to have been founded by a king called Bang, who is mentioned in India's ancient epic "*Mahabharata*" (Blochmann 1968:8).

The earliest historical reference to the organized political and social life in and around Bangladesh is usually traced back to Alexander's invasion of India in 326 B.C. Greek and Latin historians suggested that Alexander the great withdrew from India anticipating a valiant counter attack from the Gangaridae Empire, which was located in the Ganges delta or Bengal region. These empires were succeeded by the Mauryas between 4th and 2nd century B.C., the Guptas during 4th and 5th century A.D., the kingdom of Sasanka in 7th century A.D. and the Buddhist Pala Empire between 7th and 11th century A.D. The earliest existing remnant of an ancient city in Bengal is Mahasthangar (4th century B.C.) located and flourished in the present Bogra District. The other remains of ancient structures in this region are religious and educational buildings, constructed between the 3rd century B.C. and the 12th century A.D. The largest Buddhist Vihara of the sub-continent is situated at Paharpur in the district of Rajshahi (770-810 A.D.); and the Mainamati Viharas in Comilla district (8th-12th centuries) are the important monuments adding to the glory of this time. The power of the Buddhist kingdom fell to the Hindu Sen family in 467A.H./1080A.D. and continued till the advent of the Muslims in 601 A.H./1204A.D. Besides some iconographic and literary evidences, unfortunately there exist no architectural evidences of the Hindu temples of local origin during the

05: Sura mosque at Dinajpur, Entrance Gate

Hindu rule. As a result, no tradition of Bengali temple architecture was developed in the pre-Muslim period. Only a few groups of Hindu temples (9th-12th centuries) of north Indian influence remain in Bankura and Burdwan districts of West Bengal, India.

The victory of Muhammad Bakhti-yar Khalji in 601A.H./1204A.D. is an epoch-making event both for the history of Islam and for Bengal. It marked the farthest expansion of the Islamic world or dominion in eastern direction; on the other hand Bengal under the Muslim rule was reconnected with northern India as well as with the wider world of Islam. This connection promoted the immigration of various professionals into the new land of Islam in search of fortune, employment and missionary activities. These professionals brought architectural and technical know-how and experience from their homelands. With the help of indigenous building materials, craftsmen and local building techniques where necessary, they laid the foundation of the Islamic architecture in a land predominated by the architecture of Hindu and Buddhist origins. Wherever the Muslims went, they erected mosques to meet the fundamental religious requirements, that is, the congregational prayers five times a day. In the land of the viharas and stupas, the mosque was certainly a characteristic variation in the field of architecture. In this context Percy Brown described that "Compared with the clarity of the mosque, the temple is an abode of mystery; the courts of the former are open to light and air, with many doorways inviting publicity, the later enclose- a phantasma of massive darkness. The mosque has no need to a central shrine, it is sufficient for the devotee to turn in the direction of Mecca, but the focal point of the temple is a sacred chamber often deep within the labyrinth of its endless corridors. Architecturally the mosque is wholly visible and intelligible, while the temple is not infrequently introspective, complex, and indeterminate. The representation of natural forms is prohibited by the Islamic usage, whereas the walls of the temples pulsage with imagery and their interiors are the dwelling places of the gods" (Brown 1942:01).

After the initial disruption, there began a period of great creativity based primarily on the existing culture and architectural tradition of Bengal. New building types, such as mosques and mausoleums, were introduced. A large number of mosques were built in Bengal during the independent Sultanate (739-945A.H./1338-1538A.D.). "Of the total number of dated mosques constructed in Bengal during the entire Muslim period (601-1173A.H./1204-1757A.D.); almost three-quarters were built between the mid-15th and mid-16th century" (Hasan1989:58-74). The major buildings of that period were built around the capital city of Gaur, Hazrat Pandua (India), Bagerhat and Sonargaon. They developed their own architectural form and character, which can be easily distinguished from other regional architecture of the Indian sub-continent. Bengal, as a province of Delhi Empire (601-739A.H./1204-1338A.D and 942-983A.H./1535-1575A.D.) and as an independent kingdom (739-942A.H./1338-1535A.D.), continued its separate regional architectural identity till the advent of the Mughals in 983A.H/1575A.D. This regional architecture that developed during this whole period (601-983A.H/1204-1575A.D) is called the 'Early Islamic architecture of Bengal'.

The new reform or movement of the Hindu religion came with the introduction of *Vaishnavism* by Shri Chaitanya Dev (891-940A.H./1486-1533A.D.) during the time of the Muslim rule. Chaitanya Dev proposed a democratic

reorganization of Hindu society by abolishing the caste system and removing all distinctions between Brahmans and other classes. As a result they attracted people from all castes and creeds, and started to erect temples for performing their religious activity together. Apart from the efforts made by the Sultans, political isolation of Bengal from the rest of India led the Muslims in Bengal to be closer to the indigenous culture and literature. In any case the co-operation of the native Hindus was necessary as soon as the Bengali Sultans decided on independence from Delhi. Historical evidences show that most the royal courts of the sultans of Bengal comprised many local Hindu elites. Thus a mutually beneficial relationship between the two communities flourished in this soil. A large number of Hindu temples were built under the direct patronage of the Muslim rulers, instead of destroying them. The popular tradition of Hindu temple architecture in Bengal that developed during the Islamic period bears a strong resemblance with the elements of the early Islamic architecture. Consequently, the Islamic architecture and the Temple architecture together constitute the common regional style of the religious architecture of Bengal during the early Islamic period of Bengal.

There are two major achievements of Muslim rule in this region. First, prior to Muslim rule in this area, Bengal was a changing mosaic of ever-shifting territorial identities. The geographical limits of Bengal were not clearly perceived till its political unification by the Ilyas Shahi rules in the fourteenth century. The geographical and political unification of Bengal was thus a gift of the Muslim rulers. Secondly, unlike their Hindu predecessors with Sanskrit education, the Muslim rulers were patrons of Bengali language, literature and vernacular architecture. During this period many of the Hindu holy books like the *Ramayana* and the *Mahabharata* were translated for the first time into Bengali. So it was truly 'the emergence of Bengal' as a nation with a distinctive literature, culture and architecture.

In 945A.H./1538A.D. Bengal lost their independency and hereafter was ruled by Sher Shah's family and their Afgan successors till the Mughal invasion from North India in 983A.H./1575A.D. During most of the Mughal period, Dhaka was the capital of the province of Bengal, and for a short period of time it was transferred to Rajmahal and Murshidabad of India. After the advent of the Mughals, there was a break in the continuity of the traditional and regional architecture in Bengal. The specific feature of the Mughal period is the idea of political and administrative centralization where all the ideas and ideals flowed down from Delhi. Mughals, the last Muslim rulers in Bengal, came from central India with a preconceived or standardized idea of Islamic architecture, which was then imposed on Bangladesh through their ruling Subahdars. As a result the architectural techniques and concepts developed in central India had been only repeated or imitated in Bengal. Of the several hundred mosques built in Bengal during the Mughal period a few may be mentioned for their own elegance and architectural features of this soil.

On 23rd June, 1757A.D., the destiny of the Muslim Bengal passed on to the hands of the British rulers for the next two hundred years. The capital of the British India was Calcutta from 1773-1912A.D. and then it was transferred to Delhi. The Muslims, as any other native community, were a defeated political power, lamenting over their lost glory. During this period religious architecture was not patronized by the colonial rulers; however, a large number of Mughal mosques were

renovated and only a few were newly built under the direct patronage of the wealthy Muslim *zamindars* or merchants. Instead of developing a style, surface treatment was the main focus of the builders. In 1947, the British left the Indian subcontinent dividing it into two independent nations - India and Pakistan. The single entity of the Colonial Bengal was also divided into two parts; eastern part of Bengal with its Muslim majority of population joined Pakistan and was named East Pakistan; and the other part remained as a state of India that was called West Bengal. The ruthless exploitation of East Pakistan by the ruling elites of West Pakistan went far beyond all tolerable limits. As a result, a war of liberation was forced upon the people and subsequently the former province of East Pakistan came into a new existence named Bangladesh on 16th December, 1971.

Demographically ninth largest nation in the world, Bangladesh is a new state in an ancient land. More than one third of its unfolded cultural history was administered by the Muslims in ancient Bengal. They built innumerable mosques, *madrashas*, forts, *katras*, bridges, gateways and such other religious as well as secular structures. The devastating effect of the hydrological system of the Gangetic delta and its shifting courses of rivers, the wilderness of its vegetation, the vandalism of building materials by the locals and some severe earthquakes were responsible for the obliteration of most of the ancient monuments in Bangladesh. There are alas no vestiges of any ancient edifices, surviving in its entirety above the ground level today, which were erected before the advent of the Muslims in Bengal. However, a large number of mosques survive till today and they need to be properly documented, conserved and published to reconstruct the art and architectural history of our glorious past. There can be no question that the mosques in Bangladesh, as elsewhere, provided the main focus of Islamic architecture throughout the Muslim domination in this area starting from 13th century till today. The subject of the following chapters is confined to the mosque itself because of its emblematic role in the architecture of Bengal, hence ancillary buildings such as mausoleum, *katras* and fort are not included. An exhaustive compilation would in any case is nearly impossible in a single volume, so only a few selected mosques of present-day Bangladesh were selected for cataloging; however, the historical and architectural backdrop of the Greater Bengal and its comparative analysis have been discussed to create a better understanding of the whole scenario.

06: Chhoto Sona mosque at Chapainawabganj, Floor tiles from the courtyard

AN APPRECIATION

of the Development of Mosque Architecture in Bangladesh

Preceding and neighbouring civilizations invariably influence the development of architecture, its forms, construction techniques and workmanship in every nation. Bangladesh is no exception. Islam, born in the Arabian Peninsula in the 7th century, spread through Near East, Turkey, Persia and Afghanistan to the Indian subcontinent. It reached northern India in the 12th century. Until the coming of the Mughals in the 16th century, direct patronage of many independent rulers resulted in different regional architecture in India. Remarkable regional or provincial architecture developed mainly in the upper-India, Gujarat, Deccan and Bengal (present-day Bangladesh). During the Mughal rule the architectural forms, techniques and concepts applied in Bangladesh were mere repetition of those developed in central India. The British rulers concentrated mainly on secular buildings, religious buildings for the Muslims were discarded. Large numbers of Mughal mosques were renovated and only a few were newly built under the direct patronage of wealthy Muslim *zamindars* or marchents.

The basic elements of a mosque comprise a space large enough for congregation especially on Fridays, with a spatial orientation for the devotees to face the direction of the holy Mecca. The wall towards Mecca is called the *kibla* wall and is marked by a *mihrab*, which usually takes the form of a decorative niche. A mosque usually includes a number of distinctive elements, a *minbar*, a pulpit next to the *mihrab*; a *maqsura*, an enclosed or raised space in the hall; a *minaret*, a tower usually built at one or more corners of the mosque, from which a *muezzin* calls devotees to prayer and a *sahn* which is a courtyard with wells or fountains for ablution before prayer.

All great mosques are replete with elaborate decorations with a strict respect and adherence to the prohibition against icon or images of living beings. Ornamentations are abstract consisting of geometric plant forms as distant from their original as possible so as to be unrecognizable. Muslim ornamentation is not only a surface art; it is structural as well. Structural elements

07: Kusumba mosque at Noagaon, Detail of central mihrab

like pendentives, squinch arches, arches, pillars, pilasters, brackets, domes and even the material of construction add to the aesthetics of the structure.

A critical scrutiny of these basic architectural, structural and ornamental features reveal a distinctive manner of expression and technique, which may help to define the architectural style of Bangladesh. Search for the origin and the process of development of different architectural elements of mosques in Bangladesh require analyses and comparison of some features with similar characteristics available locally, in the neighbouring countries and in the Islamic world as well.

The contribution to and continuation of the Mosque Architecture of Bangladesh to Islamic Architecture is evident from the ground plan to surface ornamentation and from foundation to dome as the following sections would reveal it.

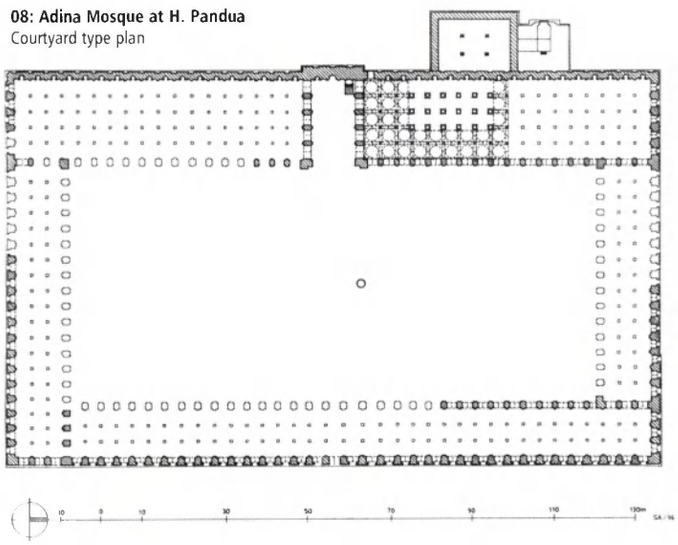
Development in plan

The Holy Qur'an reiterates time and again the obligation of Muslims to daily prayers, but mentions nothing about the form, layout, organization or structure of the place of worship. By implication prayer requires no specific place - it can be performed anywhere. In the early stages of Islam mosque was not only a place for worship but also a common place of gathering for the community and as such had no specific architectural character. They were more like camps than religious edifices - a paling of reeds or even a boundary ditch sufficed. With the consolidation of Islam the need for imposing structures, monuments to the native faiths of the conquered regions, the prestige that centred on them and the need for providing religious accommodation for the new converts, soon led to construction of permanent buildings. The mosque at Medina or the Prophet's mosque is the first mosque of Islam. (Creswell 1969:6) This was the model for further development of the mosque architecture in the Islamic world.

Bangladesh came within the ambit of Islam in the early 13th century, and from the time onward people in this region built numerous mosques. In general the ground plan of mosques, built in greater Bengal until the end of the Mughal rule (983A.H./1775A.D.), falls into two broad categories - the Courtyard type and the Enclosed type. With a single exception, all the mosques in greater Bengal had only one enclosed prayer hall without an internal courtyard.

The Courtyard type: The courtyard was popular from the very beginning of the Arabian mosque architecture. The Prophet's mosque at Medina also had an open courtyard. Most of the courtyards in the early Islamic mosques of the Arabian countries are mainly a fore-court surrounded either by a covered cloister or a wall. There is no central symmetry or cross-axial relationship from inside like the *iwan* mosques in Persia and Central Asia. The size and shape of the original courtyards transform over time as devotees or successive generations expand

08: Adina Mosque at H. Pandua
Courtyard type plan



the *iwans*. The Adina mosque, built in 776-86A.H./1374-84A.D. at Hazrat Pandua, (A. Ahmed 1997:142) is the single example of the courtyard-type mosque in Greater Bengal (Plate 08). The large courtyard or *sahn* (127.7 x 57.2 m) is surrounded on three sides with *riwaqs* and with the *kibla riwaq* on the fourth side. This type of large monumental mosque with inner courtyard was never repeated anywhere else in Bengal.

The Enclosed type: One of the most conspicuous features of mosque architecture developed in the monsoon region of Bangladesh is the enclosed type without a courtyard. In no other part of the sub-continent did climate play a more determining role than in Bengal in moulding the actual architectonic forms. The nature of the soil and incessant rainfall had a tangible influence on the development of the enclosed type mosque in Bangladesh.

The basic requirement that the devotees in prayer have to stand in straight lines parallel to the *kibla* wall greatly influences mosque plans. To serve this basic requirement most prayer halls are either oblong or square. The circular or other polygonal form did not find favour with mosque builders. In terms of organization of the inner space, the enclosed type mosques in Bengal built between the 13th and the 18th century may be further broadly classified into two major groups - the rectangular and the square types (Plate 09).

The rectangular type: Almost two-thirds of the large number of mosques built during the early Islamic period in Bangladesh had rectangular ground plan. Most of the mosques in and around Gaur belong to this group and are primarily Friday mosques for small communities. These rectangular type mosques may again be sub-divided into three groups: multi-unit, multi-unit with fore-room and multi-unit with a wide central aisle. During the Mughal period the variable number of bays in the multi-unit group gave way to a fixed number of bays resulting in the three-bayed or three-domed mosque.

The rectangular multi-unit type: The rectangular prayer hall consists of several aisles and bays. Free-standing stone pillars, running in both transverse and longitudinal directions form several uniform units or grids and support the arcades between the aisles and bays. Each of these units is topped with a semicircular dome. This type of cross-arcaded multi-unit mosque was widely built in the early phase of development of Mosque architecture in Bangladesh. In the early Islamic period of the Indian sub-continent it is rare to find a mosque divided into identical aisles and bays and uniform units or grids covered with domes only. The Gulbarg mosque in India (769A.H./1367-68A.D.) has several uniform multi-units (Volwashen 1992:171). The units in the middle are covered with semicircular domes. The remaining part of the mosque has tunnel vault roof with a large dome in each of the corners.

The ground plan of mosques in ancient Bangladesh is mostly rectangular with multi-dome roof. The Zafar Khan Gazi's mosque (698A.H./1298A.D.) at Tribeni is the earliest surviving example of a rectangular typed ground plan (A. Ahmed: 86-87). The prayer hall has five aisles and two bays and is covered with ten identical domes. The principle of repetition of equal sized square units covered with identical domes with variation in number of aisles and bays was common in Bangladesh. Dhaniachak mosque at Gaur, for example, has two bays and three aisles, Bagha mosque at Rajshahi has five aisles and two bays, and the Baba Adam mosque at Rampal has six square units in three aisles and two bays.

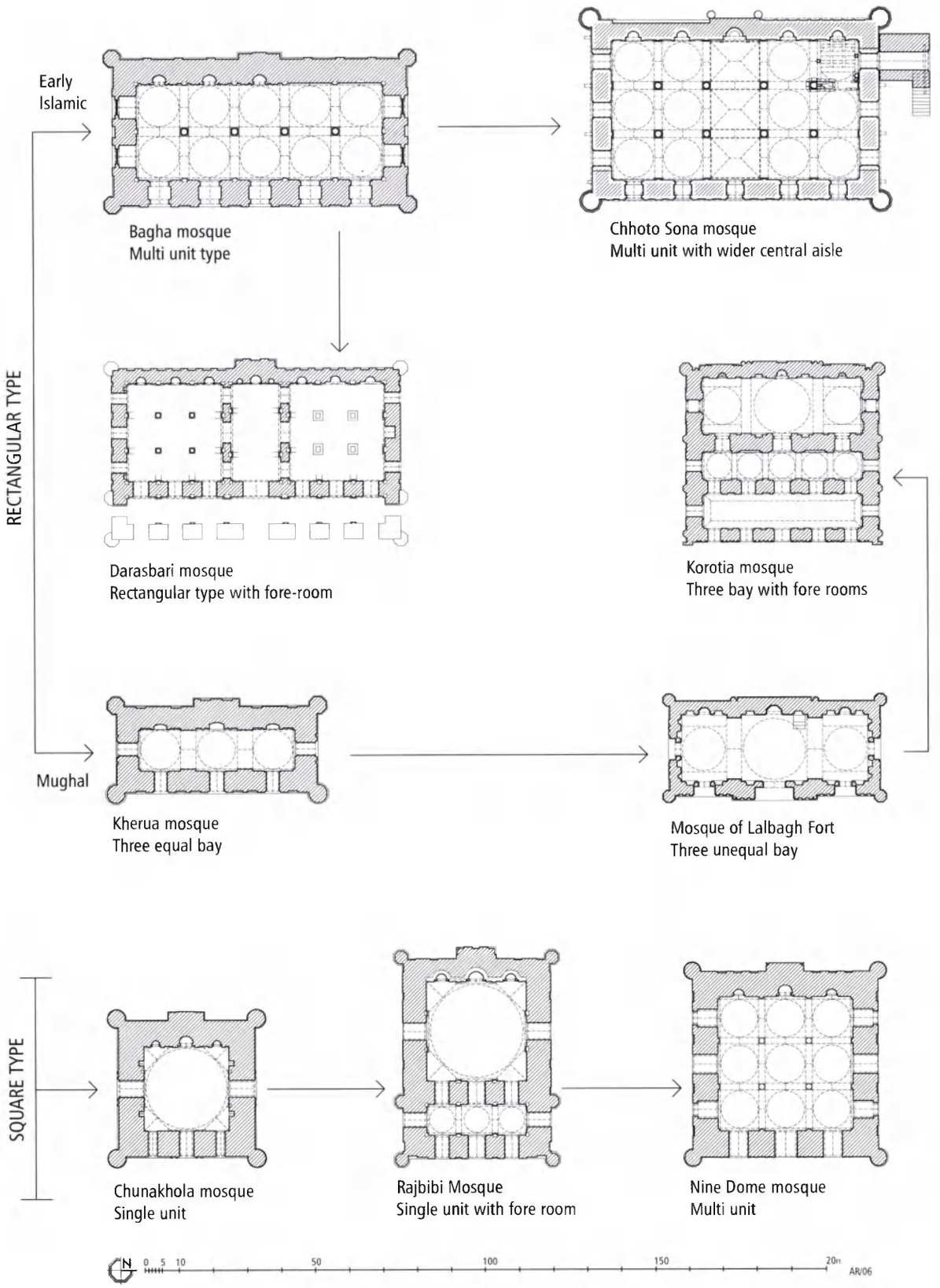
It may be concluded that in the early Islamic period in Bangladesh, aisles and bays divided the prayer hall in a multi-unit rectangular mosque into several uniform square units. Each of these units had an equal-sized small semicircular dome.

The rectangular type with wider central aisle: From the beginning Islamic architecture had a tendency to articulate or emphasize the central mihrab niche, which is the most important and the central focus of a prayer hall. The Al-Aqsa mosque at Jerusalem (83A.H./702-03A.D.), the Great mosque of Cordova (169A.H./785-6A.D.) (Creswell1969:143-50), the Great mosque of Damascus (begun 87A.H./706A.D.) and the Great mosque of Resafa-Rusafat Hisham in Syria (105-15A.H./724-43A.D.) (Sack1996:29), are few surviving examples of the early phase. In these mosques the middle or the central aisle is wider than others irrespective of the direction of the aisles or arcades. There is no particular direction for aisles or arcades at the centre. In the first two examples, the arcades run perpendicular to the *kibla* wall and the central aisle is wider than the flanking ones. In the last two examples, the arcades run parallel to the *kibla* wall and the central aisle is also wider than the flanking ones. Mosques in Bangladesh use a similar technique to articulate the central *mihrab* niche. Towards the beginning this was achieved by just widening the central aisle as in the Bari mosque at Pandua (743A.H./1342A.D.) (A. Ahmed1997: 104-05). Later this wider central aisle was further accentuated with a special type of vault such as the Chouchala vault. The Shait Gambuj mosque at Bagerhat (854 A.H./1450A.D.) and the Chhoto Sona mosque at Gaur (899-925 A.H./1493-1519A.D.) illustrate this well. In both cases, the arcades run through the central bay without any change in direction and the span of the central bay is wider than other bays. All the pillars in Chhoto Sona mosque and Shait Gambuj mosque are similar in size and shape. In the Shait Gambuj mosque the wide central aisle is covered with seven *Chouchala* vaults. Similarly, in the Chhoto Sona mosque the wider central aisle covered in three *Chouchala* vaults divides the prayer hall.

The rectangular type with fore-room: An open quadrangle platform or fore-room is often added to accommodate over-spill of worshippers especially during Friday congregation. Some mosques have a long fore-room such as in the Darasbari (884 A.H. /1479A.D.) and the Baro Sona mosque both at Gaur (932 A.H./1525-26A.D.) (A. Ahmed1997: 102-07). The length of the fore-room is equal to the length of the mosque and the entrances of the fore-room are identical in number, size and shape to the entrances on the eastern or frontal wall. Fore-room covered with dome is rare in the early Islamic architecture of India but became a common feature in the medieval temple of Bengal. In the words of M. M. Chakravarti: "The body of the temple consists of the sanctum, generally with various additions. The sanctum is oblong, sometimes cubical. The sanctum has, as a rule, a covered veranda in front. Other additions may also be found, such as extra covered verandas on both sides, or running on all the sides, with rooms in the corner" (Chakravarti 1909: 141-61). There are parallels of this development in the traditional rural hut in Bangladesh. The indigenous rural hut is usually a single oblong room that extends out into a fore-room or portico. This basic concept of a hut (one single room with a fore-room) became popular both in the Muslim and Hindu religious architecture in Bangladesh. The rural hut may have been the inspiration behind development of Mosque architecture in Bangladesh notwithstanding the fact that mosques do have a strong superficial relationship with the early Ottoman architecture.

09:

Development in plan



The rectangular type with three bays: The Mughal builders developed the rectangular, three-bayed or domed mosque in central India. It found its way to Bangladesh through the governors of the Mughal Empire. The Mughals adopted the three-domed prayer hall from a variety of multi-domed mosques of the pre-Mughal era. The development passed through a transition phase where the plans were of Mughal origin but the surface ornamentation was typical of the early Islamic period. Kherua mosque at Sherpur is the best example of this phase. Even the earliest example of Mughal three-domed mosque with a Mughal facade has three shallow domes of equal size but without shoulders. The domes rest on three equal square bays as in Khwaja Shahbaz mosque at Dhaka and Shah Niamatullah's mosque at Gaur. Later development retains the square shape only in the central bay with a bulbous dome for a roof. The side bays took the form of small rectangular spaces covered by smaller domes. Lalbagh Fort mosque, Khan Muhammad Mridha's mosque at Lalbagh and Sat Gambuz mosque in Dhaka are examples of typical three-domed Mughal style in Bangladesh. The central dome was invariably larger than the flanking ones and domes rested on high shoulders. During the colonial period most of the Mughal mosques were renovated and extended by adding veranda or fore-room on the front side to accommodate over-spill of worshippers such as the Karotia mosque at Tangail and the Tara mosque in Dhaka.

The square type: From the large number of mosques, built in Bangladesh, almost a third was conceived on a square ground plan. These square mosques are very small in size. It was more practical to build small mosques to accommodate people living in small clusters of huts that make up the Bangladeshi village than to build larger ones and expect people to travel long distances during long lasting rainy season. These square type mosques can again be classified into three groups: single unit, single unit with a fore-room and multi-unit.

The single unit square type: The single-unit square shaped mosque is indeed rare in the Muslim architecture. The ground plan of a mausoleum in the Islamic world is square or octagonal. In the Islamic architecture of India, the square single unit was used mainly for gateways and tombs, but rarely for mosques. The Alai Darwaza or the gateway to the Kutb Minar complex in Delhi (594A.H./1197-98A.D.) and the tomb of Ghiyash al-Din Tughluk in Delhi (725A.H./1324-25A.D.) (Brown 1942: 54-59) were concepted after square single-unit. However, the square form is the basic unit of most of the main sanctum of a temple in the temple architecture of Bangladesh and of its eastern neighbour, Myanmar. The Kodla Moth at Bagerhat (early 17th cent.), the Shyama-Raya temple at Bishnupur in West Bengal (1643A.D.), the Nat-Hlaung-Gyaung temple at Pagan, Myanmar (1057A.D.) and the Bebe Paya temple at Hmawza, Myanmar (10th century) (Luce 1970:219-229) are all of square single unit.

The earliest known example of the single unit square mosque during the early Islamic period in greater Bengal is the Molla Simla mosque at Hooghly, West Bengal (777A.H/1375A.D) (Asher1984:104-05). Although reconstructed many times, a single dome, on squinches at the four corners, covers the square prayer hall. The Ekhlaki tomb (818-36A.H/1414-32A.D) at Hazrat Pandua is the other earliest surviving example of a square shaped mausoleum in Bengal. The Molla Simla mosque and the Eklakhi tomb provide an obvious model for all subsequent single unit type structures in Bangladesh. A single square prayer room covered with a single hemispherical dome is seen in different mosques in

Bangladesh built during the early Islamic period, as in the Ranbijaypur mosque at Bagerhat (864A.H./1459A.D.), the Shahi mosque at Bandar, Narayanganj (886A.H./1481-82A.D.), and the Goaldi mosque at Sonargaon (925 A.H./1519A.D.). This type of square mosque has been widely built during the Mughal rule. The facade or surface treatment, however, is typical of the Mughals -the horizontal parapet embellished with merlons, high shoulder, panelled surface ornamentation etc. Mograpara mosque at Sonargaon, Muhammad Shah mosque at Kishoregonj (1680A.D.) and Sadi mosque at Kishoreganj (1062A.H./1652A.D.) are good examples of square-shaped Mughal monuments.

The single unit with a fore-room: The fore-room also became a part of square-shaped single unit mosque. Gaining more space through an addition of a fore-room was wiser and more logical solution than building a larger single dome with associated structural complications. The Rajbibi mosque at Gaur (841-92A.H./1437-80A.D.), the Sura mosque at Dinajpur (16th century) and the Ghorar mosque at Barobazar, Jhenidah (15th century) are only a few examples of single unit mosques with fore-rooms. These fore-rooms are covered in a combination of different types of vaults, such as two domes and one *Chouchala* vault, three small domes, three groin vaults and one tunnel vault. The basic square single unit with a fore-room is a characteristic feature not only of the early Ottoman Turkish architecture but was in favour throughout the six centuries of the Ottoman rule and is widely used in Turkey even today. The most important examples of typical single unit mosques with a fore-room built during the early Ottoman period are the mosque of Alaeddin Bey in Bursa, Turkey (736A.H./1335-36A.D.), the mosque of Yildirim Bayezid in Mudurnu, Turkey (784A.H./1382-83A.D.) and the mosque of Firuz Aga in Istanbul (896A.H/1490A.D) (Kuran 1968:32-48). All the mosques mentioned above consist of a single unit square hall with a fore-room, covered with different types of domes. The main difference between the Ottoman and the Bengali architecture is in the supporting walls of the fore-room. In Turkey, the roof of the fore-room is supported on column giving an effect of an open portico. In its Bengal counterpart the exterior supporting walls of both the fore-room and the main hall have equal heights and widths giving the impression that the fore-room is an enclosed room with several openings.

The multi-unit square type: In addition to the single dome for the whole room, to provide a larger space using an easy construction system the Muslim builders of Bangladesh introduced the multi-unit mosques. Aisles and bays of several small equal square units, each covered with a small hemispherical dome, provide a larger square space than was possible with a single unit. Only three multi-unit square mosques survive in Bengal - the Qasba mosque at Barisal (Mid-15th century), the Masjidkur mosque at Bagerhat (Mid-15th century) and the Noy Gambuj mosque at Bagerhat (Mid-15th century). Khan Jahan Ali, the patron saint of Bagerhat, built these mosques in and around Bagerhat. They are almost similar both in size and proportion.

The multiple mihrab niches

Several *mihrab* niches in the *kibla* wall, was a special characteristic of the Mosque architecture in Bangladesh. The number of *mihrab* niches depends on the number of entrance openings in the eastern or front wall. The location of the *mihrab* niches corresponds to the central axis of these openings.

The idea of placing a niche directly opposite to an entry is reminiscent of the Buddhist temple architecture. In the

early medieval period, eastern India was an active centre of Buddhism. Except for a few ruined *viharas* or monasteries, most of the Buddhist monuments of pre-Muslim period in Bangladesh have disappeared. However, several Buddhist temples built in the eleventh and twelfth centuries still exist in neighbouring Myanmar. The plan of the central temple in the Paharpur *vihara* in Bangladesh resembles the plans of several temples in Myanmar. The Nanda temple (1105A.D.) and the Seinnyet-Ama temple both at Pagan, Myanmar (mid 12th century), and the Lemeyethna temple at Hmawza (931-64) (Luce 1970: 153-66) bear striking similarity to Buddhist temples in Bangladesh. It is likely that the Buddhist architecture of Bangladesh and Myanmar had the same origin. There is no specified cardinal direction of entry to these temples. The temples may be entered from any side. The niche for altar is placed on the same axis as the entrance but on the opposite wall. In other words, every entrance has a corresponding niche on the opposite wall. In case of a single entry the internal sides of the sanctuary have a central large niche with several smaller ones flanking it. This convention of a niche corresponding to entrance or several niches in the sanctuary wall could have also been used in the mosque architecture in Bangladesh during the early phase as well as Mughal period.

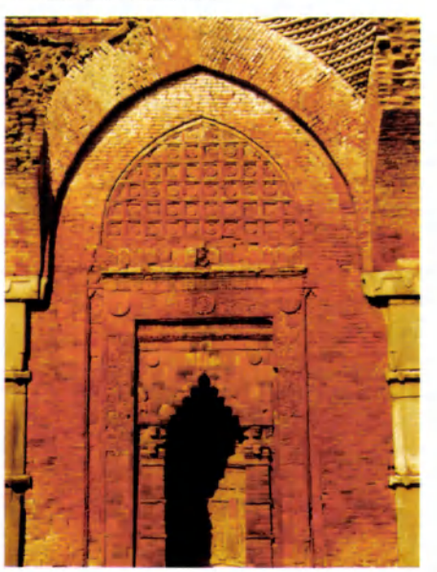
The multi-*mihrab* niches were rare in the Muslim world but were sometimes seen in mosques of North India. The Great mosque at Damascus (87-96A.H./706-15A.D.) and the tomb of Iltutmish at Delhi (633A.H./1235-36A.D.) are the earliest known and reported examples of multiple-*mihrab* niches in the Arab world and India respectively. Both these structures have three-*mihrab* niches in the *kibla* wall. The niches, however, have no relationship with the entrance openings. Multiple *mihrabs* are more consistent in the Indian mosques of Gujarat, Mandua and Janupur. The development of the multiple *mihrab* niches in these Indian provinces was not earlier than Bengal, but was contemporary to it.

Most of the mosques in Gujarat have no uniform multiple bays. The *mihrab* niches in the *kibla* wall correspond not to the entrances but to the domes in the

10: Kusumba mosque at Naogaon
Stone carving work in central mihrab

11: Bagha mosque at Rajshahi
Central mihrab niche

12: Darasbari mosque at Gaur
Corbelled central mihrab niche



hall. For example, the Jami mosque at Ahmedabad (827A.H./1423-24A.D.) (Burgess 1900: 30) has three main entrances in the centre and five small entrances on either side of the main facade, however, the *kibla* wall contains only five *mihrab* niches corresponding to the domes.

As an architectural feature, the *mihrab* niche has three basic elements -- an arch, the supporting columns and capitals and the space between them. Be in a flat or in a recessed form, the *mihrab* niche gives the impression of a doorway. The first concave *mihrab* niche was introduced by Umar Ibn 'Abd al-Aziz, governor of Medina, in the Prophet's mosque in 87-8A.H./706-07A.D. Thereafter the semicircular *mihrab* niches spread rapidly throughout the Muslim world" (Encyclopedia 1960: 7-11). The *mihrab* niches in mosques of Bangladesh are also semicircular in plan, with two pillars and a connecting arch in front. The earliest known *mihrab* niche in India is in the Quwatul Islam mosque at Delhi completed in 596A.H./1199-1200A.D. In its decoration the *mihrab* niche reflects strong Hindu and Buddhist elements. The arch in front is cusped and is carved from a single block of marble. In Bengal, the stone arches in the face of *mihrab* niches are carved from several blocks of stone slabs, placed horizontally or in layers. This is more of a false arch and a decorative element than structural. The Chhoto Sona mosque at Gaur, the Kusumba mosque at Naogaon (Plate 10), and the Shait Gambuj mosque at Bagerhat have mihrab niches that are typical of Bangladesh. On the other hand the brick *mihrab* niches have a pure pointed arch that is mostly cusped, such as in the central mihrab niches of Bagha mosque at Rajshahi (Plate 11), the Dhaniachak mosque at Gaur and the side *mihrab* niches of the Shait Gambuj mosque at Bagerhat. However, during restoration many of these arches were reconstructed as corbelled or false arch. The central *mihrab* niche of the Noy Gambuj mosque at Bagerhat and the Darasbari mosque at Gaur (Plate 12) belong to this category.

All *mihrab* niches of the Gujarat mosques have a corresponding external projection; but in Bangladesh, only the central *mihrab* niche projects beyond the wall

13: Adina mosque at H. Pandua
Central mihrab niche

14: Pagan-Myanmar
10th century Anuruddha seal (after Luce, pl.6)

15: Abeyadana temple at Pagan-Myanmar
Drawing of a niche (after Luce, pl.227)

and finds expression on the exterior. Most of the projections of the Bangladeshi mosques are rectangular. In a typical Mughal mosque an octagonal slender turret at each side with a pinnacle at the top terminates sidewise the central projection.

Irrespective of the material used, the *mihrab* niches have extensive decoration, either in terracotta or stone carving. In most mosques, the main or the central *mihrab* niche is bigger than the flanking niches. More often than not a distinctive and different pattern of ornamentation highlights the central *mihrab* niche. It is worth mentioning that in ornamentation the *mihrab* niche of the Adina mosque at Hazrat Pandua (Plate 13) is a direct imitation of the niches of the Buddhist temples at Pagan (Plate 14 & 15). The Buddhist features in Islamic architecture of Bengal provide a conclusive proof of the influence of the indigenous Buddhist architecture on the Muslim builders.

Minaret or corner turret

Minaret or tower, the essential feature of a conventional mosque in the Islamic world, was not used in ancient Bangladesh. The *adhan*, the call for prayer, was generally made from the forecourt or from inside the prayer hall. As most of the mosques in Bangladesh were very small and served small rural communities, there was no need for a tower or a *minaret*.

Although a single *minaret* can serve the purpose of *adhan*, there was more than one *minaret* in mosques elsewhere in the Islamic world. The extra *minarets* had no functional purpose other than ornamentation meant only to complete an architectural composition. They were of considerable value to the architecture of the mosque itself. The aesthetic quality of mosque architecture depends to a great extent on proportion and rendering of the domes and *minarets*. The height and size of the *minarets* were a symbol of the new power and grandeur of a city; and spoke of the glory of the Sultans who built them. The *minaret* also served as a landmark for worshippers. The countryside of Bengal is so flat and the vegetation so dense that a *minaret* would not be easily visible from any distance. It was probably not wise or worthwhile to build a very tall *minaret*, which would not be seen from a long distance. Instead of the *minaret*, early Islamic architecture of Bengal had a distinctive type of turrets at four corners of the mosque building. These turrets were invariably an integral part of an architectural composition and were built either to strengthen the corners or as mere ornamental appendages. A clear distinction between the turrets used to strengthen corners and those used as decorative elements is, however, not possible. In many instances they serve both the purposes.

The corner turrets were present from the very beginning of development of Indo-Islamic architecture. The Jami mosque or Arhai-din-ka-jhompra at Adjmir (596A.H./1200A.D.) and the Sultan Ghuri tomb at Delhi (629A.H./1231A.D.) are the earliest known examples of the corner turrets in India (Fergusson 1910: fig. VI). They subsequently inspired the Tughluqian builders (Turkish origin) who used turrets of similar design in some of their monuments such as in the Khirki mosque at Delhi (776A.H./1374A.D.) and the tomb of Rukn-I-Alam at Multan (720A.H/1320A.D.). (Hussain 1970: 174-76). It is presumed that the Tughluq architecture influenced turrets in Bangladesh.

However, some historians are of the opinion that the corner posts of the Bengal rural hut were the predecessor of the turrets. This theory is not tenable as

the use of turrets predate the advent of mosque architecture in Bengal. Although the turrets may be compared to the corner posts of the traditional hut, the corner posts were not their origin. The mosque builders of Bengal merely accepted the architectural element with which they were already familiar. These turrets complete the architectural composition of the four cardinal elevations of the mosque. The Bengal mosques would be architecturally incomplete without them. The turrets were a result of extensive experiment and became a complementary element or a symbolic feature of the mosque architecture in Bangladesh.

The surviving mosques of the early phase in Bengal, which were erected in the 13th and 14th century, have no projected corner turrets. They were concealed in the corner. The Bari mosque at Chhoto Pandua (743A.H/1342A.D.) was built without corner turrets. In Zafar Khan Gazi mosque at Triveni (695A.H./1296-97A.D.) the corner turrets appear for the first time, of which only the north-east corner turret is in situ (Plate 16). It is a monolithic stone pillar concealed in the corner. Similar type of concealed turrets can be seen in Adina mosque at Hazrat Pandua (776A.H./1374-75A.D.) (Plate 17). It is circular and fluted in shape, and resembles the freestanding Kutb Minar at Delhi (13th century). Only the south-west corner turret is in situ and the others are missing. The missing place has been filled with brick masonry. Besides these three mosques, all the other mosques belonging to the early Islamic period in Bengal contain corner turrets.

The inspiration for the corner turrets in the early Islamic architecture of Bengal was probably derived from the architecture of the Delhi Sultanate. However, unlike the corner turrets of the Tughluq monuments in western India, the shafts in Bengal are octagonal or round and do not taper at all. On detail observation of the corner turrets in Bengal it can be inferred that two different trends of corner turret plan evolved in Bengal. The dominating one is observed in Gaur and the other in Bagerhat. The corner turrets at Gaur are mainly

16: Zafar Khan Gazi mosque at Triveni
Concealed turret in the corner

17: Adina mosque at H. Pandua
Concealed turret in the corner

18: Shait Gambuj mosque at Bagerhat
Tapered circular corner turret

19: Singer mosque at Bagerhat
Circular corner turret

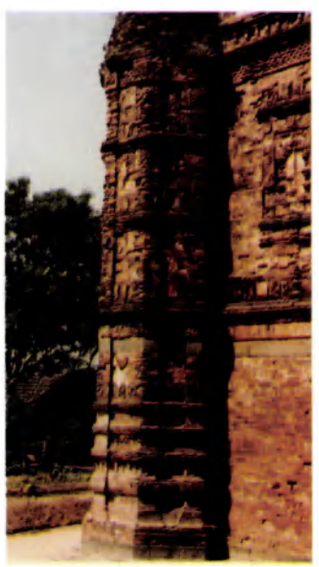
octagonal and those in Bagerhat are circular in plan. The other mosques scattered in different places have either circular or octagonal turrets.

The Shait Gambuj mosque, the central or the biggest mosque in Bagerhat, has four circular shaped corner turrets that taper towards the top (Plate 18). The two frontal corner turrets have an internal stair ascend into the roof. This type of round-shaped tapered turret may have been influenced from the earlier tomb of Rukn-i-Alam at Multan (720-24A.H./1320-25A.D.) or Khirki mosque at Delhi (776-88A.H./1374-87A.D.), built in the Tughlug period. The turrets of rest of the mosques in Bagerhat of Khan Jahan Ali are circular in plan and cylindrical in form (Plate 19), These turrets bear resemblance to the circular turrets in the madrasha of Muzaffar Barudjirdi (670A.H./1272A.D.) at Sivas and the Gok madrasha (670A.H./1272A.D.) at Sivas in Turkey (Kuran 1968: 79-98), where the cornice of the turret run through the facade. This circular form was also in vogue in the eastern part of Bengal, for instance in the Goaldi mosque in Dhaka (925A.H/1519A.D), Hathazari (879-85A.H/1474-82A.D) and Hammad mosque in Chittagong (940-5A.H/1533-38A.D) and Baba Adam mosque at Rampal (1483-84).

The major trend of the corner turret in Gaur and its neighbouring Hazrat Pandua was based on octagonal shape. The turrets were interlocked into the four corners revealing only five full side and two half sides on the outside. The Eklakhi mausoleum in H. Pandua (818-36A.H./1414-32A.D.) (A. Ahmed1997: 110-11) represents the earliest surviving example (Plate 20). In Gaur all the corners were combined with an octagonal turret (Plate 21) and marks the climax in development of the turret. These turrets had been copied in most of the subsequent buildings. The turrets became a standard in mosques of Bangladesh during the early Islamic phase.

Contrary to the horizontality of early Islamic mosques, corner turrets of the Mughals enhanced the verticality of the structure. In proportion it was more slender (Plate 22), extended beyond the roof level and had a *kalasa*-type base (Plate 23). Besides the four octagonal corner

20: Eklakhi tomb at H. Pandua
Earliest octagonal brick turret



21: Chhoto Sona mosque at Gaur
Stone octagonal turret

22: Khan M. Mridha mosque at Dhaka
Slender corner turret

23: Bazra mosque at Noakhali
Corner turret with Kalasa base

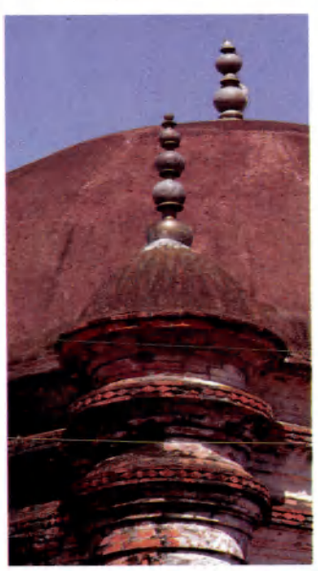
turrets, there was a corner turret of smaller size placed at each of the corner of all projected panel for the entrance opening. To avoid the illusion of horizontality of the early phase, the Mughal turrets discarded the dominating horizontal mouldings or string courses that went round the turret and the facades. Bazra Shahi mosque at Noakhali, originally built during the Mughal period, has two tall slender minarets in the boundary wall, which seems to be a latter addition in the 20th century or of more recent origin.

The crown or the pinnacle marks the climax - a termination of the minaret or the corner turrets as well as of the total facade. A conical dome or a cupola or a kiosk with a finial in the form of a spike effectively culminates and terminates the turrets or the minarets.

The turrets of the Shait Gambuj mosque at Bagerhat, which taper upwards and extend beyond the roof, carry a kiosk with four large arched openings on four sides (Plate 18). The top of the turrets is domed over, and a projecting cornice marks off the shaft from the rest. The builders of Shait Gambuj mosque evidently copied the crowning or drew inspiration from the Khirki mosque of Delhi (789A.H./1387A.D.) and the tomb of Rukn-i-Alam at Multan (720-25A.H./1320-25A.D.). This was never repeated anywhere else in Bengal. Fluted cupola with finials at the top crowned the round turrets of the Khan Jahan's Ali tomb at Bagerhat (Plate 24). N. Ahmed mentions that "it is the only monument in Bagerhat which still retains its original cupola" (N. Ahmed1989:37).

In and around Gaur, where the polygonal corner turrets are usual, only two octagonal turrets crowned with original cupolas remain intact --those of the Bagha mosque at Rajshahi (930A.H./1523-24A.D.) and of the Kutb Shahi mosque at Hazrat Pandua (990A.H./1582-83A.D.). The brick corner turrets of the Qadem Rasul tomb (937A.H./1531A.D.) (Plate 25) at Gaur was surmounted with a monolithic stone pinnacle (about 1.5m high). The pinnacles carried a small cupola resting on sculptured petals ornamented neck with a pair of ring mouldings. Subsequently, similar type of pinnacles of

24: Khan Jahan Ali tomb at Bagerhat
Fluted cupola on the corner turret



25: Qadem Rasul at Gaur
Stone pinnacle upon a brick turret

26: Khan M. Mirdha mosque at Dhaka
Blind kiosk on corner turret

27: Karapur Miahbari mosque at Barisal
Elongated and ornamented kiosk

bricks served as a model for the intermediate turrets in the Mughal period of Bangladesh and other parts of India as well. Such pinnacles may be seen in the tomb of Shah Niamat Ullah mosque at Gaur (17th century), Sat Gambuj mosque at Dhaka (17th century), Abdallah Khan wife's tomb at Ajmir (1114A.H./1702-03A.D.), and Akbar's Tomb at Sikandra (1021A.H./1612-03A.D.) . The corner turrets of the Mughal monuments have blind kiosks topped in ribbed cupolas complete with kalasa finials which extend high above the roof. The Lalbag Fort mosque at Dhaka, Shah Nimat Ullah mosque at Gaur and Khan Muhammad Mirdha mosque (Plate 26) provide good examples of this style. In the late Mughal period the *amla kalasa* finial was more elongated and decorated than that of earlier phase (Plate 27).

Gallery for rulers

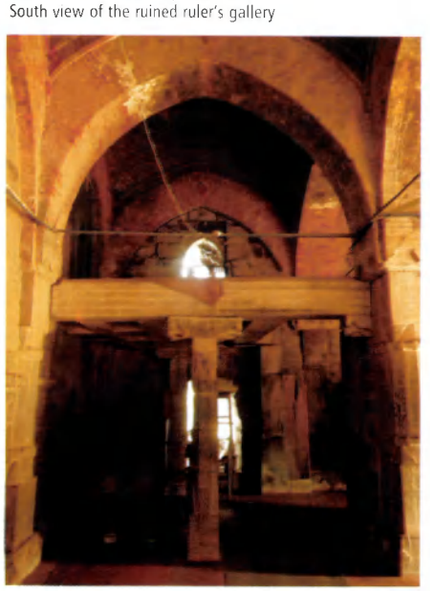
A raised platform, a gallery or an enclosed compartment in the prayer hall was not a common feature in the earlier mosque architecture. However, the introduction of *maksura* brought in a change. *Maksura* is "an area of a mosque set aside for use by important personages, it is usually surrounded by an enclosure of lattice work or some kind of screen. The first *maksura* may well have been built by the Caliph Uthman in the mosque at Medina as a protection against attack" (Concise Encyclopedia 1989: 258). By implication *maksura* is a compartment for a single person.

Besides *maksura*, there is another raised platform in the prayer hall called *dikka*. "In larger mosques, it is usually near the *minbar*. This platform is used as a seat for the *mu'adhdhin* when making the call to prayer in the mosque at the Friday service" (Encyclopedia1963: 276).

In addition to platforms such as *maksura* and *dikka*, there was a third enclosed platform known as *zennana* or ladies' gallery in the early Indian mosque architecture as evident in the mosques of Ahmedabad in Gujarat. This is an exceptional innovation in mosque architecture and unusual in the rest of the Islamic world. They are normally on the northern corner of the hall and can accommodate a large number of female worshippers. Screen upto a certain height encloses these galleries to

28: **Kusumba mosque at Naogaon**
South east view of the ruler's gallery

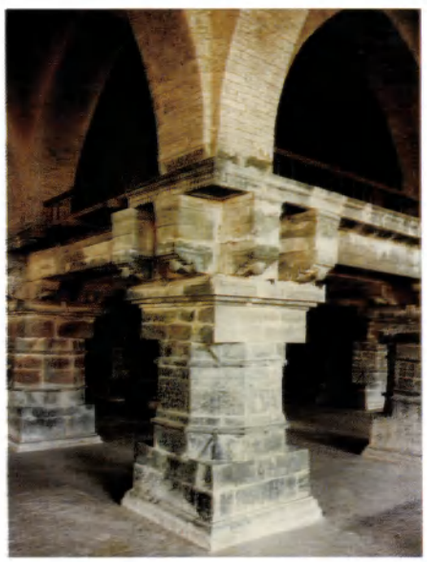
29: **Chhoto Sona mosque at Gaur**
South view of the ruined ruler's gallery



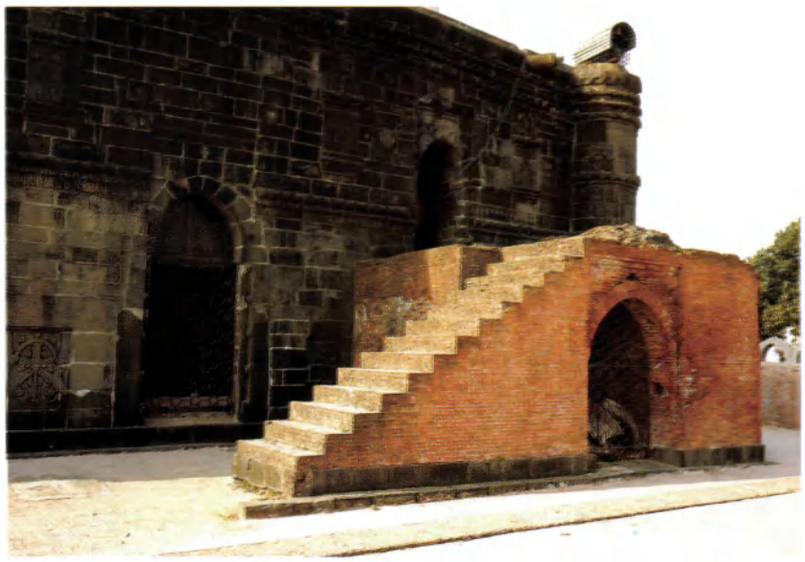
shelter the ladies from prying eyes of male worshippers in the hall. The galleries have separate enclosed entrances from outside. In fact, there is also some evidence of a *maksura* only for female dignitaries in the early Islamic period in the Arab world. "In the Aqsa mosque built about 300A.H./912-13A.D., there were three *maksuras* for women and in the Azhar mosque, a *maksura* Fatima was made durng the rule of the Fatimids, where she had appeared". (Encyclopaedia 1986:662)

Platform was introduced in different mosques in the early Islamic period of Bangladesh. The Kusumba mosque at Rajshahi (Plate 28) and the Chhoto Sona mosque at Gaur (Plate 29) have examples of surviving galleries. The evidence of galleries is also evident in the ruined Darasbari mosque at Gaur and Bagha mosque at Rajshahi. Munshi Shyam Prasad mentions of the oldest gallery of Adina mosque at H. Pandua (Plate 30) in his publication (1810) as "*Takhtgah-i-sang-i-nimazgah-i-Badshahan-wa Shahzadagan*" (prayer room for the king and his sons) and subsequently J. H. Ravenshaw (1878) concured with the observation and called it the "*Badshah ka takht*" (place for king). It was Cunninghham who first put forth a new interpretation of the galleries in his report in 1882. He described it as a place for ladies or family members. Subsequently all other historians till now called these galleries *zennana* or ladies' gallery. Some scholars argue that these galleries in Bengal were originally screened off for privacy of the ladies of the royal family. But question remains: if the gallery was indeed screened for ladies then why was the stair to it open and from the main hall in open view of male worshippers such as in the Kusumba and Bagha mosques at Rajshahi. The access should have been shielded from male view or should have been from the outside as in the case of mosques in Ahmadabad (western India). The only surviving original internal staircase in the Kusumba mosque proves that it was not a ladies' gallery. Despite that fact that segregation of the worshippers into classes was contrary to the sprit of Islam, it is likely that the galleries were intended for the Sultans and his entourage. The use of this secluded *takht* or place is probably derived from the same tradition as

30: Adina mosque at H. Pandua
South east view of the ruler's gallery



31: Chhoto Sona mosque at Gaur
Entrance platform for the ruler's gallery



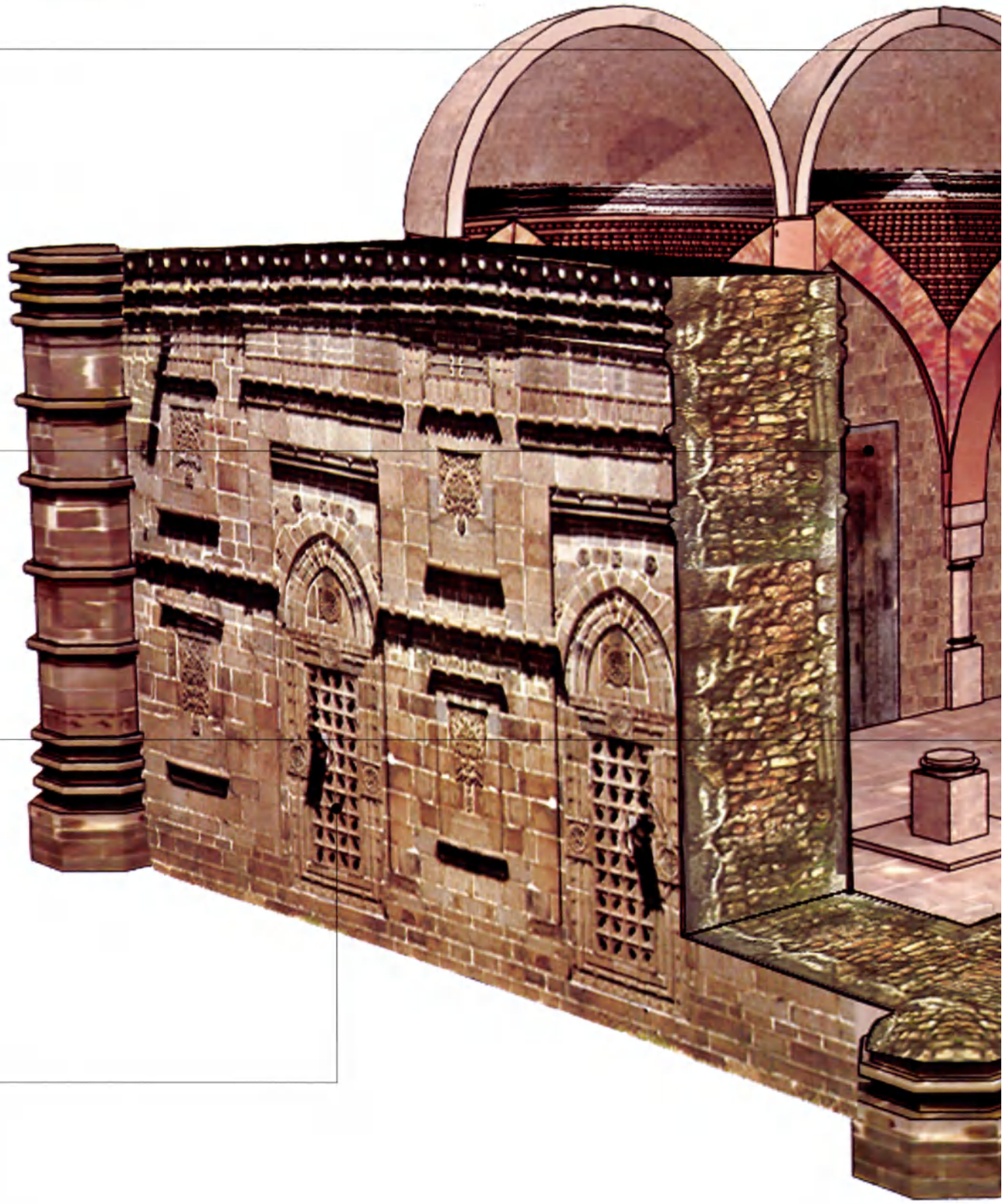
32: Kusumba mosque

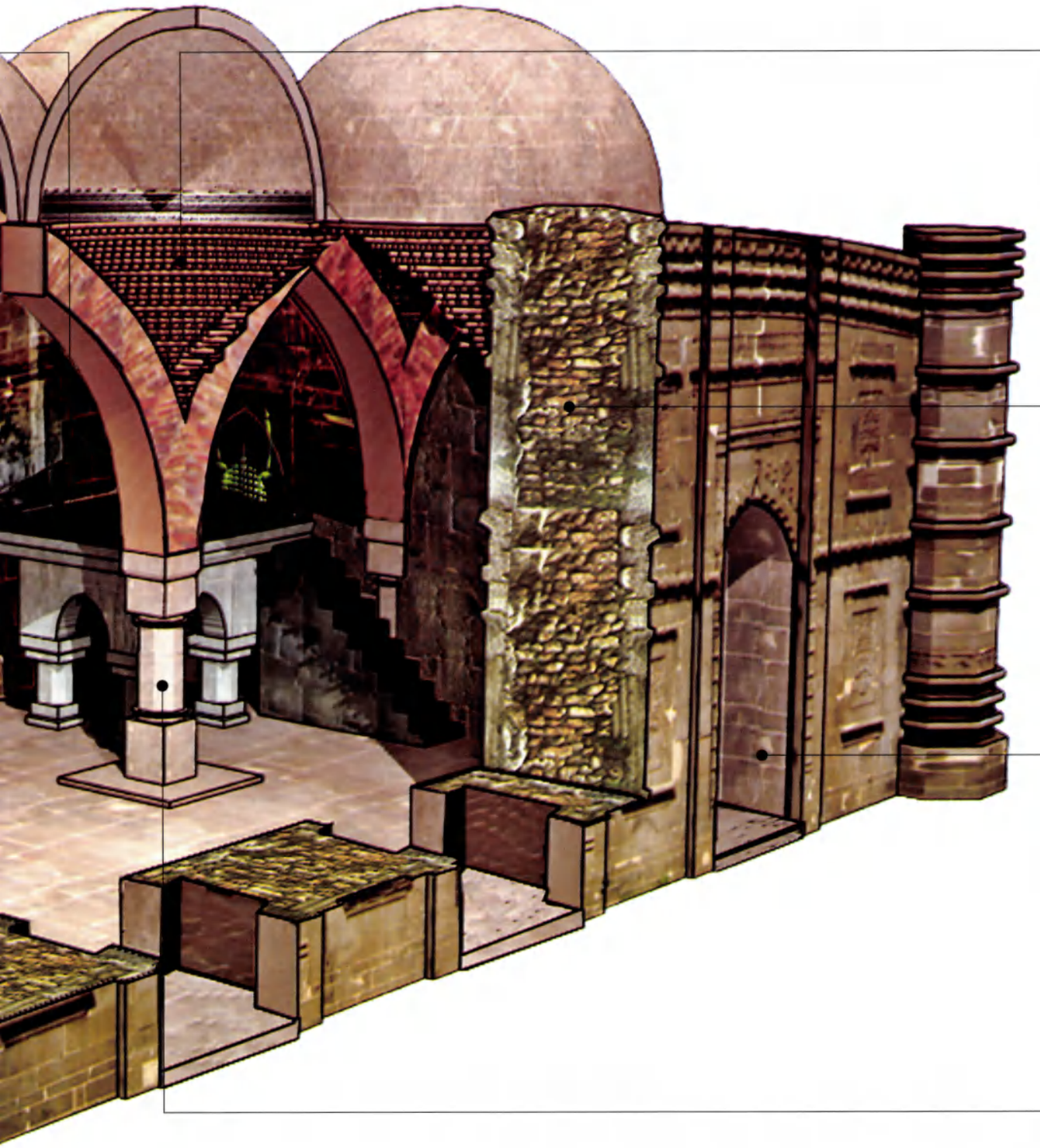
Ruler Gallery
There is a raised gallery designated for rulers and is accessed by a single flight of stairs from the prayer room.

Mihrab
Kibla wall contains three mihrab niches correspond to the axis of entrance openings; among them the northern one is placed at the level of the raised gallery.

Prayer hall
The oblong shaped enclosed prayer hall is divided into six equal square grids by two bays and three aisles.

Side openings
The north and south side walls have two arched openings each and are closed by perforated stone jali screens up to the lintel level.





Bengali pendentive
Corbelling and diagonally placed brick layers are placed alternately to transfer the square supporting area into circular base for the dome.

Composite wall masonry
The core of the walls is made of irregular bricks. Exterior of the walls are faced with dressed b lack basalt upto the bottom of the arches insideand the whole surface outside.

Entrance openings
The mosque has access only from the eastern side by three equal pointed archways and these openings were closed with wood pivoted door.

Supporting elements
Two freestanding stone pillars and eight partly concealed pilasters support the roof of the six domes.

the *maksura*, to accommodate more than one person. In addition to the *maksura* and the *dikka*, the Seljuk or the early Ottoman architecture introduced a raised gallery at the fore corner of the prayer hall for rulers or dignitaries. The wooden Eshrefoghlu mosque at Beycehir (697-98A.H./1297-99A.D.) (Aslapana 1971: 122) has a gallery at the right-hand corner of the *kibla* wall and the mosque of Sultan Bayezid at Edirne (889A.H./1484-85A.D.) contains a gallery in the left-hand corner of the hall (Kuran1968: 214). The size, location and the entrances of these galleries in Turkey bear similarity with the galleries in Bengal. It would not be too presumptuous to conclude that the former was probably the source and inspiration for the latter. It is worth mentioning that this kind of gallery was built during the early Islamic period, when the sultans had good relations with Turkey. These galleries were not built during the rule of the Mughal emperors who came from Central Asia.

The concept of separating the rulers or members of the royal family from ordinary worshippers obviously required an extra entrance for a private gallery. This entrance varies from mosque to mosque. In Bangladesh there are two variation of the entry to the gallery -- the Kusumba mosque at Naogaon has a single flight of steps inside the prayer hall leading directly to the gallery. It may be assumed that the opening in front of the stair or the extreme left entry on the eastern wall was reserved for the ruler and the members of the ruling class. The other entrances were for the common villagers. In the second example at the Chhoto Sona and Darasbari mosque at Gaur the gallery is linked through an arched opening to a platform of same height on the outside of the Northern side of the mosque. A stair leads to this platform. The gallery that is entered from the outside has an extra raised platform or portico. Only the Chhoto Sona mosque bears evidence of a broken platform stair (Plate 31). The foundation of the platform in the Darasbari mosque still survives but the upper part is lost, leaving no evidence of its surrounding walls. The Jami mosque at Ahmadabad has a single dome on the portico and the Adina mosque at H. Pandua had a domed roof. It may only be surmised that the platforms in the Chhoto Sona and Darasbari mosques had domed roof.

Masonry construction

In a deltaic Bangladesh clay is readily available. Hence brick was the predominant building material from the early Buddhist times. The Mahasthan (3rd century B.C.), the Paharpur (770-810A.D.) and the Mainamati (10th century A.D.) monasteries are examples of pure brick construction. In Bangladesh stone was not available, and was rarely used. Stone had to be imported from the neighbouring province of Bihar in India or recycled from older buildings in ruin.

Solely on the basis of materials, walls may be divided into two groups - brick wall and composite wall of stone and brick. Most of the masonry walls built during the early Islamic period as well as during the Mughals in Bangladesh were of bricks. Only a few mosques, such as Chhoto Sona mosque at Gaur, Kusumba mosque at Naogaon and Sura mosque at Dinajpur have composite walls. These exceptions aside, all other mosques in Bangladesh are built of bricks.

Use of stone in wall construction was unknown to the builders of ancient Bangladesh. They used stone not as a structural element in the masonry, but as a decorative facing element. This means that the basic principle of construction is similar in both the type of walls. The core of the brick wall was made of unfinished or irregular bricks. Only the outer surfaces were of bricks of regular

and smooth finish. The two outer sides had lime mortar masonry, whereas the inner core was of rough brickwork and mud mortar. The core of the composite wall was the same with the outer surface rendered in stone slabs smooth on the outer face, and rough and irregular on the inner face. There was no joinery that tied together the inner and the outer surfaces of the walls. Large stone blocks were joined to one another with iron clamps or connectors and to the inner core wall with mortar.

At Gaur and its vicinity brick mosques had a special wall treatment. To make walls damp-proof or waterproof, builders introduced a horizontal stone layers at the plinth level. Furthermore, most of the mosques have an extra layer of stone at the lintel or at the springing level of arches to strengthening the masonry wall. The Mughal builders extensively practised this damp-proofing technique in their monuments such as in Khawaja Shahbaj mosque and Lalbag Fort mosque at Dhaka. However, the Mughals with a rich experience in large scale massive construction in the imperial Delhi easily identified the structural weakness of the prevailing masonry construction technique in Bengal. They discarded the separation of the inner core and the exterior facing. Instead the Mughals introduced a complete wall with the exterior surfaces bonded to the core into an integral whole. This integration of the two layers - the core and the surface - improved and strengthened the walls making it possible to reduce the width of the masonry walls.

The stone-faced walls of the early period were never plastered, but the brick-faced wall had a very thin coating of shell lime to protect the bare brick surface from weather and retain the original ornamentations, mouldings and terracotta forms. The Mughals introduced a new type of plaster, which was a mixture of lime and fine brick powder. As a result the white coloured pre-Mughal buildings gave way to a new pinkish red surface colour, echoing red sand stone that the Mughals used in their buildings in Imperial Delhi. This type of plaster was continued in the colonial period, but the affluent merchants changed the surface of most of the Mughal mosques. The plaster was removed and replaced with *Chini-tikri* or broken ceramic imported from China. Tara mosque, Kashaituli mosque at Dhaka and Bazra Shahi mosque at Noakhali are the examples of surface refurbished in *Chini-tikri*.

Pillars and pilasters

A single unit square shaped prayer hall covered in a single dome requires no supporting freestanding pillars in the hall. The demand for large space lead to the introduction of multi-unit prayer hall with multi-domed roof and a series of freestanding pillars to support the roof. On the basis of shape and size alone, the pillars in Bangladesh can be broadly classified into two groups - the stumpy and the slender. The pillars carrying the load of the roof and the gallery simultaneously are stumpy, while those that carry only the load of the roof are slender. The basic difference between the two is their structural systems. The stumpy pillars used especially for the gallery in the prayer hall are not monolithic, but composed of several horizontal layers of stones. Each of these layers consists of several small stone pieces joined horizontally in the same layer with iron clamps and vertically by means of iron dowels. The stumpy shaped pillars are seen in the Darasbari mosque at Gaur and Gunmanta mosque at Gaur (Plate 33). Except for this lone example all other mosques in Bangladesh have slender pillars that are similar if not the same.

Each of the three parts of a slender pillar, such as the shaft, the base and the capital, are cut from three separate monolithic stone blocks. These parts are joined with iron dowels. In addition to the iron dowel, the shaft penetrates about 2 cm into the capital and the base to create a snug fit. The upper and the lower parts of the shaft are square in section and the central portion is polygonal in shape. The polygon varies from eight to sixteen sides. The mosques in Bagerhat are eight-sided (Plate 34) while the mosques in Gaur have twelve sides (Plate 35). The Chhoto Sona mosque with a sixteen-sided mid-portion is an exception (Plate 36). The capital and the base of pillars in Gaur and its vicinity are similar in all respects except for being placed at two ends of a common shaft. However, the capital and base of pillars in Bagerhat are not identical. The base is only a square high podium. In contrast to the stone carving in the mihrab niches and facades, the capital and base are almost austere, devoid of ornamentation other than simple mouldings.

In addition to the freestanding pillars, there are also pilasters that carry the load of the roof. The pilasters are pillars partially concealed in the peripheral walls of the prayer hall (Plate 37 & 38). The exposed part, the pilaster, is the only visible segment of the pillar. The remaining part concealed in the wall may vary from irregular to rectangular configuration.

Irrespective of the wall materials (brick or stone), the pillars and pilasters are mainly made of stone. The southern Bangladesh constitutes an exception to this rule. There is no use of stone in the walls. Even the concealed pilasters and its capital are of bricks, but the freestanding pillars are always of stone. There is a distinct difference in size of stone used in Bagerhat and Gaur. The shaft of the pillar in Gaur is monolithic (Pl. 35 & 36); on the other hand that of Bagerhat consists of two pieces of stone (Plate 34). The source of stone for Bangladesh was mainly Rajmahal hill, which is near to Gaur but very far from Bagerhat. It is likely that long distance between Bagerhat and Rajmahal hill had led builders in Bagerhat to import small sized stones to facilitate transportation and avoid excessive breakage.

33: Gunmant mosque at Gaur
Stumpy pillar for the nave

34: Noy Gambuj mosque at Bagerhat
Shaft consists of two pieces of stone

35: Kusumba mosque at Naogaon
Twelve sided stone pillar

36: Chhoto Sona mosque at Gaur
Sixteen-sided stone pillar

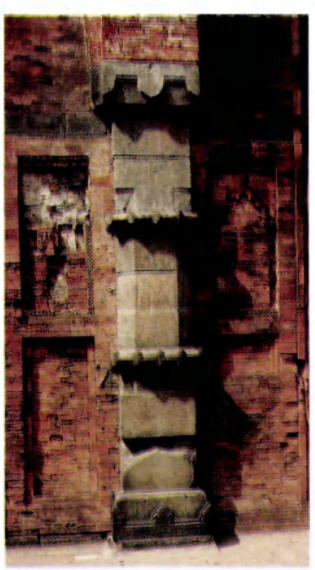
Most of the scholars conclude that the stones in the early Islamic period of Bangladesh were spolias, but the preceding discussion and the varying size of pillars in different regions leave no doubt that the stones were not spolias but procured specifically for the pillars.

The mosques of the Mughal and Colonial periods have three square bays contiguous to one another. Therefore, there was no need for freestanding pillars, but a transverse arch spanning the eastern and western walls divides the prayer hall into three bays requiring two pilasters in each wall. In some cases they were single rectangular pilasters and in others a combination of two small pilasters made of bricks. Pair of pilasters are evident in the Karotia mosque at Tangail and Khawza Shahabaz mosque at Dhaka.

Squinches and pendentives

The transition of a square to a circular base for the domes to support was well established in the rest of the world much before the advent of Islam to this eastern region of Indian sub-continent. As the domes require a continuous circular peripheral support at the base so the corners of a square top of the plan below pose a problem. Builders used squinch arches and pendentives or a variation of the two to convert the square top of the space below into a circular base for the dome. The prayer halls of the ancient mosques in Bangladesh were covered either with a large single dome or by several smaller ones. In Bangladesh, squinch arches were used only in single-domed square mosques while multi-unit mosques had pendentives to achieve the transformation of the square into a circle.

37: **Dhaniachak mosque at Gaur**
Stone pilaster in the qibla wall



38: **Noy Gambuj mosque at Bagerhat**
Typical brick pilaster

Squinch arches across corners transform the square plan of the single-domed mosque into an octagon. The octagon can then be easily transformed into a circle by simple corbelling or by pendentives across the corners of the octagon. The Latton mosque at Gaur uses corbelling (Plate 40) while the Chamkathi mosque at Gaur has sloped pendentives (Plate 41).

The development of squinch in Bangladesh varies from their counterpart in other regions. Singlesdomed mosques in Bangladesh have identical squinches as is evident in the Sura mosque at Dinajpur, the Ranbijoypur mosque at Bagerhat and the Goaldi mosque at Sonargon (Plate 42). The diagonal arches in each corner spring from the capitals of the pilasters and the height is equal to the arches in the walls of the four sides. From this diagonal arch to the corner of the room runs a tunnel vault termed as a squinch. The sides of the tunnel vault transfer the load and the thrust of the dome to the side walls of the prayer hall.

The domes in the multi-unit mosques in Bangladesh are relatively smaller than the single-domed mosques. Each of the square unit has four supporting pillars for four arches creating a square for supporting the dome.

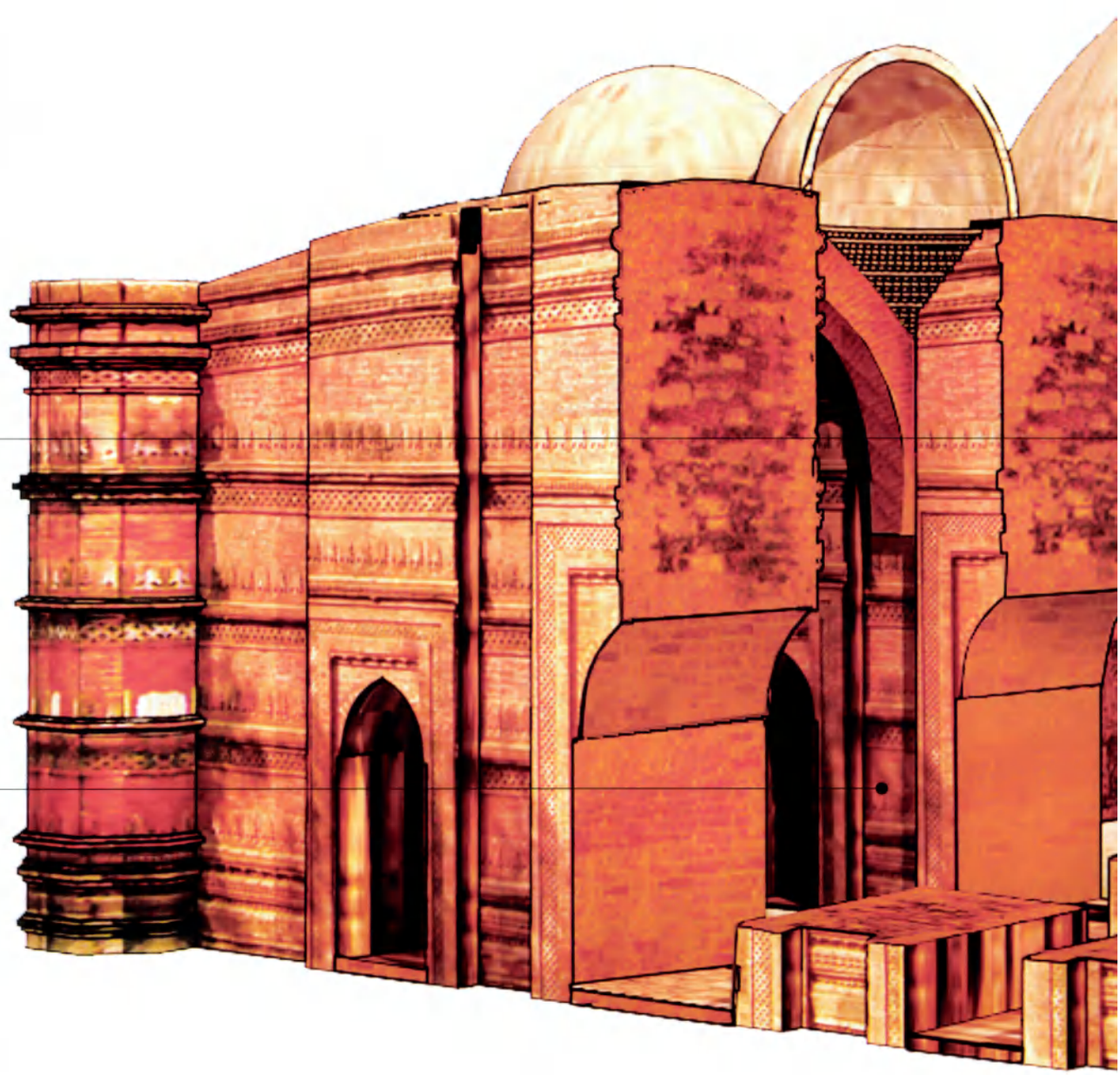
39: Ghorar mosque

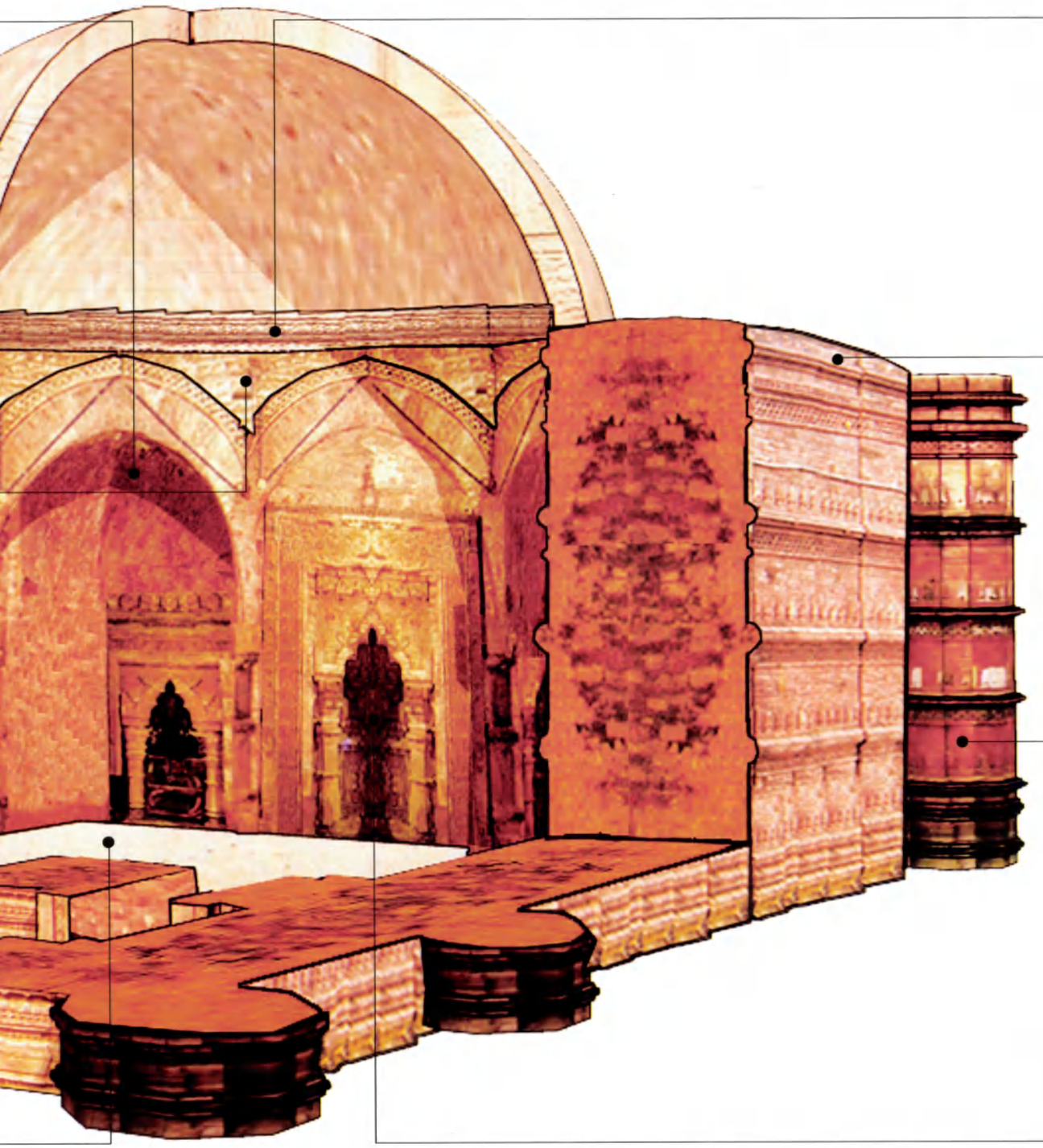
Squinch
The transition from the square supporting areas of the main hall to the circular base, upon which the hemispherical dome rests, attained first an octagon by a squinch at each corner.

Pendantives
Finally from an octagon to the circular base, upon which the hemispherical dome rests, was achieved by Bengali brick pendentives one at each corner.

Fore-room
The fore-room is divided into three unequal bays by two lateral arches running from the east to the west wall and is covered by three equal hemispherical domes using Bengali pendentives at each corner.

Prayer hall
This mosque belongs to the single-domed square prayer hall with a fore-room in front.





Base of the dome
The base or shoulder of the dome is decorated from inside with blind merlons.

Curved cornice
To ensure quick drainage of rainwater the cornice is slightly curved and composed with simple mouldings embedded with geometrical ornamentation.

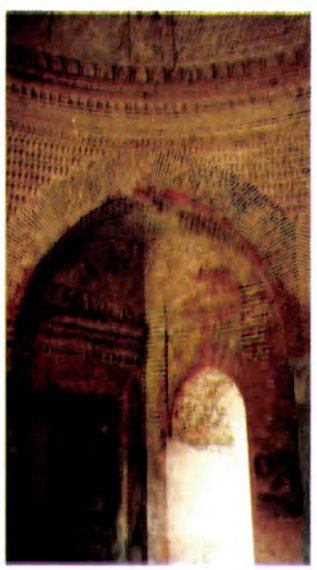
Corner turret
There are six corner turrets; one at each corner of the main hall and one on either end of the foreroom. Two frontal turrets are square and the rest four are octagona in shape.

Mihrab
Kibla wall contains three mihrab niches correspond to the axis of entrance openings; the central mihrab is higher and wider than the two side niches. The central mihrab only has a projection outside.

Specially developed brick pendentives at the corners transform the square into a circular base for the dome. The earliest attempt in development of pendentives in Bengal was in the Adina mosque at Hazrat Pandua (Plate 43). The early phase of development used brick blocks. Two bricks formed a cube which was laid diagonally across the corners. On this first layer rested the second layer, again diagonally at the corners and slightly cantilevered. The successive layers created a honey-comb pattern and resulted in a triangular geometric pendentive which transformed the square into an almost circular base for the dome. Some degree of corbelling was require to achieve a perfect circle. Subsequently the builders in Bangladesh developed a new improved type of pendentives. This new pendentive was a combination of alternate traditional corbelling of the Hindu architecture and the diagonal laying of bricks (Plate 44) Much like the earlier system, initially only a single brick was placed diagonally followed by a second which was cantilevered and placed radially exposing its header side. The next diagonal layer was also cantilevered and followed the curvature of the lowest radial layer. This process of alternately placing diagonal and radial cantilevered layers successively reduced the diameter of the circle. At the same time the segment of the circle became longer and longer. At a certain height the process resulted in a complete circle, which was the support for the dome. In addition to its structural simplicity, this pendentive brought clarity to the wall-arches. In the latter case the face of the wall-arch was of uniform width, while in the former the face had a varying width, because of the straight edge of the triangular pendentive. This innovative bangali pedentive was widely used in most multi-unit mosques in Bangladesh such as in the Tantipara mosque at Gaur (Plate 44), the Chhoto Sona mosque at Gaur and the Shait Gambuj mosque at Bagerhat.

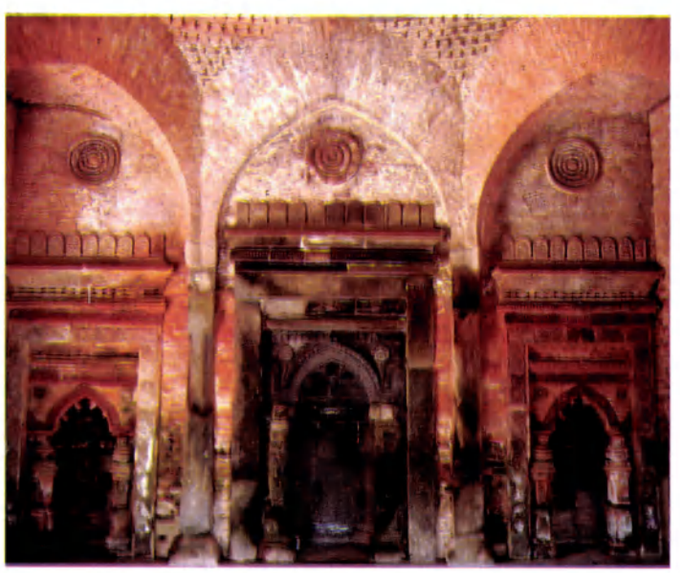
Extensive uses of three-domed rectangular prayer halls were observed in the mosques of the Mughal period in Bangladesh. The whole length of the rectangular hall had three unequal bays brought about by means of two arches springing from the eastern and western walls. The side bays are rectangular in shape and smaller in

40: Latton mosque at Gaur
Squinch with a Bengali pendentive



41: Chamkatti mosque at Gaur
Squinch with a triangular pendentive

42: Goaldi mosque at Sonargaon
Kibla wall showing the squinches and pandentives



width while the central bay was larger and square in shape. Pendentives transform the square top of central bay into an octagonal shape which uses a series of squinches to attain a circular base for the dome. Pilasters frame the arched squinches and these pilasters find external expression in the shoulder of the dome. The two smaller rectangular side bays are converted to squares with the help of two half-domed vaults springing from the eastern or western wall and a transverse arch. Squinches at the corners convert the square area into a circular base to support the dome. The two domes at the sides are smaller than the one at the centre.

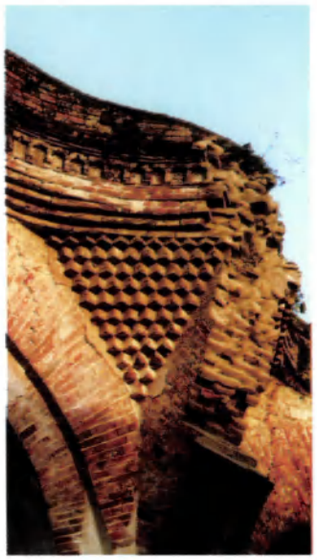
Domes and vaults

The form and number of the domes transform into the symbol and lend character to mosque architecture developed in different regions and reflect their regional identity. The central domed mosques in the Ottoman architecture, four *iwan* mosques in Persia consisting of four dominating domes on four sides and the three-domed Mughal mosques in India give different identity and character to the mosques of those periods.

In the evolution of the mosque architecture in ancient Bangladesh, Muslim builders adapted a multi-domed type mosque. Almost half of the mosques built in the early phase is covered in several semi-circular small domes. The introduction of a wide central nave to emphasize the central *mihrab* niche was the first change in the evolutionary process. This central nave covered in a long tunnel vault acted as a transept such as in the Adina mosque at Hazrat Pandua (Plate 45) and the Gunmant mosque at Gaur. Muslim builders also used a special vault known as the *Chouchala* dome to roof central nave that were wider than the flanking ones. The Shait Gambuj mosque at Bagerhat and the Chhoto Sona mosque at Gaur illustrate the use of *Chouchala* vaults well.

There had also been experiments with different types of domes in the square-typed mosques. The small square-shaped mosques have a single dome. The Ronbijoypur mosque at Bagerhat, Chunakhola mosque at Bagerhat and the Goaldi mosque at Sonargaon are some examples of the single domed mosques. The fore-rooms

43: Adina mosque at H. Pandua
Initial development of Pendentive

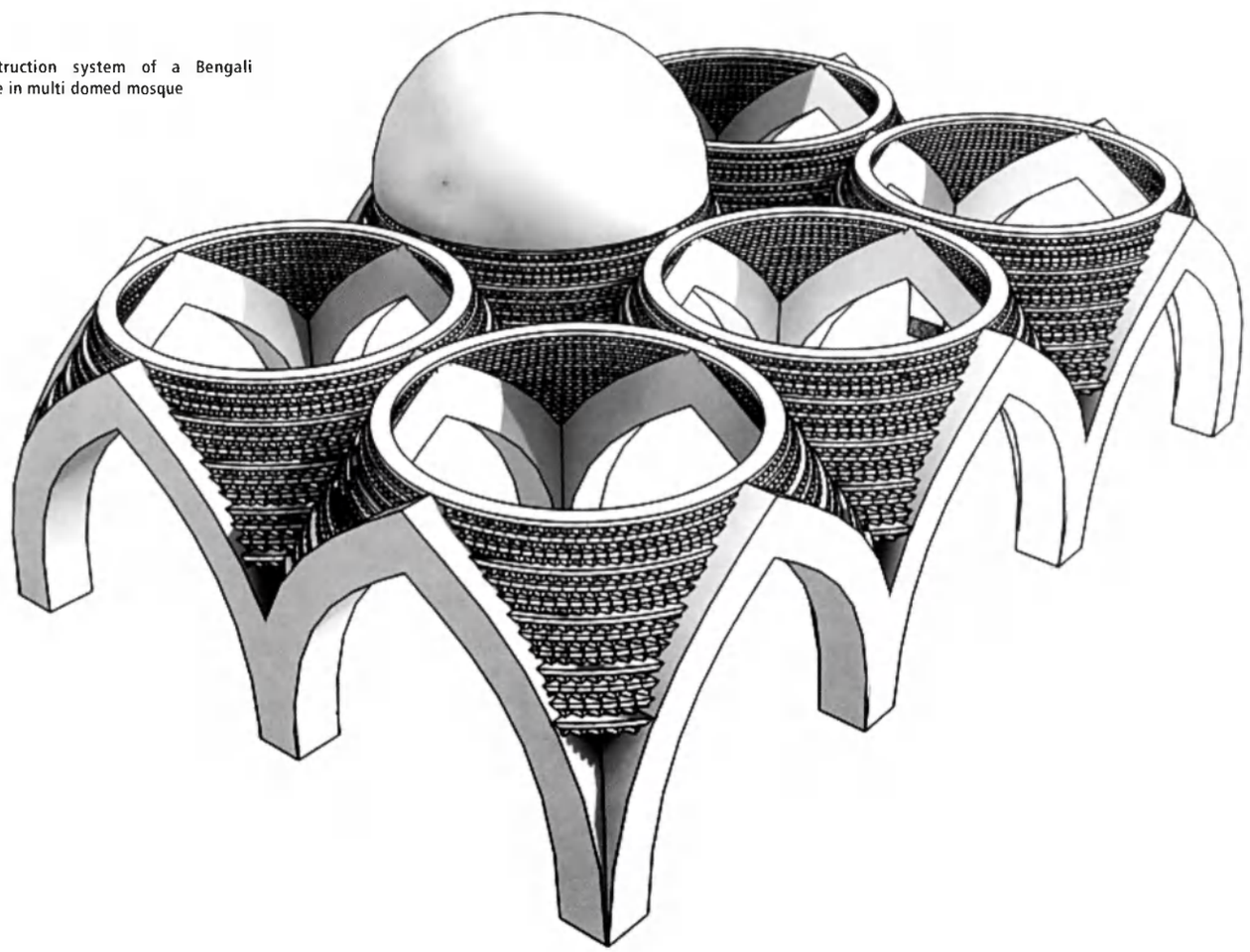


44: Tantipara mosque at Gaur
Typical Bengali pendentive

45: Adina mosque at H. Pandua
Tunnel Vault at central nave

of the single domed square mosques are roofed in a combination of different types of domes and vaults. The Rajbibi mosque at Gaur, the Sura mosque at Dinajpur and the Sankarpasha mosque at Sylhet have three equal small domes covering the fore-room. The fore-room of the Latton mosque at Gaur is covered in a Bangladeshi *Chouchala* dome in the centre with a small dome on either side. Three groined vaults, which was never repeated anywhere else in Bengal, cover the fore-room of the Chamkatti mosque at Gaur.

Although, stone was used in the wall-construction of some mosques, the domes of all the mosques were built of bricks. The domes in Bangladesh are a semicircular. The bricks are laid radially from the centre of the domes. In case of small multi-domes such as in the Chhoto Sona mosque, the sectional thickness of the dome was uniform and same at every point. In large domes, however, as in the Ranbijoypur mosque, Chunakhola mosque and Singer mosque at Bagerhat, the sectional thickness of the domes gradually reduces towards the top of the dome. This reflects a definite structural logic. As the load at the top of the dome decreases, the section reduces. It was obviously possible to shape the bricks especially so that the extrados would have a smooth surface. To facilitate construction and avoid using broken bricks which would have been unavoidable, the wise builders of Gaur changed the thickness of the dome



46: Construction system of a Bengali pendentive in multi domed mosque

only at certain specific points. As a result of this practice outer surface or the extrados of the dome shows a series of steps. Accordingly the surface finish does not have a regular or smooth curve but follows the structural configuration of the dome. The Chakmatti mosque (Plate 47) and the Latton mosque at Gaur have stepped extrados.

Besides the all too familiar semicircular domes of Islamic architecture, the Bengali builders introduced a new form of vault, which, in more recent times, has had an important influence on both the Islamic and the Hindu architecture. The builders took advantage of the elasticity of the bamboo, universally used in building curvilinear roofs of dwelling huts in Bengal. This form of bamboo roof was reproduced in masonry in the permanent mosque structure in Bangladesh. This new vault modelled after the traditional hut also adopts the name of its origin - the *Chouchala* vault. The vault consists of four curved sides which meet in curved ridges. Each side is a segment of a circle and is curved along the lower edges, the sides and the ridges. G. Michell points out that "these curves were appropriate to the pliability of bamboo, and a roof so curved is said to throw off the heavy monsoon rain more effectively: needless to say, when imitated in brick or stone the result is not constructional or utilitarian but decorative" (Michell 1983:20).

From the structural perspective, this vault has a strong similarity to the trough vault, which has convex curves. Trough vault is an elongated version of a cloister vault, where the mid-portion is longer than the others. All the four sides carry their own load. The masonry of the vault is similar to the stretcher bond type. An elongated curved base supports the vault and transfers its load directly to the arches on all the four sides.

The inner surface of the vault has some cross ribs of exposed bricks resembling rafters and purlins (Plate 48). Although the corner and vertical rafters do strengthen the vault, the original purpose may have been decorative, showing the structural pattern of the original bamboo frame of a Bengali hut. These rafters project a

47: Chamkathi mosque at Gaur
Bengali semicircular dome showing the steps in the outside surface

48: Shait Gambuj mosque at Bagerhat
Inside view of a chauchala dome showing imitation of rafter and purlin

49: Bajra mosque

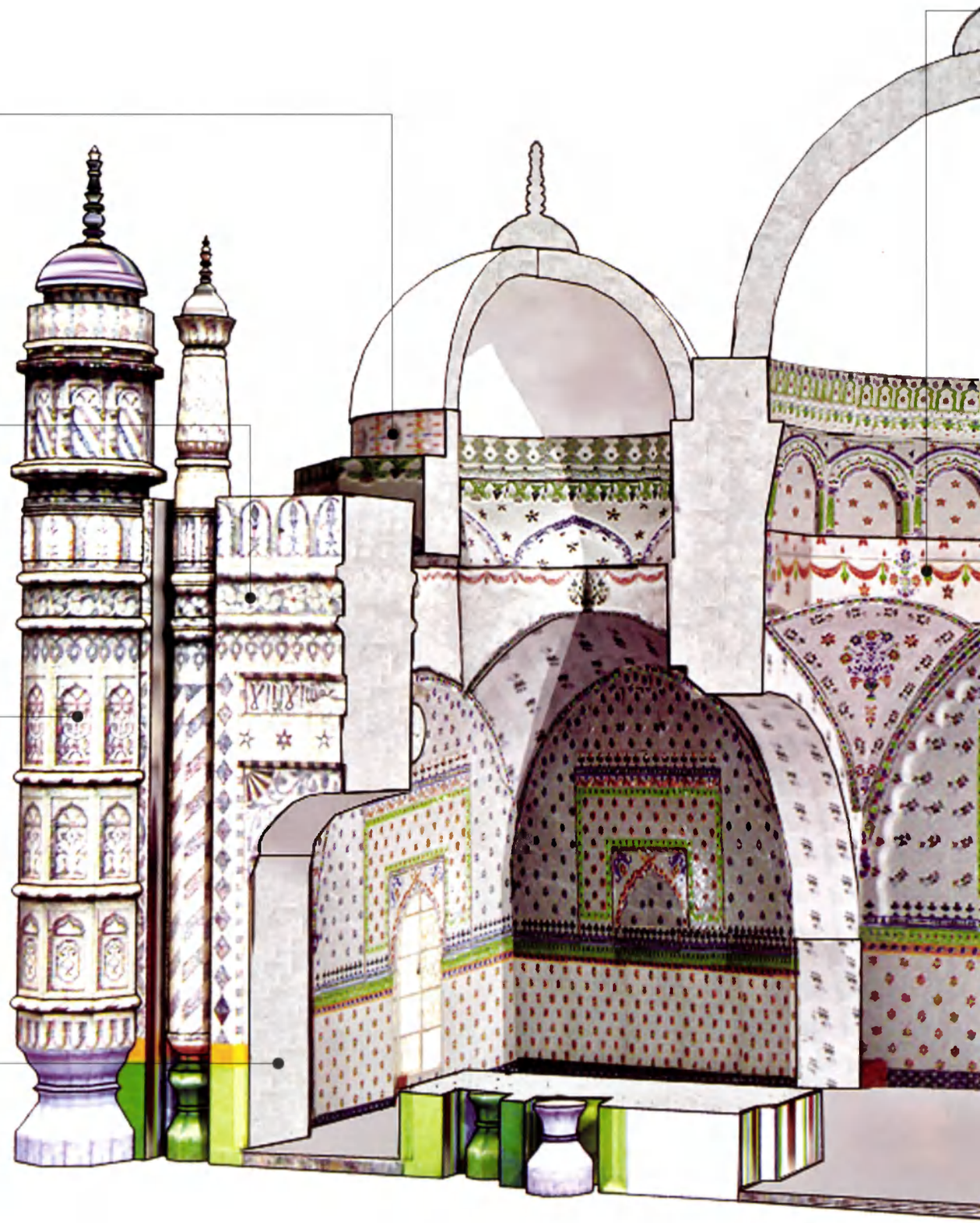
Bazra and Tara mosque have similar structural and organizational characteristics. For certain limitations this image bears the interior ornamentation of Tara mosque within Bazra mosque's outer shell.

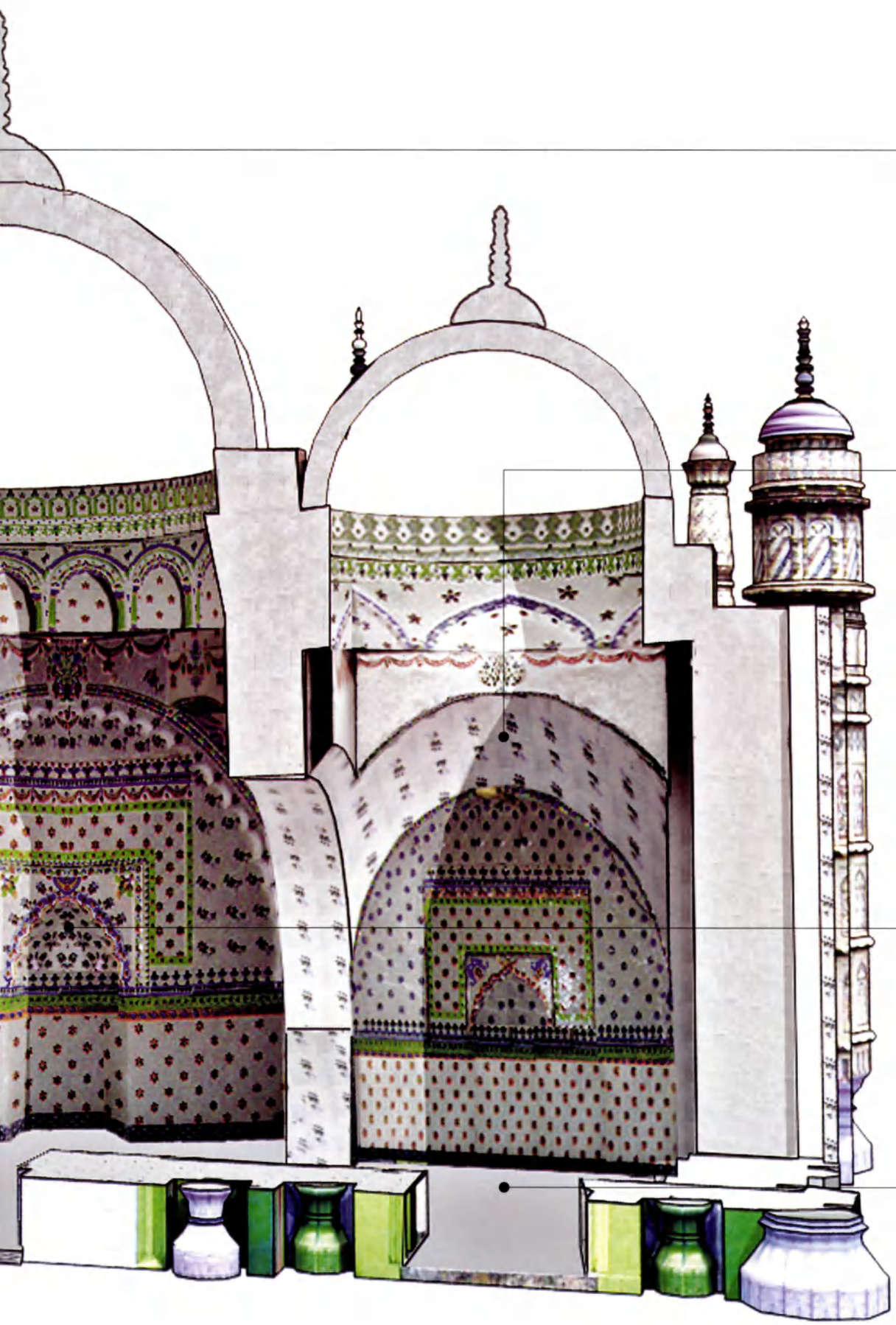
Shoulder & Finial
All the three domes have an octagonal shoulder embellished with merlons and are crowned with elongated amla-kalasa type finials.

Surface ornamentation
The original plastered surface of Mughal period was totally refaced with coloured chini-tikri work, a style of surface ornamentation that was widely used during the colonial period.

Corner turret
The four corners are buttressed by four corner turrets extended high above the roof level and terminated in blind kiosk covered by small cupola having amla-kalasa type finials.

Entrance opening
The prayer hall is entered from the eastern side by three alcove archways and the other two side walls have one pointed-arch opening each. All the opening archways are bordered by octagonal turrets with pinnacles on top.





Central dome
With the help of pendentives the square central bay is transformed into an octagonal area. By introducing a series of squinches the octagonal area is transformed into a circular supporting base on which the dome rests.

Smaller dome
The two smaller rectangular side bays are converted into square supporting areas for the dome by using two half domed vaults springing from the east and west walls.

Mihrab
Kibla wall contains three mihrab niches correspond to the axis of entrance openings; the central mihrab is higher and wider then the side ones and has a projection outside.

Prayer hall
The whole length of the rectangular prayer hall is divided into three unequal bays by means of two arches springing from the east and west walls. The side bays are rectangular in shape and the central one is bigger and square.

few centimetres from the surface of the vault and two layers of bricks placed together show the stretcher side of a running bond.

According to F. Hart, this type of vault made of stretcher bond needs sufficient scaffolding (Hart 1965:16). The frame or the infrastructure of the scaffolding could be made easily due to its similarity to the basic frame of a bamboo but (Plate 52). The total formwork or scaffolding of bamboos tied together with rope and wires was built separately on the ground and later mounted up to the supporting structure. The voids were filled with thatches or leaves. Because of the marked similarity of the trough vault to the traditional hut, the historian, Dani, named the vault as the "Bengali Chouchala dome"(Dani 1961: 12).

The earliest known example of the Chouchala vault is in the central nave of the Shait Gambuj mosque at Bagerhat (Plate 50). The Chouchala vaults covered the central part of the Chhoto Sona mosque (Plate 51) and that of the fore-room of the Latton mosque at Gaur. This Chouchala vault found its way into most of the intermediate Hindu temple architecture in the 17th century. Some historians are of the opinion that this type of vault already existed in the early Hindu or Buddhist architecture in India. However, there is no physical or written evidence to substantiate the claim. The complete absence of this kind of vault in the earlier Indian architecture and the extensive use of this vault during the early Islamic period in Bangladesh leads scholars to conclude that this vault was a quintessentially a Bengali innovation - a translation of the temporary form in Bangla hut into a permanent manifestation in mosque architecture.

The Mughals came to Bangladesh form central India with a pre-conceived notion of mosque architecture, - bulbous three-domed mosque. The Mughals imposed this form on Bangladesh through the ruling governors. During the early Mughal period or the transitional phase in Bangladesh, the Mughals introduced the three domed mosque, but they continued with the prevalent and traditional semicircular domes of equal size and shape.

50: Shait Gambuj mosque at Bagerhat
Chauchala vaults on the central aisle

51: Chhoto Sona mosque at Gaur
Chauchala vault showing curvature in all edges

These domes were shallow in size and rested directly on the roof without any shoulder or neck. Kherua mosque at Sherpur, Khawza Shahbaz mosque at Dhaka and Shah Niamatullah mosque at Gaur are typical examples of the shallow three-domed mosques. As mosque architecture developed in Bangladesh, bulbous domes gave way to the semicircular domes. High shoulder was an accepted means of building and was widely used throughout Bangladesh. Khan Muhammad Mirdha mosque at Dhaka, Karapur mosque at Barisal and the Sat Gambuj mosque at Dhaka are a few examples of bulbous domes on shoulders. Even in some cases the Mughals used onion shaped bulbous dome in Bangladesh, such as in the Lalbag Fort mosque (Plate 53).

Ornamentation

Ornamentation is a characteristic feature of Muslim architecture all over the world. It forms the heart and spirit of Muslim monuments. Muslim ornamentation is not only a surface art; it is a structural element as well. Structural elements like pendentives, squinches, stalactites, arches, columns, brackets, domes and even the materials of construction itself add to the aesthetic quality of structures. While the chapter discusses the structural elements, this section deals only with the ornamentation that has been applied as surface treatment.

The Mosque architecture of Bangladesh has a wide variety of surface ornamentation, such as terracotta plaque, stone carving, decorative plaster, stucco work, glazed tile and Chini tikri. The terracotta panels and friezes in brick buildings are remarkable Bengali contribution to the South Asian or the Indian art.

Terracotta: Absence of stone in this deltaic country forced Muslim builders to depend solely on bricks. The use of clay extended to decoration as is evident from the decorative terracotta plaques. The foremost purpose of these terracotta plaques in the early period was to break the monotony of the austere plain walls.

The art of terracotta was in practice in ancient Bangladesh. It continued from the earliest through early

52: **Bamboo infrastructure of a hut roof**

53: **Lalbag fort mosque in Dhaka**
Onion shaped three domed mosque

medieval to Islamic medieval and even continued to mid-nineteenth century to Hindu monuments. Traditionally terracotta plaques depicted stories. During the pre-Islamic phase, the stories were of Hindu and Buddhist gods and goddesses but the plaques also documented day to day life of common people. The terracotta panels adorning the Muslim monuments depict abstract, geometric designs and floral pattern only, replacing the animal and human figures of the earlier times. Since clay was available almost everywhere in Bangladesh, it is likely that the terracotta plaques were made at the building site.

A noteworthy feature of ornamentation in the interior of a mosque was the emphasis on the *kibla* wall. Ornamented panels, flanked on sides by smaller ones invariably framed the *mihrabs*. The *mihrab* niches itself has copious decorations. The *kibla* wall is symbolic of the Kaba, and the *mihrabs* the presence of the Prophet. Therefore, they were the cynosure of the congregation and hence received the most attention in ornamentation and embellishment.

According to the production process, terracotta ornamentation may be classified into two broad groups - the group terracotta and the individual terracotta. The group terracotta is a composite formation made up of a number of individual plaques each impressed with a segment of the whole design but constituting the whole when joined together. The constituents of the group have no independent identity of their own, and as such, are meaningless. They are placed either as a vertical panel on the outside walls or on the tympanum of the *mihrab* or as vertical panels flanking the *mihrab* or in the curved wall in the *mihrab* niche. Ornamentation of tympanum is basically floral derived from local tradition and the panel in the outer surface has typical chain and bell motif in the centre and framed with a cusped arched niche bordered by two pillars. Tympanum above the central *mihrab* niche (Plate 54) of the Darasbari mosque and the vertical panel of Rajbibi mosque (Plate 55) are the examples of group terracotta.

The individual terracotta are independent pieces and are

54: Darasbari mosque at Gaur
Terracotta ornamentation in the tympanum

55: Rajbibi mosque at Gaur
Ornamented panel

56: Ghorar mosque at Barobazar
Frieze of terracotta ornamentation

used both as part of a total design or in isolation. They may have a single motif or more than one motif. To this type, belongs the lotus or the rosette or the abstract form of a palmate, branch of a plant or the alternate rosette, lozenge and diamond. They are placed usually in the horizontal string course, as frieze or band run all around the outside facade, in the topmost part of the spandrel of an arch, in the horizontal mouldings of cornice or in the turret (Plate 56).

Use of terracotta ornamentation started to decline during the hiatus following the Afghan invasion (1538-75) and was totally discarded under the Mughal rule in Bangladesh. The Mughal preferred chun surki morter as plaster decoration for their buildings. Due to lack of royal patronage, the terracotta art was on the decline. However, it continued to be used, albeit, in a very limited way in mosques till the end of the 17th century. The glory and the strength it had once enjoyed was no more; terracotta was a dying art. In the 16th century Sri Chaitanya Dev started the Bengali Bhakti movement which marked a revival in Hindu temple building in Bengal. Terracotta motif got a new lease of life and continued to be used in ornamentation of temples. Terracotta broke the barrier of the two rival religions. To some degree terracotta unified the two religions and even reduced the cultural difference between them giving birth to a regional style of ornamental art.

Stone carving: Stone carving was another of the earlier techniques of Muslim architectural ornamentation. In early phase of mosque architecture in Bangladesh, the high quality of shallow relief carving in stone on the inside and outside walls was an important means of architectural ornamentation. It is highly probable that the well developed tradition of terracotta art of Bangladesh may have influenced the stone carving that closely resembled wood carving in Bengal. Initially, the Muslims appear to have used pre-existing carved stones taken from Buddhist and Hindu temples, examples of which are found in the Adina mosque at Hazrat Pandua and Zafar Khan Gazi Mosque at Triveni. This is also evident from an architectural fragment on display at the British Museum in London. Later black basalt stones

57: Chhoto Sona mosque at Gaur
Recessed ornamentation

58: Chhoto Sona mosque at Gaur
Embossed ornamentation

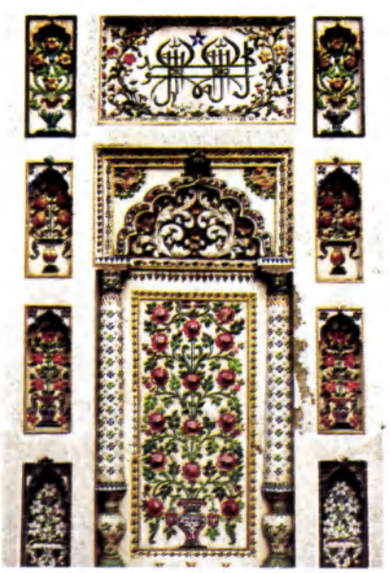
59: Khawaza Shahbaz Khan mosque at Dhaka
Plastered niches in the façade

from Rajmahal Hills were used as panels for stone carving. Distinctive Muslim stone carving for decoration appears in the monuments of early phase of Islamic architecture in Bangladesh, such as Adina mosque at Hazrat Pandua, Chhoto Sona mosque at Gaur and the Kusumba mosque at Noagaon. However, stone works in Bangladesh appear to have remained confined to inscriptional tablets, a few cenotaphs and other minor objects.

As regards carving techniques, stone carving may be classified into two broad groups - in situ carving or recessed (Plate 57) and outside carving or embossed (Plate 58). In-situ carving is basically recessed relief work. The ornamented panels in the lower level of the Southern, Northern and Western walls of Chhoto Sona mosque at Gaur were carved directly on the wall after its erection. These panels are recessed from the surface and the stone are not an extra or additional stone slabs, but are an integral part of the masonry wall. Other than these, all other ornamented panels are embossed and carved on a single or set of stones separately and affixed in predetermined positions. The stones used in this type of ornamental motif have no horizontal bonding with the masonry wall. These panels may be removed without affecting the basic masonry wall. All the ornamented stone slabs in the central *mihrab* niche of the Chhoto Sona mosque at Gaur are now in the Royal Scottish museum in Edinburgh.

Lime-surki plaster: Due to unavailability of finer building materials like red sandstone and marble in Bengal, local bricks continued to be used in the Mughal buildings, but with a fundamental change in architectural style. Decorative plaster replaced traditional terracotta ornamentation. Decorative panels in plaster depicted a variety of arches such as flat arch, multi-cusped arch, four centred arch, and horse shoe arch (Plate 59). Net and foliage pattern in plaster embellished ceilings of domes and entrance alcoves. The curved battlements and cornices of the old became straight under the Mughals and the horizontal parapet was ornamented with blind merlons in plaster. Powdered brick with lime was introduced as mortar and

60: Kashaitulli mosque at Dhaka
Chini-tikri ornamentation



61: Tara mosque at Dhaka
Chini-tikri ornamentation with glasses from bottle or flask

plaster material. Mixing of powdered bricks to wet lime resulted in a pink colour similar to that of red sand stone buildings of the Mughals.

Chini-tikri: During the British rule wealthy Muslim zamindars and merchants renovated a large numbers of Mughal mosques and built a few new ones. Instead of developing a style, surface treatment was the main focus of the builders. *Chini-tikri* or the broken ceramics, from China, were used for surface cladding despite a rich tradition of early Islamic terracotta or Mughal plaster works. Bajra mosque at Noakhali, Kashaituli mosque at Dhaka, Tara mosque at Dhaka, Dewanbari mosque at Aminbazar are the best known examples of *chini-tikri* decoration from the period. *Chini-tikri* is a unique craft and was very popular technique of surface decoration in the region in the 19th and 20th century.

The initial *chini-tikri* comprised surface enveloped in broken white ceramic pieces with intricate decoration rendered in pieces of broken coloured ceramics (Plate 60). Coloured ceramics was very expensive and was limited to a few basic colours. As an alternative, builders started using coloured glass pieces (Plate 61). Even then coloured bottles were few and only 25 percent of the bottles could be used due to the curvature of the bottles. As a base material, builders preferred white broken ceramic pieces because of its availability and durability along with broken coloured glass bottles for decoration. In the gradual evolution of *chini-tikri*, reflective pieces of thermoflask replaced glass from broken bottles. These pieces looked like mirrors but were not long lasting prompting builders to replace them with Belgian glass.

People preferred square or rhombus shapes but triangular shapes were also in use. Preference of people shifted from the initial free form to squares. The size of the broken ceramics varied between 0.5 inches and 2.5 inches. Crushed shell was used as lime mortar, but at present cement mortar has replaced lime mortar. The broken pieces were in layers such that the convex surface was on the outer face. A layer of white cement was then applied to fill the gaps and grooves in-between pieces and bind the porcelain strongly.

Calligraphy

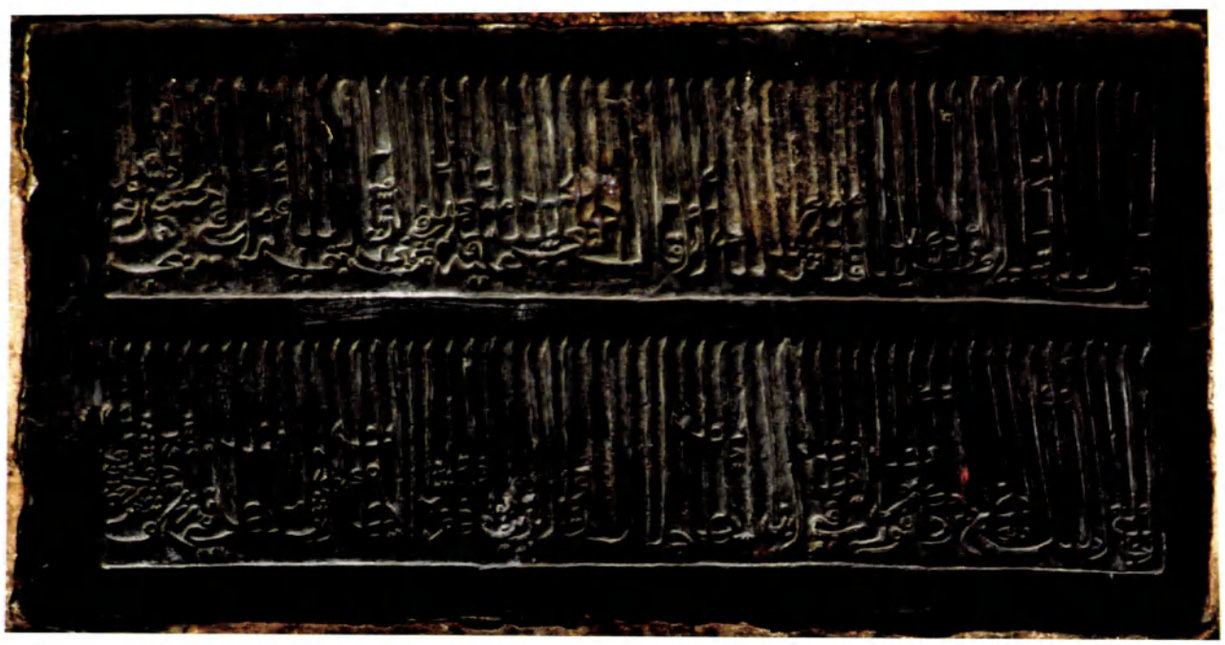
The history of calligraphy dates back to invention of writing itself. The term calligraphy is a derivative of the Greek word, *kalligraphia*, meaning beautiful handwriting. Islam's ban on depiction of human figure led artists to focus of development of the highly decorative art of calligraphic motifs to embellish mosques. During the Muslim rule, Bangladesh made great contribution to the development of art, architecture and Islamic calligraphy. During the early Islamic phase in Bengal, inscription on black basalt stone is the only medium for calligraphy found in Bangladesh. These were placed on the front wall of Muslim monuments. The fact that manuscript on historical writings from the early Islamic and Mughal phases do not exist makes these inscriptions all the more important. They comprise an important source of reconstructing history.

Fortunately inscriptions of the Muslim ruler of Bangladesh have been discovered in large number from different parts of the country. Their importance is most crucial in reconstructing the history of the Sultanate period as there is no chronicles of contemporary events in existence. Together with coins, inscriptions are of great help in understanding the chronology of the Sultans, their identity, parentage and dynastic changes. Historian Abdul Karim is of the opinion that "almost all inscriptions of the sultanate period are in Arabic

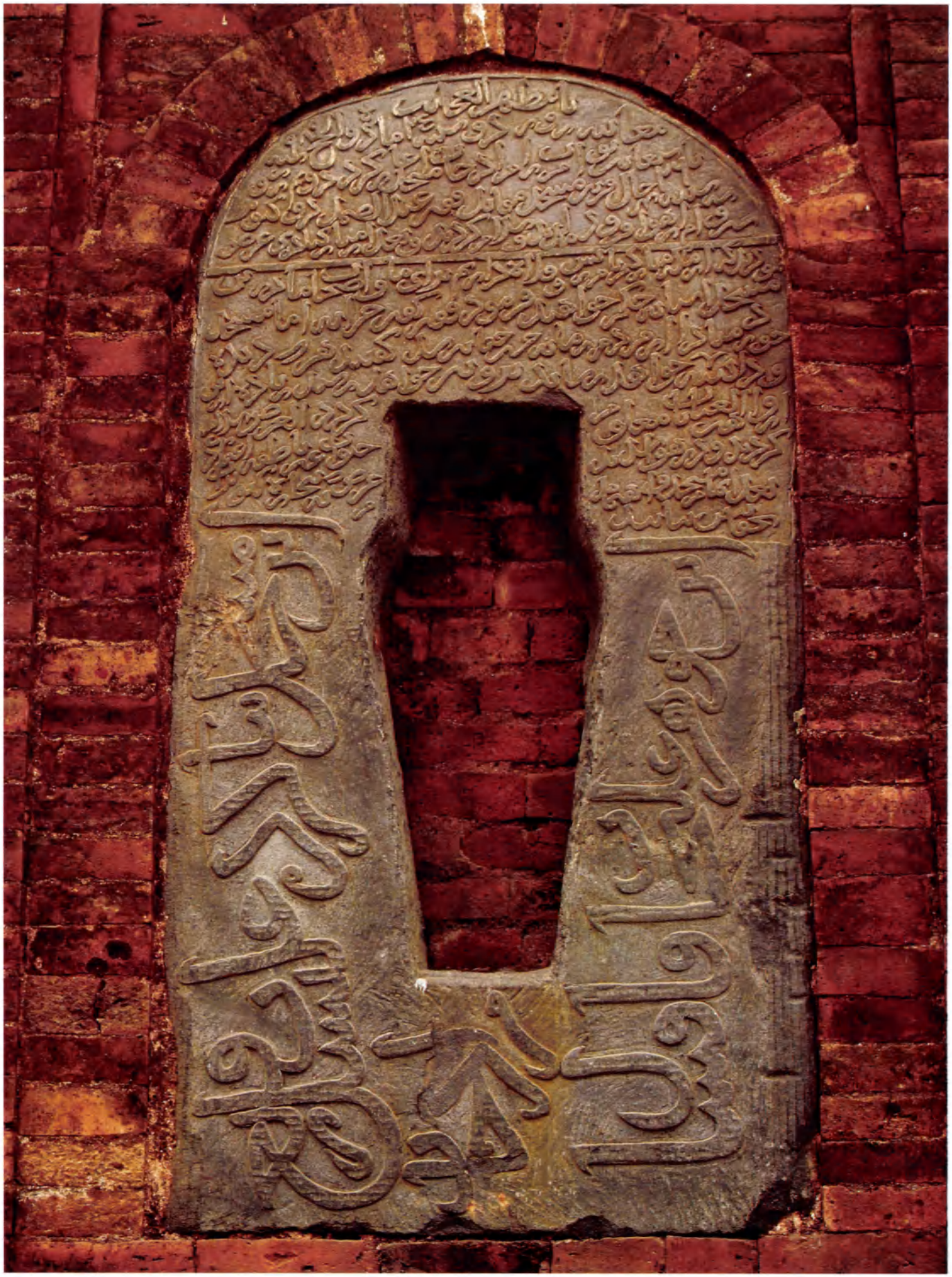
language, a few in Arabic mixed with Persian, only one in Sanskrit. Inscriptions of the Sultanate period are in Arabic prose except two which are in Arabic poetry."

Of the writing styles in Muslim epigraphy, tughra stands out as the most prominent. From the beginning of the Muslim rule in Bangladesh calligraphists widely practiced the tughra style. According to Mustafizur Rahman "at least five kinds of tughra were developed in Bangladesh. They are plain tughra, tughra with detached kaf and ya, tughra with detached letters like ha, ya hung on the high vertical shafts, the swan variety of tughra, and the most famous of them all, the bow and arrow variety of tughra (Plate 62)." This is purely a decorative design, in which the letters or alphabets are arranged in beautiful and artistic pattern. The shaft of the vertical letters are raised upwards and arranged elegantly in a row, while the main text is set in order at the base. Some historians compare these upright straight letters with advancing Muslim army on a triumphal march. Tughra also accommodated text in a minimum space by lengthening or shortening the letters. In addition to this style, a few other styles of inscriptions such as shikasta, naksha, talik, thulth, kufic and nasthalic styles were also found in ancient Bangladesh. The decay of the tughra style started during the Afghan rule and by the end of the 16th century, tughra style of inscription disappeared in Bangladesh. Most of the inscriptions of the Mughal period are in Persian; a few of them are in Arabic, but only one is in Bengali. The Arabic inscription of Mughal period mostly belongs to the reign of Shah Jahan. However, after the Mughal occupation of Bangladesh, calligraphy began to imitate the style that was in vogue in the capital of the Mughals in central India.

62: Baba Adam mosque at Rampal, Munshiganj
Tugra type stone inscription



63: Kherua mosque at Sherpur, Stone Inscription



CATALOGUE
of Selected Mosques

Mosque had been built in Bangladesh from the very beginning of the Muslim rule. No building of that time has survived. The oldest existing inscription regarding the erection of a mosque in Bengal is that of Gangarampur in Malda district. It bears the date 16th April 1249A.D. in the time of Sultan Jalal al-din Masudjani (Chakravarti1910:23-33). This mosque is no longer traceable. Of the existing mosques the oldest ones is the Zafar Khan Gazi mosque at Triveni, West Bengal, has an inscription dated 698A.H./1298A.D. It appears to be that the destruction of ancient monuments took place at a greatly accelerated rate during the present and last centuries. The devastating effect of the hydrological system or the changing of the river course, the wild vegetation, the vandalism of building materials and the earthquakes were responsible for the obliteration of most of the mosques in Bangladesh. Fortunately, after the establishing of the Archaeological Survey of India, a large number of monuments were surveyed and protected. After the independence from Britain in 1947, Bengal was divided and belonged to two separate countries. So two different Departments of Archaeology supervise their own areas. Indian archaeological department wants to preserve these buildings as they are, but the Bangladesh Archaeological Department has started to reconstruct all the ruined mosques. Due to the lack of experts, documentation, survey and observation, a large number of the reconstructed mosques lost their original features. This catalogue is simply an attempt to compile the better representation of these existing mosques, which can offer an idea of the architectural style of mosques in Bangladesh. The selection of the monuments in this catalogue is limited within the political boundary of Bangladesh and also within the listed ancient monuments by the Department of Archaeology of Bangladesh. The attached map of Bangladesh gives the location of all the architectural sites covered in the catalogue numerically.

64: Dhaniachak mosque at Chapainawabgang, Central Mihrab

Early Islamic Period 1204-1575A.D.

1. Ghorar mosque at Barobazar, Jhenidah, 15th century A.D.
2. Jore Bangla mosque at Barobazar, Jhenidah, 15th century A.D.
3. Golakata mosque at Barobazar, Jhenidah, 15th century A.D.
4. Shait Gambuj mosque at Bagerhat, 15th century A.D.
5. Noy Gambuj mosque at Bagerhat, 15th century A.D.
6. Chunakhola mosque at Bagerhat, 15th century A.D.
7. Ronbijoypur mosque at Bagerhat, 15th century A.D.
8. Darasbari mosque at Gaur, Chapainawabanj , 1479 A.D.
9. Baba Adam mosque at Rampal, Munshiganj, 1483 A.D.
10. Chhoto Sona mosque at Gaur, Chapainawabnganj, 1493-1519 A.D.
11. Rajbibi mosque at Gaur, Chapainawabganj, 15th century A.D.
12. Dhaniachak mosque at Gaur, Chapainawabanj, 15th century A.D.
13. Goaldi mosque at Sonargaon, 1519 A.D.
14. Bagha mosque at Rajshahi, 1523 A.D.
15. Kusumba mosque at Naogaon, 1558 A.D.
16. Sura mosque at Dinajpur, 16th century A.D.

Mughal Period 1575-1757A.D.

17. Kherua mosque at Sherpur, Bogra, 1582 A.D.
18. Atiya mosque at Tangail, 1609 A.D.
19. Shah Muhammad mosque at Pakundia, Kishoreganj, 17th century A.D.
20. Shah Niamatullah mosque at Gaur, Chapainawabganj, 17th century A.D.
21. Khawaza Shahbaz mosque at Dhaka, 1679 A.D.
22. Sat Gambuj mosque at Dhaka, 17th century A.D.
23. Lalbag Fort mosque at Dhaka, 17th century A.D.
24. Khan M. Mridha mosque at Dhaka, 1704 A.D.
25. Miah Bari mosque at Karapur, Barisal, 18th century A.D.

Colonial Period 1775-1947A.D.

26. Tara mosque at Dhaka, 18th century A.D.
27. Bazra mosque at Begumganj, Noakhali, 1741 A.D.
28. Karotia Jami mosque at Tangail, 18th century A.D.
29. Dewanbari mosque at Aminbazar- Dhaka, 1880 A.D.
30. Momin mosque at Tushkhali, Pirojpur, 1910 A.D.

65: Map of Bangladesh showing the location of the selected mosques.

EARLY ISLAMIC PERIOD

67: Bara Sona mosque at Gaur
Drawn by H. Creighton, 1801-1810

66: Darasbari mosque at Chapainawabganj, Interior View

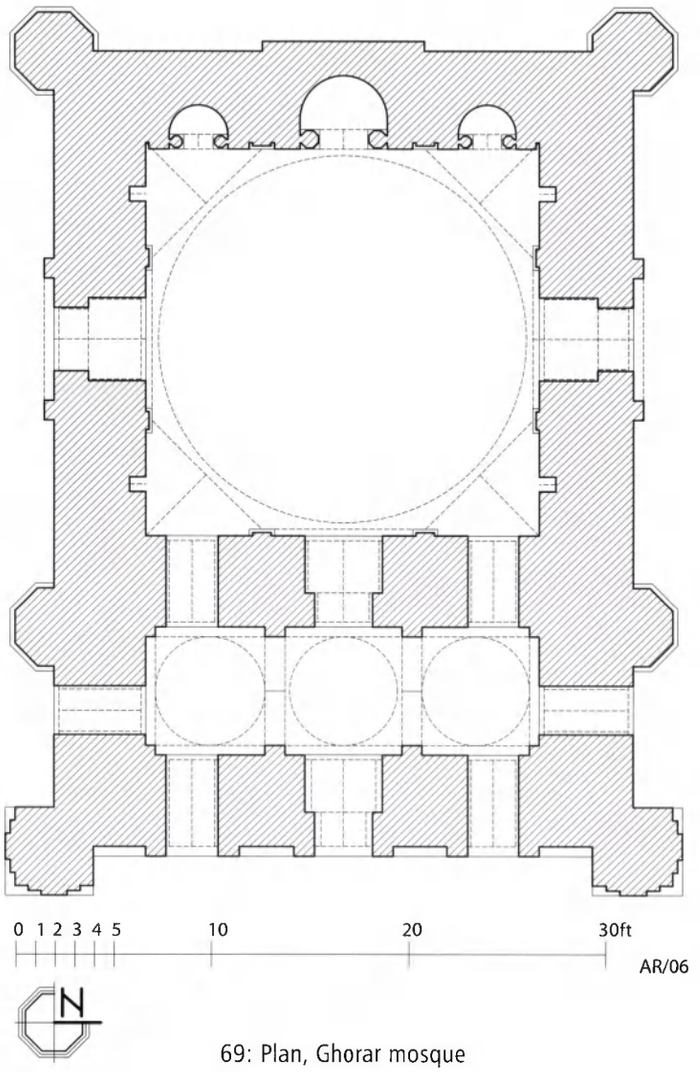
68

Barobazar, Jhenidah

GHORAR MOSQUE

15th century A.D.

Ghorar mosque is an excellent example of the best conserved monument in Barobazar by the Directorate of Archaeology in the southern region associated with the history of legendary Saint Khan Jahan Ali. It is located in the village Barobazar under Kaliganj Upazilla of Jhenidah district and about one kilometer west from the Jessore- Jhenidah highway.



69: Plan, Ghorar mosque

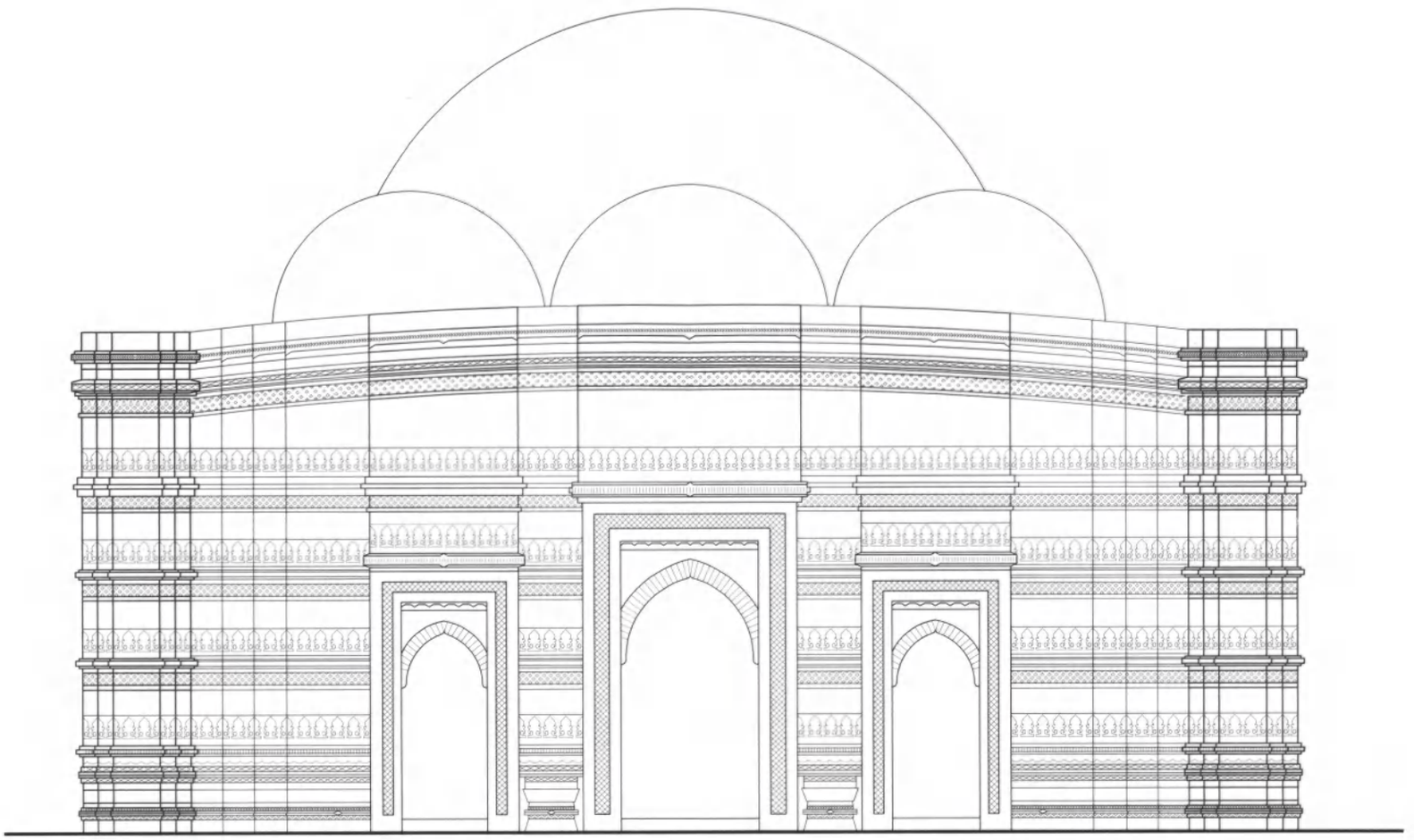
Barobazar in Jhenidah is believed to have derived its name from a certain twelve *(Baro)* obscure Muslim saints who settled here prior to Khan Jahan Ali (Ahmed, N.1989: 28). The architecture of Barobazar resembles with the Illyas Shahi architecture in Gaur and Pandua than the style of Khan Jahan Ali that developed in the nearby Bagerhat. Neither structure has any inscription, but according to its stylistic resemblance with the architecture of Gaur and Adina; such as square room with foreroom, octagonal turret, vertical offset and projected shallow panels of entrance, it may be assumed that this structure was built during the Illyas Shahi period prior to the Khan Jahan architecture i.e early 15th or late 14th century A.D.

Typologically, it belongs to the single-domed square building with a foreroom in front and is akin to the Chamkatti, Rajbibi and Latton mosques of Gaur. The square shaped main prayer hall is 6.01m square and the foreroom is 2.08m wide internally with 1.45m wide wall. The foreroom has three pointed-arch entrances in front and one on each side. Three arched entrances lead to the prayer chamber from the foreroom. The northern and southern walls of the main prayer hall contain one arched openings each. Every outside opening has a projected shallow entrance panel, which results a vertical offset and resembles the early Illys Shahi architecture in Gaur and Hazrat Pandua. Corresponding to the front entrance there are three *mihrab* niches in the *qibla* wall decorated with abstract geometrical terracotta

70

ornamentation. The central *mihrab* is higher and wider then the side ones and from outside has a projection. The mosque has six corner turrets, one at each corner of the main hall and one on either end of the foreroom. Two frontal turrets are square in shape and the rest four are octagonal in shape. Square turrets are also observed in Pathrail mosque at Faridpur, Shahi mosque at Bashirhat. The slightly curved cornice is composed with simple mouldings and the spaces between the mouldings are embedded with geometrical ornamentation. The transition from the square supporting areas of the main hall to the circular base attained first by four squinches at four corners to an octagon and finally from an octagon to the circular base by brick pendentives, upon which the dome rests. The base or shoulder of the dome is decorated from inside with blind merlons. The foreroom is covered by three equal hemispherical domes using pendentives at each corner.

The Ghorar mosque is a well renowned monument for its surface ornamentation; whereas the adjacent Khan-i-Jahan's architecture is popular for its austerity that means less ornamentation. The whole outside surface is embellished with horizontal band of ornamentation or friezes. Besides the mouldings in the plinth and cornice level, the total height of the façade is divided into four layers by three groups of friezes. Each group consists of three types of friezes, where terracotta tile of geometrical or abstract motif is used in a repetitive style by selecting a single motif.



71: Front elevation, Ghorar mosque

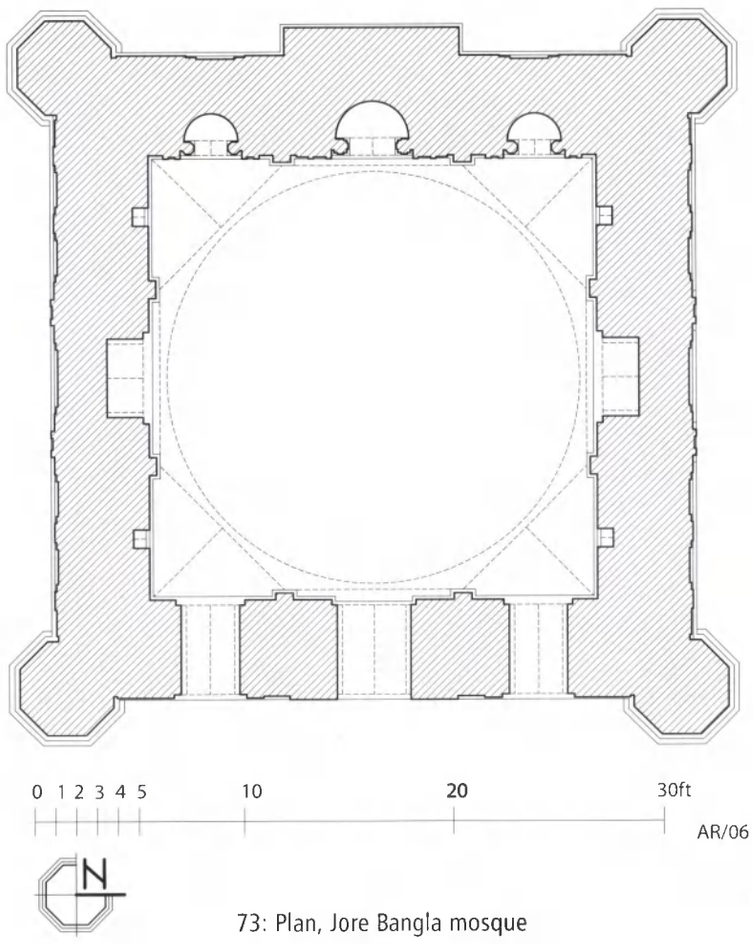
72

Barobazar, Jhenidah

JORE BANGLA MOSQUE

15th century A.D.

The Jore-Bangla mosque stands at the village Barobazar under Kaliganj upazilla in the district Jhenidah, about six kilometers west from the upazilla headquarters. The name of the old township Barobazar is believed to have originated from certain *Baro* or twelve obscure Muslim saints who settled here in some remote and unspecified time. But it is likely that its original name was Bada



73: Plan, Jore Bangla mosque

Bazar, that is to say, a large market place, which might have flourished here once upon a time. Some scholars believe that Khan Jahan with his followers temporarily settled here before proceeding to Khalifatabad in Bagerhat via Murali-Qasba.(Ahmed 1989: 28-33). All the above mentioned statements reveal that the old city Barobazar was established earlier then the Khan Jahan Ali's city Khalifatabad in Bagerhat.

Recently one terracotta Arabic inscription, dated 800A.H./1397A.D., has been discovered from the nearby Jore Bangla Dighi. (Banglapedia 2003). If this inscription is taken to have any connection with the Jore Bangla mosque, the year 1397 A.D. can be assumed as the date of its construction. Although uninscribed, the Jore Bangla mosque is dated back to the late fourteenth century or early fifteenth century in the light of its close links with dated monuments of that time such as Eklakhi Mausoleum at Adina or Chika building at Gaur.

The mosque stands on a raised mound of earth and is approached from the north by a flight of steps through an arched gateway built of brick. In order to make the area sacred, the raised open shan or courtyard was originally encompassed by a low boundary wall, which is now at the level of the plinth. This building has been restored recently by the Directorate of Archaeology.

According to the ground plan the Jore Bangla mosque belongs to the group of square shaped mosque but functionally it seems to be a Friday mosque with larger frontal *shan* or courtyard. It measures externally 9.37m and the thickness of the surrounding wall is 1.42m. The prayer hall has three entrances on the eastern side;

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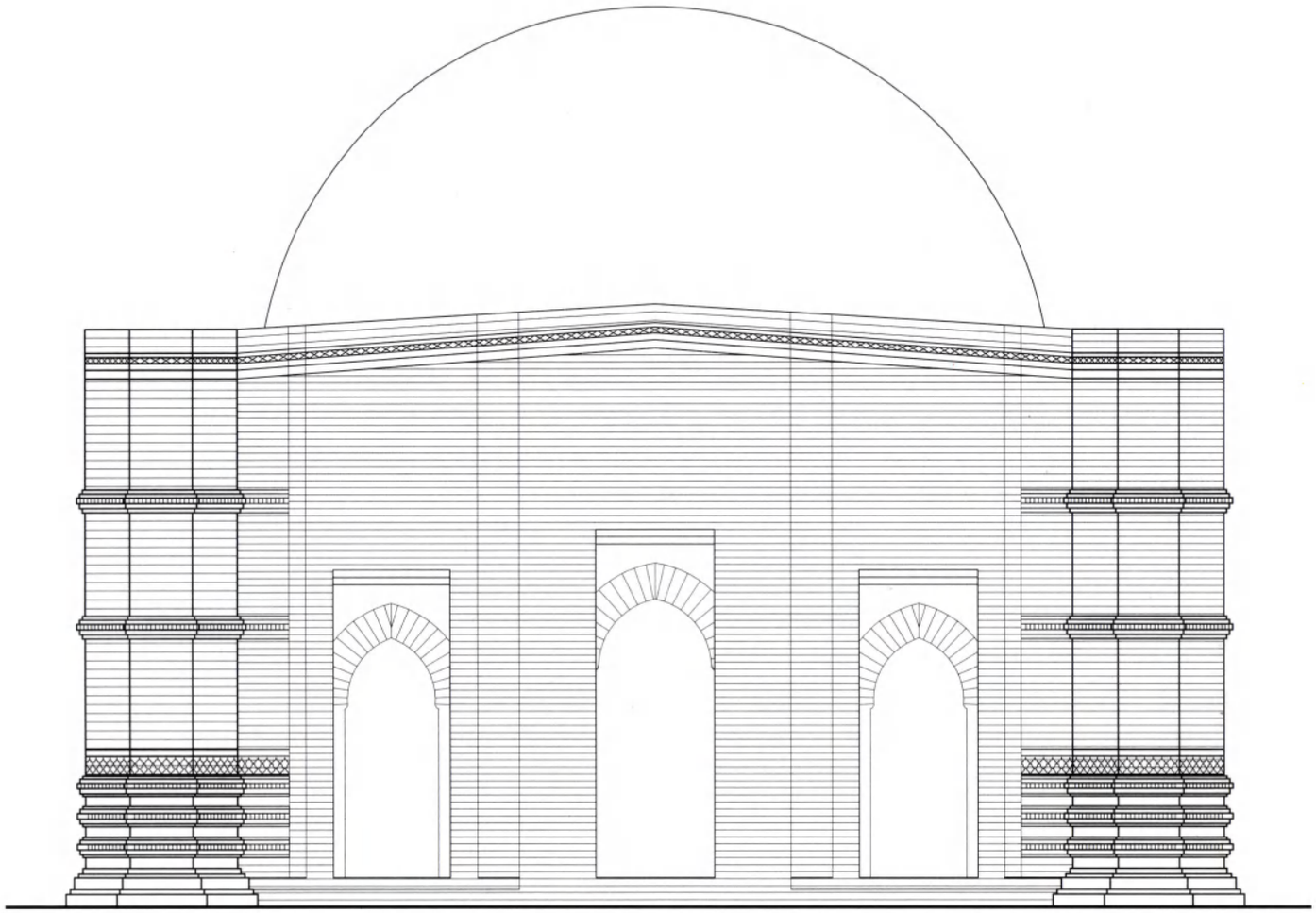
among them the central entrance is higher and wider than the rest. Each entrance opening is bordered within a recessed rectangular frame with parallel terracotta details within raised brick mouldings on the top of the frames. There are two multi-cusped arched niches each in the northern and southern walls from within. The *kibla* wall contains three *mihrab* niches of brick enclosed within rectangular frames. Among the three slender *mihrab* niches the central one is bigger than the flanking ones and is bordered with geometric motifs and blind merlons. The multi-cusped arches of the *mihrabs* spring from decorated octagonal pilasters; the apse of the *mihrab* contains friezes of motifs separated by mouldings and a chain-bell motif in the centre. The central *mihrab* niche has an outside projection in the *kibla* wall.

There are four octagonal corner turrets, one in each corner of the prayer hall. All the turrets are divided into four parts by the mouldings; a group at the base, two at



75: Front elevation, Jore Bangla mosque

the middle and one on the top. These mouldings run upto certain distance in all the four outside walls. Eight brick pilasters along with the enclosed walls support the squinches at each corner of the prayer hall. Finally the small brick pendentives make the circular supporting area, upon which rests the dome of the hall. The shoulder of the dome from inside shows the terracotta friezes with continuous merlon and several mouldings. The wall surface from outside shows variation by means of shallow offsets and recessed along the elevation. The cornices were probably curved, but made straight during the restorations in the later times. The topmost moulding of the corner turrets run all around below the parapet. The moulding shows a frieze of terracotta lozenge on its face sunk between two thin raised horizontal lines.

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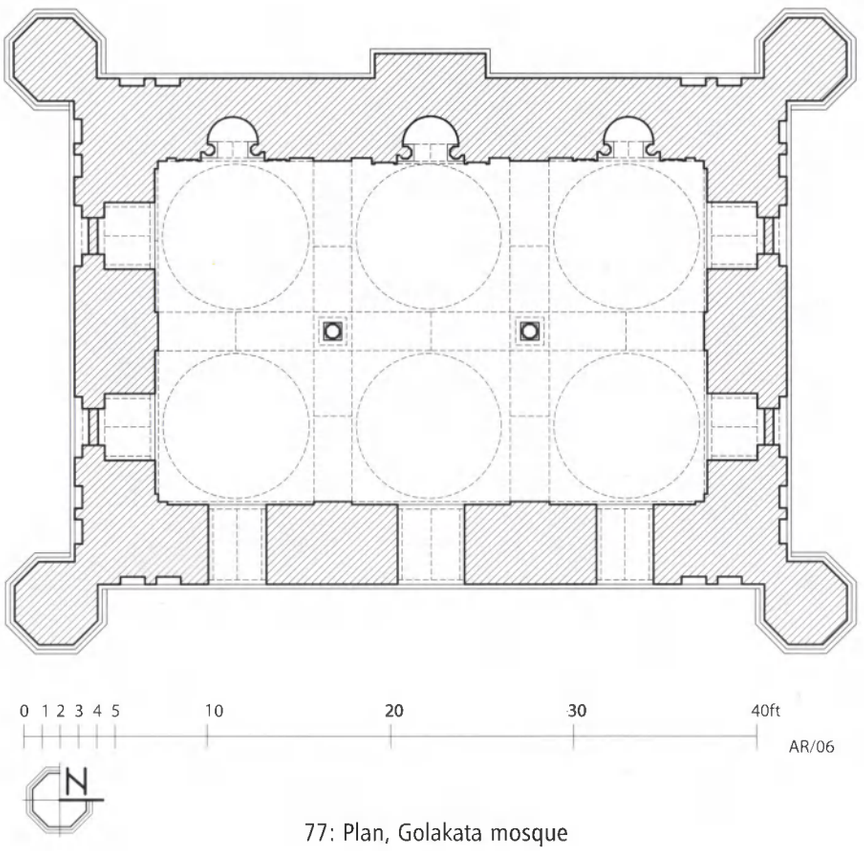
Barobazar, Jhenidah

GOLAKATA MOSQUE

15th century A.D.

The Golakata mosque is situated on the northern side of the main road in the westernmost part of the old city Barobazar under Kaliganj upazilla of Jhenidah District This mosque bears no inscription, but according to its stylistic resemblance with the architecture of early Ilyas Shahi period in Chhoto Pandua and Hazrat Pandua; such as freestanding stone pillar with chain and bell

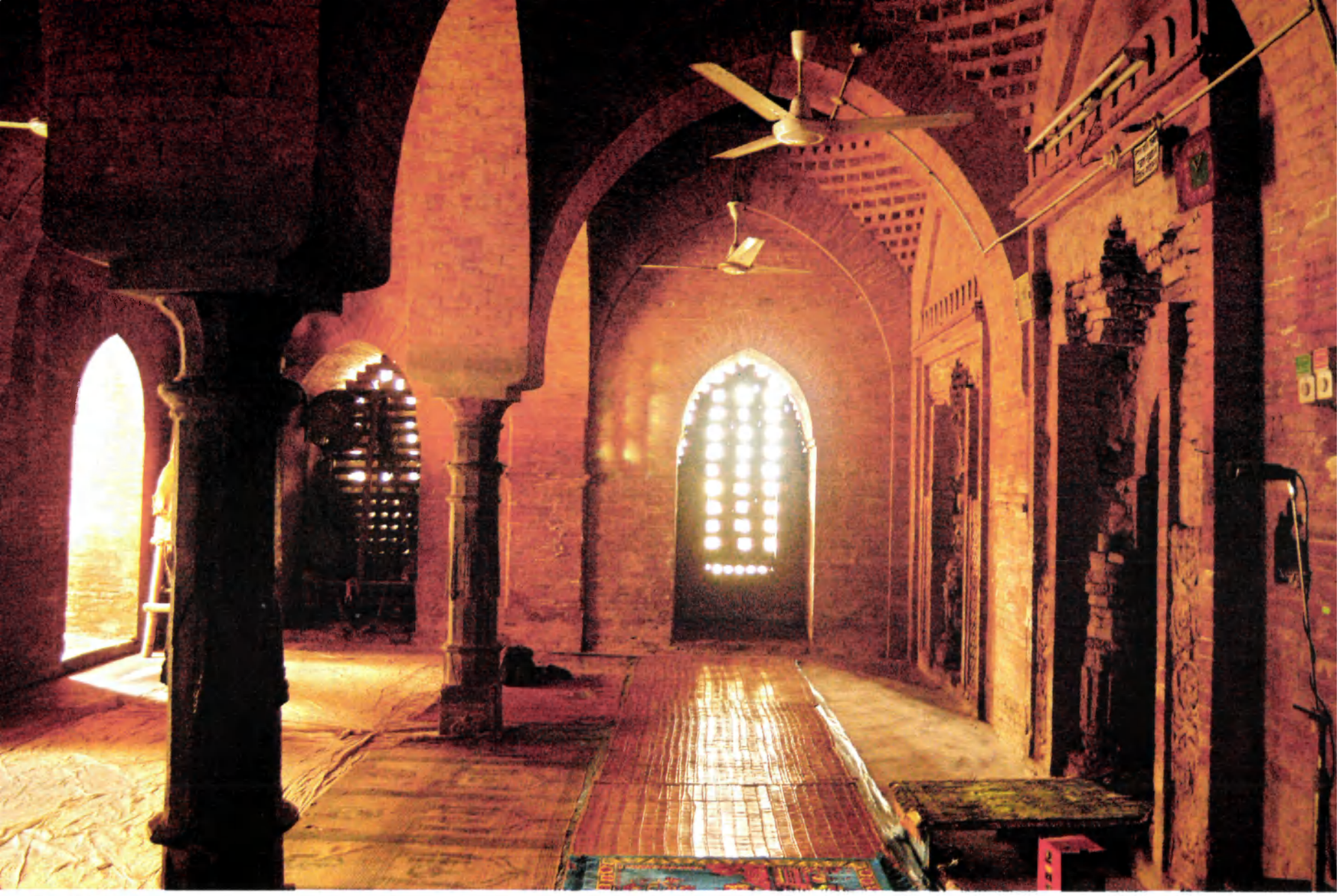


77: Plan, Golakata mosque

motive on the round shaped shaft and a petal capital, multi-unit prayer hall, octagonal turret, vertical offset and recessed niche containing mouldings or frieze on the base, it may be assumed that this structure was built in early 15th or late 14th century A.D. prior to the Khan Jahan's architectural development in Bagerhat. This ruined mosque was reconstructed by the Archaeological Department of Bangladesh and thus presently seems to be in good state of preservation.

This mosque conforms to the typical oblong enclosed mosques in Bengal built during the early Islamic period. The interior of the prayer hall, measuring 11.83m by 8.22m externally, is divided into two bays and three aisles surrounded by 1.4m thick brick wall. The mosque has access only from the eastern side by three pointed entrance archways, of which the central one is higher and wider that the flanking ones. The three entrance archways in the east are flanked with two pointed arches bordered within recessed rectangular frames with parallel raised brick mouldings on the top. The northern and southern walls have two arched openings each. These side openings were once closed by perforated terracotta screens up to the soffit of the arch, but top part is now disappeared. The area (tympanum) between the lintel and the arch is now sealed by new bricks. The lower part or the opening seal is made of different shaped moulded bricks; even two cylindrical shaped brick terminate both end of the opening. This type of window seal can be observed in the western openings of the Bari mosque at Hazrat Pandua.

Corresponding to the entrance openings in the frontal wall, the *kibl*a wall contains three highly ornamented



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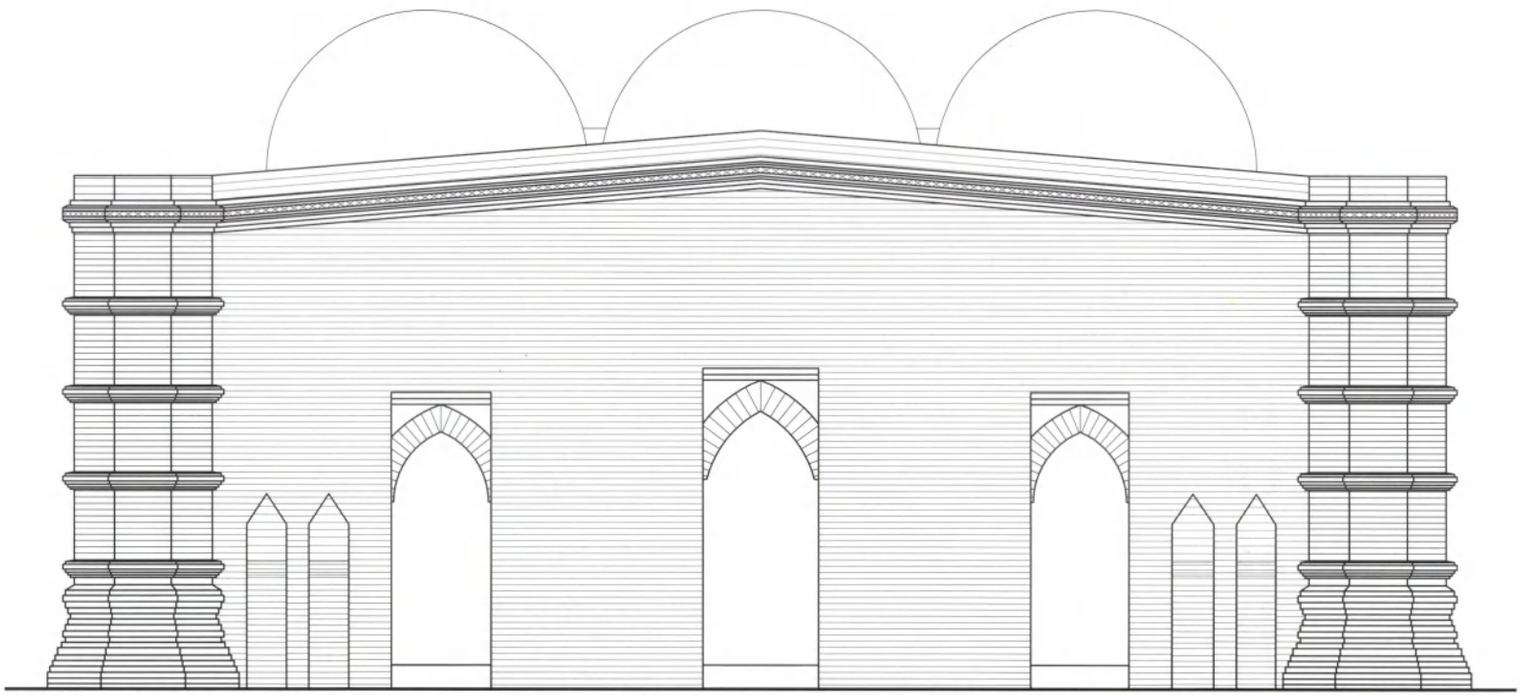
mihrab niches; among them the central one is bigger than the ones on each side. All the *mihrabs* are faced with multi-foiled arches that rise from decorated octagonal brick pilasters. They are bordered within two rectangular frames with two parallel terracotta details on the top within recessed brick mouldings and merlon shaped ornamentation on the top. The outside of the *kibla* wall shows a projection of the main *mihrab* niche. There are four rectangular niches in each of the northern, southern and western side with parallel terracotta mouldings on the bottom of the niches.

A noteworthy feature of the mosque interior is the freestanding stone pillars. Traditionally the base and the capital of the stone pillar are square in shape and similar in design. And the shaft is multi faced without ornamentation. Similar to the pillars used in the Bari mosque at Chhoto Pandua and Adina mosque at Hazrat Pandua, the shafts of these pillars are tapered and circular in shape and also ornate with chain and bell motifs. The base of the pillar is square in shape but the capital has fluted petal, and smaller in size than the base. This gives the impression of a weak structure for the supporting arch of the dome.



79: Front elevation, Golakata mosque

Two freestanding stone pillars and eight partly concealed pilasters support the roof of six equal hemispherical domes. The brick pendentives at each corner of a square grid transfer the square supporting area into a circular base, upon which six hemispherical domes rest. The shoulder of the dome is ornate from within with a row of mouldings impressed with terracotta lozenge and a row of merlon above it. This mosque has only four octagonal corner turrets, one at each corner of the building. Surprisingly the base of the turrets is circular in shape from which the octagonal upper part goes up. Probably the cornices were curved, but made straight during the restorations in the later times.

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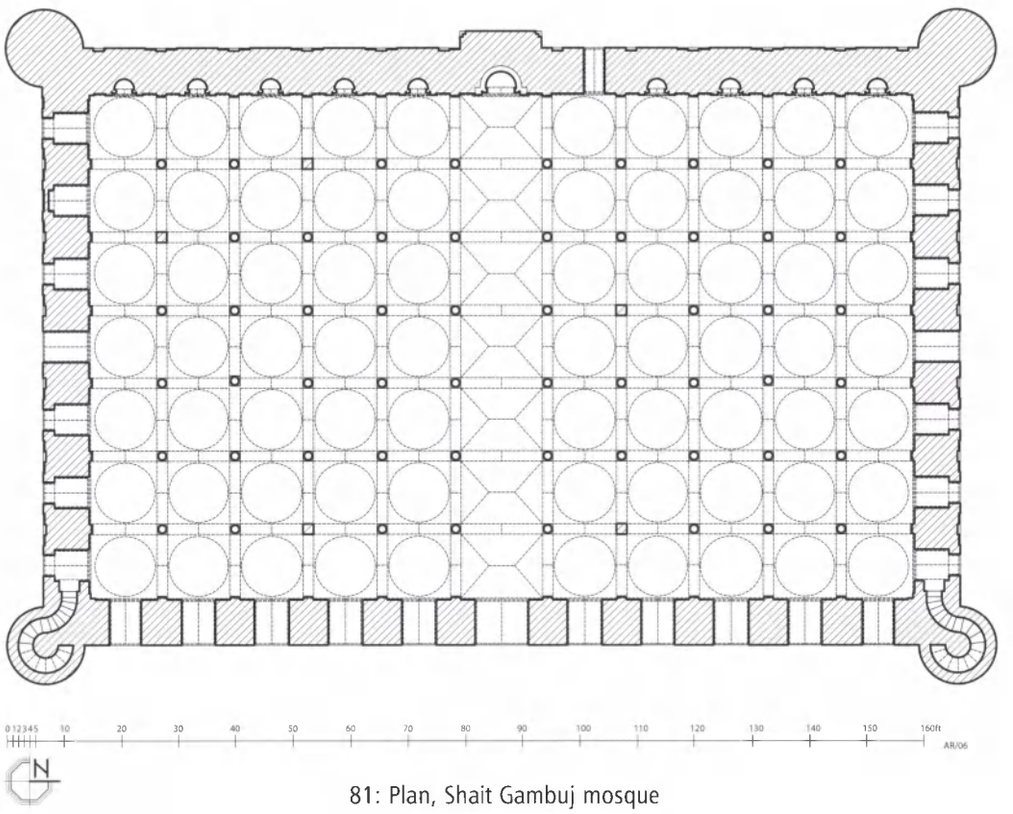
Bagerhat

SHAIT GAMBUJ MOSQUE

15th century A.D.

The Shait Gambuj mosque is the most magnificent as well as the largest enclosed type mosque in Bengal. Although the date of its erection is not known, it is considered to be the Great Congregational mosque of Khan Jahan Ali, built during his lifetime in the early 15th century at Bagerhat (O'Malley 1908: 27). It is commonly known by a misleading name as Shait Gambuj mosque,

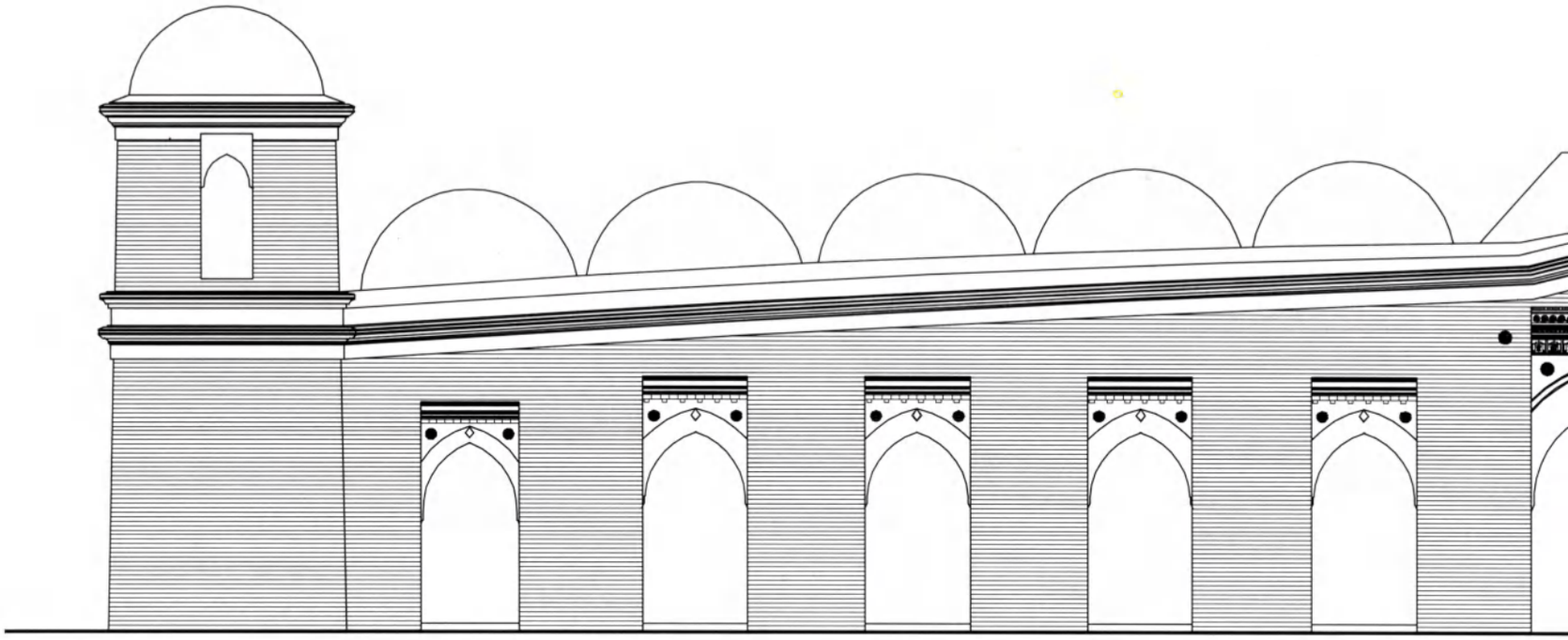


81: Plan, Shait Gambuj mosque

or the mosque of sixty domes. As a matter of fact it has as many as 81 domes: 70 circular domes upon the prayer hall, seven chauchala domes upon the central aisle and four domes upon the corner towers.

The Shait Gambuj mosque is an oblong shaped prayer hall measuring externally 48.95 m by 32.25 m with a 2.43 m thick surrounding brick wall. The hall is internally divided into seven bays and eleven aisles. The central aisle is wider and higher than the side aisles. The eastern wall consists of a row of eleven pointed-arch openings while each of the side walls has seven. The central opening in each side is larger than others, which was used as the entrance way and the rest six openings on each side were probably closed with a perforated brick. In the northern wall, an evidence of such perforated brick *jali* is still in situ. The western or the *kibla* wall has ten *mihrab* niches in the centre of every aisle instead of eleven. The central *mihrab* niche is faced with black basalt stones, whilst the flanking nine *mihrab* niches are embellished with brick terracotta ornamentation. Only the central *mihrab* niche has a multifoil arch and the rest have two centered pointed-arches supported on two sides by pilasters. The right-hand side aisle of the central *mihrab* niche has an off centered arched doorway instead of a *mihrab* niche. The provision of an entrance, adjacent to the central *mihrab* niche in the *kibla* wall, indicates that the Khan Jahan Ali's residence was located to the west or north-west side of the mosque. There are four tapered circular turrets at each corner, rising above the roof and covered by a circular dome. The two corner towers in front or eastern side is higher than their western counterpart and provide a staircase leading to the roof.

The freestanding 60 pillars (55 stone and five brick pillars) support the whole roof. It can be possible that the name of the mosque derived not from the number of domes (77), but from the number of the supporting pillars (60). Hence it may be stated that the original name of this mosque was Shait (60) *Khamba* (local dialect for pillar) mosque. In course of time, this *Khamba*



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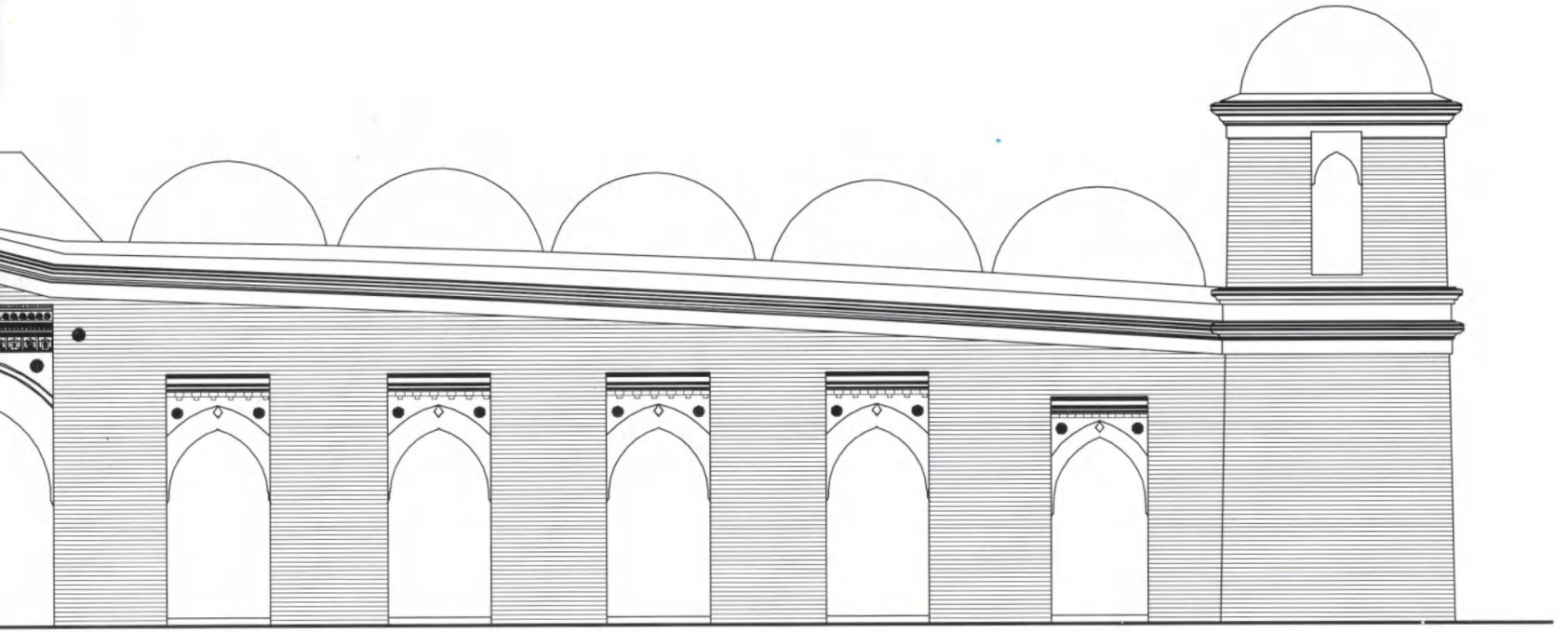
(pillar) might have been confused with *Gambuj* (dome). The *Chouchala* vault of this mosque is believed to be the earliest example of the reproduction of the rural bamboo-roof into a masonry vaulted roof. The parallel bamboo rafters and cross bars of the hut are also imitated from within. The top part of the central arched opening had a triangular pediment, from which the cornice slopes down towards the corner. The cornices on the other sides are typically curved.

The outer surface of the mosque is without plaster and ornamentation. All the entrances are recessed with rectangular frame and have raised brick mouldings with a geometrical terracotta motif. The eleven frontal doorways have decorated terracotta rosettes in the spandrel, the central opening has two more rosettes on the either side of the spandrel.

Recently the interior and the exterior of the mosque have been totally altered. The triangular pediment placed above the central entrance has been removed; the floor and the freestanding stone pillars have been covered with plaster on brick by the Directorate of Archaeology of Bangladesh, the official custodian of the cultural properties and world heritage. The famous freestanding 60 stone pillars could not be recognized, the shafts are no more slender in proportion, and capitals can not be recognized. Rather the bulky proportion of the pillar makes the interior space more congested.



82: Front elevation, Shait Gambuj mosque

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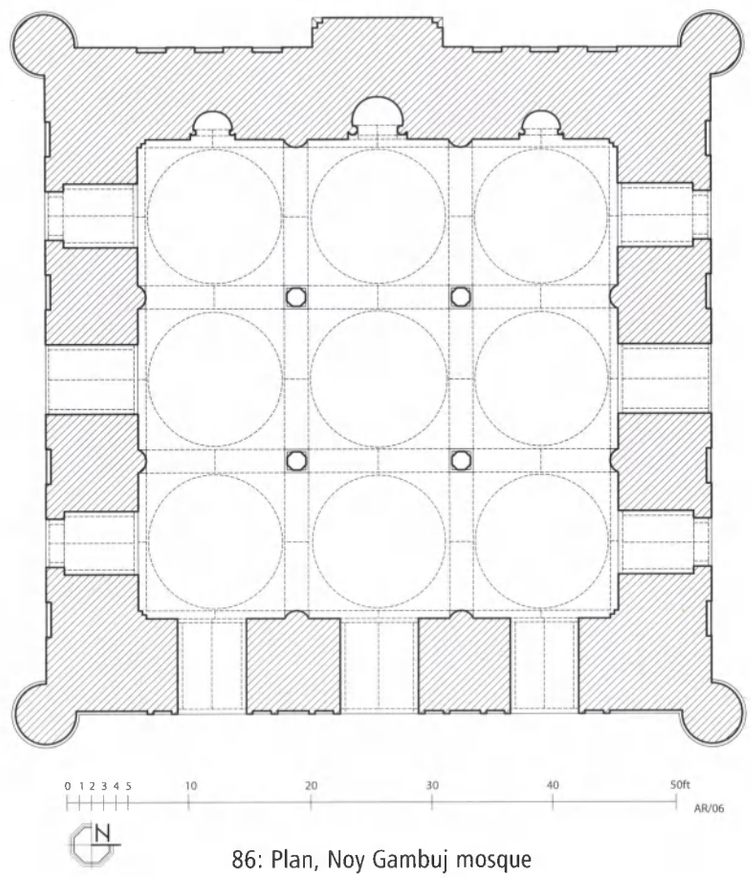
Bagerhat

NOY GAMBUJ MOSQUE

15th century A.D.

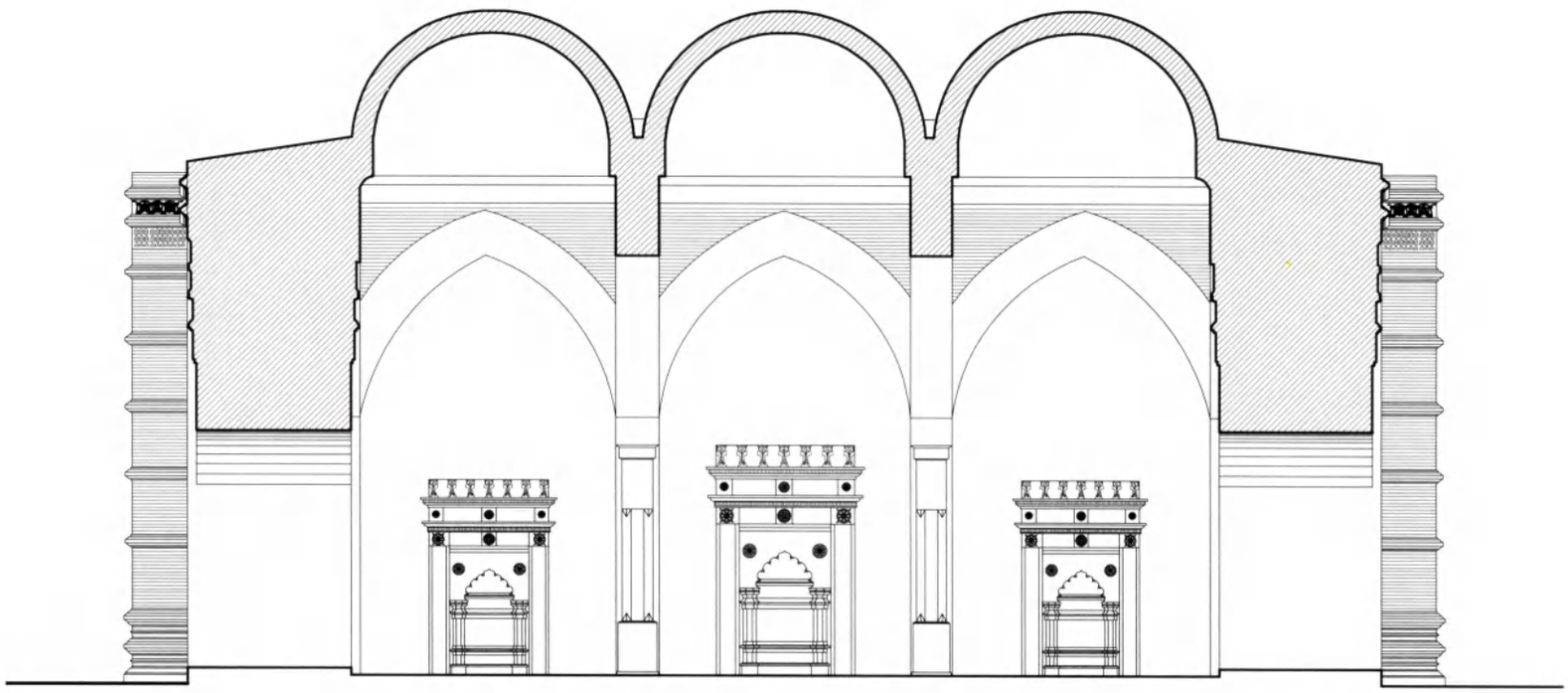
The legendary Islamic hero of Bengal Ulugh Khan Jahan Ali built numerous square shaped small neighborhood mosques in addition to his large congregational mosque at Bagerhat. This locally known nine-domed mosque belongs to the credential of this great builder Khan Jahan Ali and was built in the middle of the fifteenth century. This is the finest example of a multi-



86: Plan, Noy Gambuj mosque

domed square shaped plan situated at the western side of the big *Thakur Dighi* near Khan Jahan Ali tomb at Bagerhat. Existence of a ruined *ghat*, which has a strong axial relationship with this mosque, is still visible. This ghat was a place of swapping pleasantries before and after the daily prayers. It also replaced the ablution fountain after typical Islamic architecture. The outside surface of this brick building has been restored by the Directorate of Archaeology of Bangladesh.

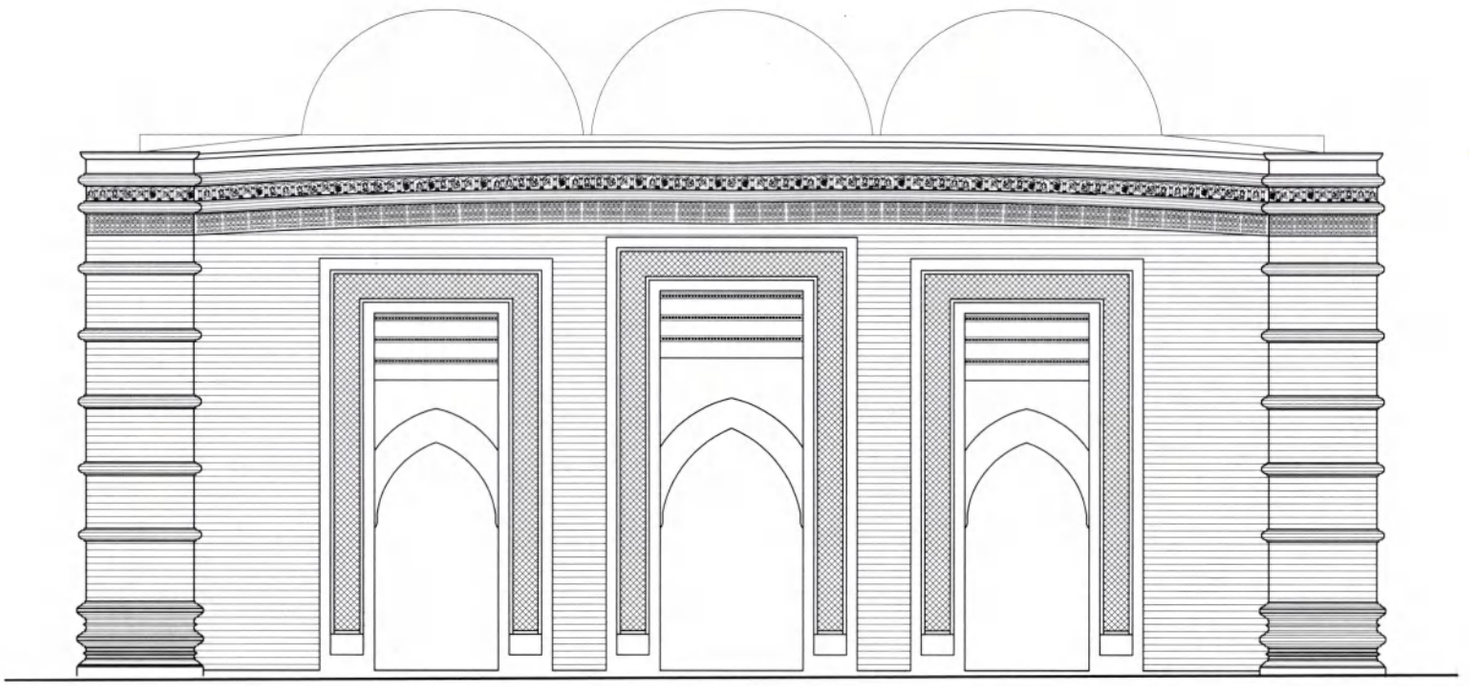
Khan Jahan Ali introduced an unconventional design of mosque "square-shaped", which is a typical form of a Muslim mausoleum or central shrine of a Buddhist temple or a *garbagriha* of a Hindu temple (Ahmed 1997: 134-35). This type of multi-domed square-shaped mosque is uncommon and rare in the Islamic world. However, this is one of the three surviving nine-domed mosques in Bengal. The 17 meter square wide prayer hall, surrounded by a 2.6 meter thick wall, is divided by three equal aisles and bays. It is roofed with nine low hemispherical domes. It has three arched entrances to its east, north and south sides, bordered within tall rectangular bands of terracotta ornamentation. The band or panel is decorated with geometrical pattern of ornamentation, which is to some extent abstracted or simplified form of natural floral form. Corresponding to each aisle is a *mihrab* niche in the *kibla* wall, which is placed directly opposite to the entrances in the eastern wall; among them the central one is wider and higher than the flanking ones. All the three *mihrab* niches in the *kibla* wall are restored. A remarkable change in the construction system is observed here. This could probably have happened due to the appointment of an unskilled restorer. There is an attempt in the main



87: Longitudinal section, Noy Gambuj mosque

mihrab niche to make a true pointed-arch by corbelling the brick layers. This comes close to a pointed-arch but the side *mihrab* niche shows clearly the actual form of corbelled arch which is customary in the Hindu architecture of that time. A chain and bell terracotta motif decorates the apsidal centre of each *mihrab*; a large terracotta rosette is placed above the apex. Besides, there are four small niches in northern and southern wall, which were used as place of oil lamp. This mosque has only four circular corner turrets, one at each corner of the building; four mouldings of string courses on the turret divide the shaft into five parts.

There are four freestanding black basalt pillars in the hall. The shaft of the slender pillars is not monolithic like those in Gaur. Here the shaft consists of two small pieces



88: Front elevation, Noy Gambuj mosque
(Naqi 2005: X-c)

being joined in the middle by iron dowel. The capital and the base are also from two different pieces of stones. The pilasters are made of brick, but capital of the pilaster is made of stone. These types of construction with small pieces are observed in all monuments in Bagerhat. The source of stone for Bengal was mainly Rajmahal hill of Bihar, which is very far from Bagerhat. So the builders of Bagerhat imported small sized stones to avoid breakage and for easy transportation. The cornice or the upper part of all façades is curved, which consists of two bold string courses with extensive terracotta panels in between and below the moulded courses. Combination of all these details acts as a highly decorative and rhythmic style of the building.

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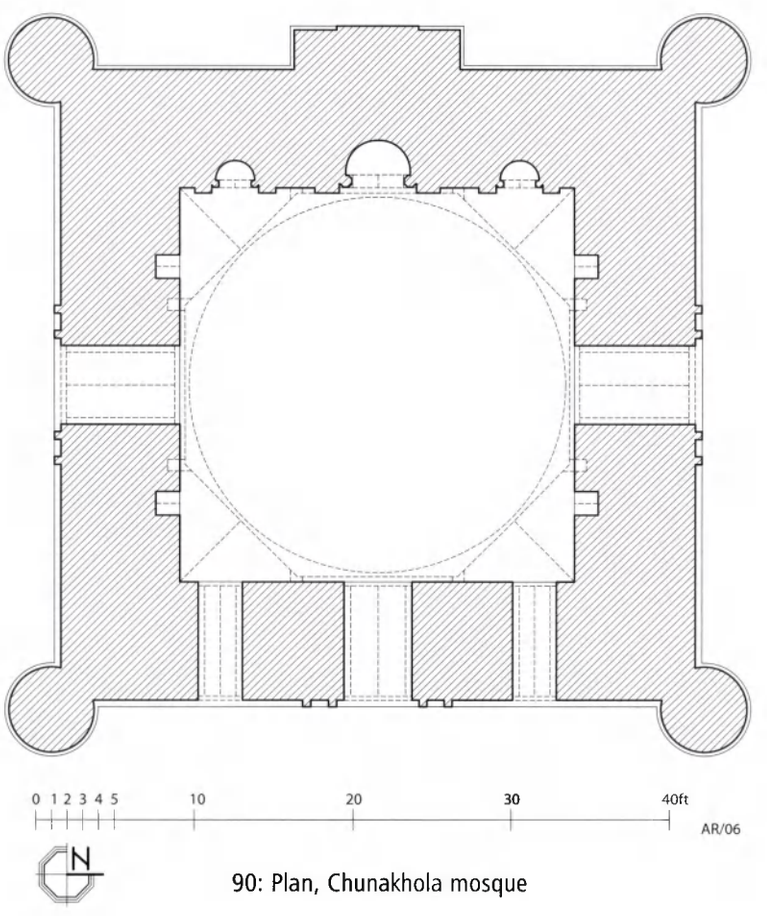
Bagerhat

CHUNAKHOLA MOSQUE

15th century A.D.

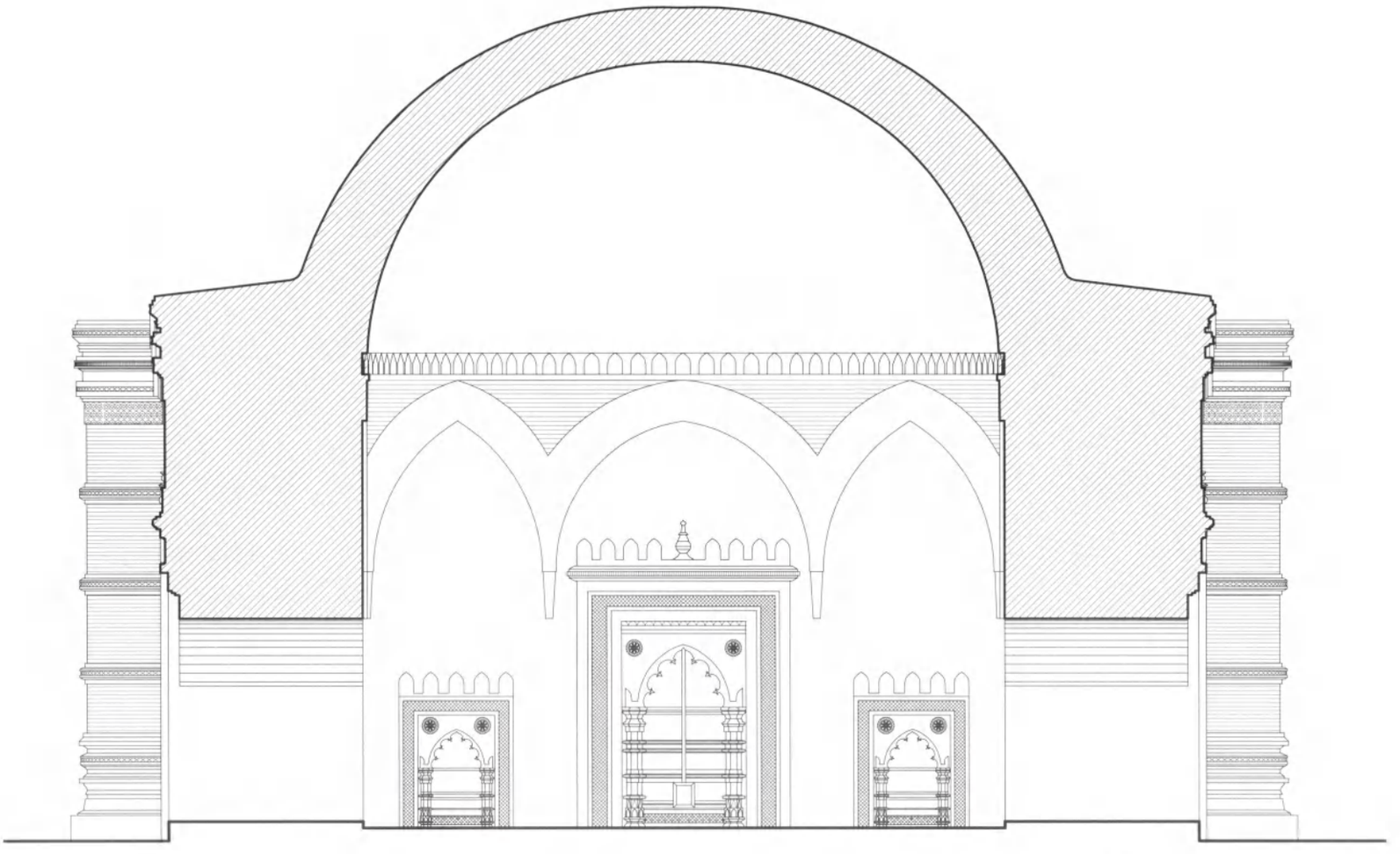
The Chunakhola mosque is situated in the village Mogra, about one kilometer west of the Shait Gambuj mosque in an isolated low mound in the midst of vast flat cultivated field and has no road connection with the adjacent mosques. It belongs to the group of mosques built by Khan Jahan Ali in the early 15th century (Hasan 1979: 153). This building has been restored recently by



90: Plan, Chunakhola mosque

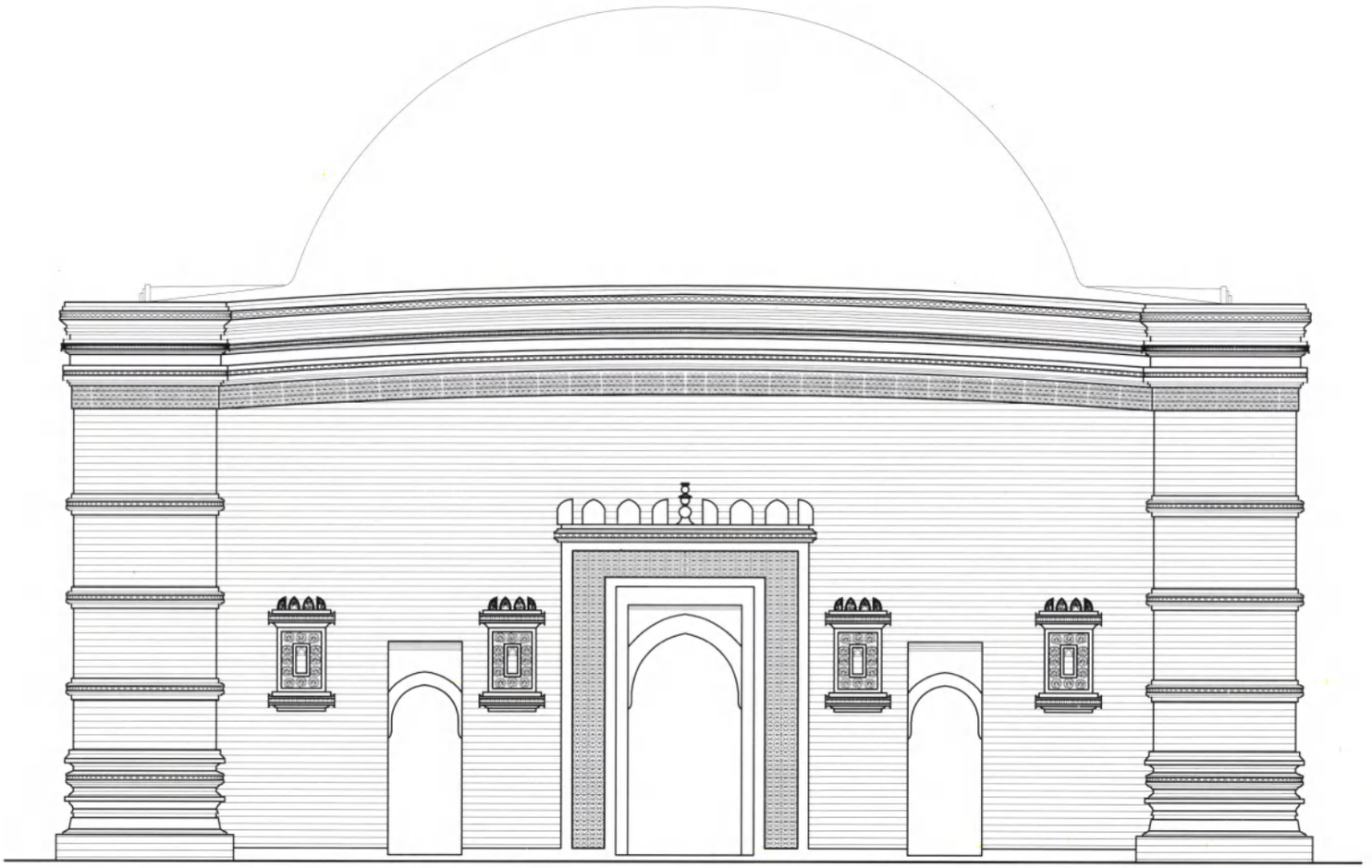
the Directorate of Archaeology. A photo before the restoration work shows the extent of erosion due to salinity in the soil of this area. It has eroded more of the lower part than the upper part. Directorate of Archaeology has successfully restored the building; the lower part of the building is almost rebuilt.

It is a square shaped mosque measuring internally 7.64 m and the thickness of the surrounding wall is 2.30 m. Similar to the other single domed mosques in Bagerhat it has three entrances on the eastern side and two on northern and southern side. The opening on the side walls is wider (1.50 m) than other frontal openings and has a raised sill at the floor level, which proves that these openings were never used as entrance but as a window for lighting and ventilation. The central entrance is elevated and wider than the rest and is bordered within two rectangular frames with parallel terracotta details within raised brick mouldings on the top of the frames. On the top of the brick mouldings there is a series of merlons and the central point is crowned by a *kalasa* motif. There are two spear-headed multi-cusped arched lamp-niches each in the northern and southern walls from within. Among the three *mihrab* niches in the *kibla* wall, the central one is bigger and the lateral ones are very low in height (1.25 m). The *mihrab* details in this mosque are different from the rest in Bagerhat. The central *mihrab* is bordered with geometric motifs and blind merlons; separated by lateral bands of brick mouldings; the spandrel is decorated with two terracotta rosettes on either side; the multi-cusped arches raises from decorated octagonal pilasters; the apse of the *mihrab* contains panels of motifs similarly separated by mouldings and a chain-bell motif in the



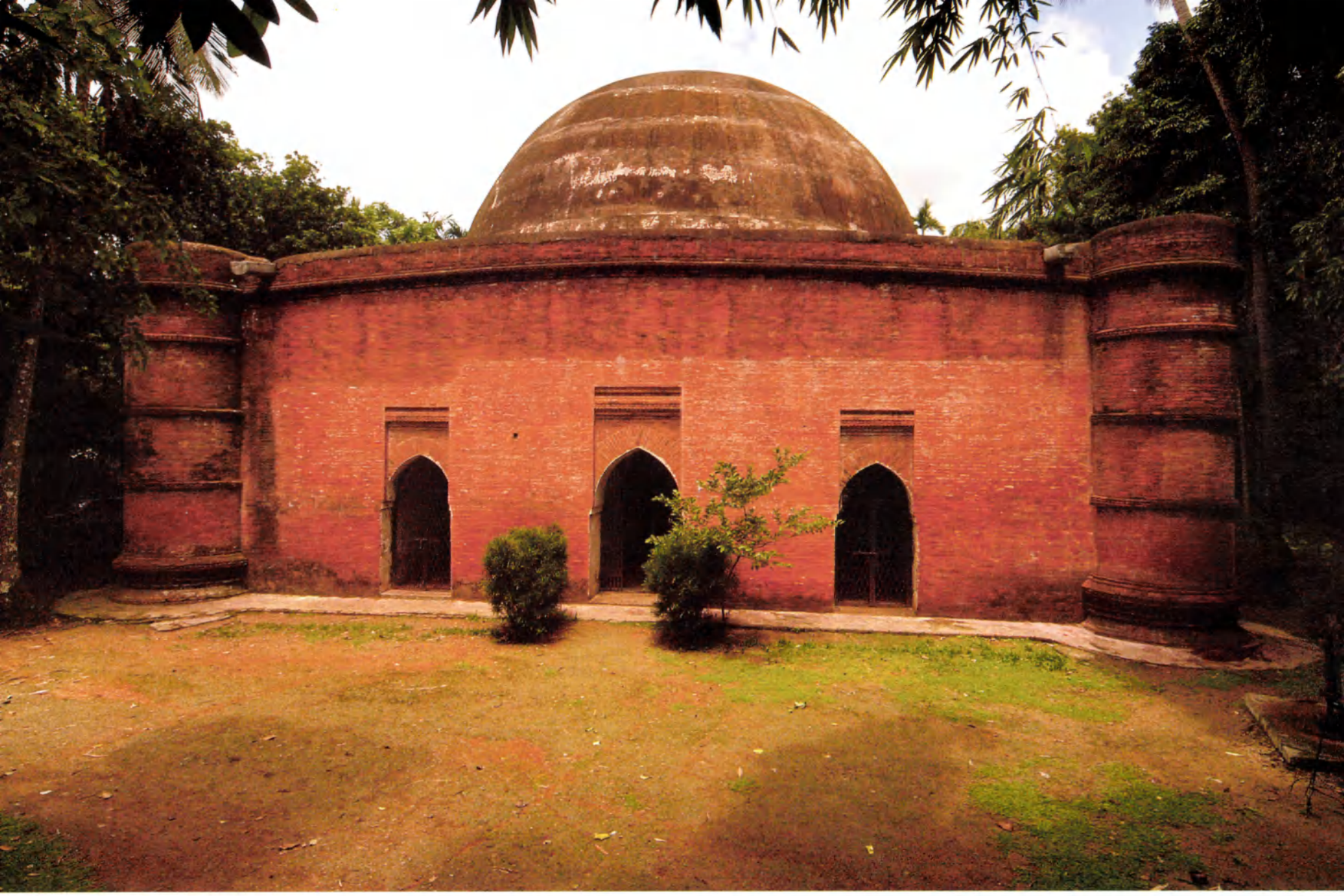
91: Longitudinal section, Chunakhola mosque
(Naqi 2005: XVII-b)

centre; the lateral *mihrabs* are similar in detail but without any battlement on the top. The four corner turrets are also round and divided into four parts by the mouldings, but the restorer tried it to make it tapered. Neither pilaster nor wall arches are observed in the wall. The squinches at each corner, which are springing direct from the lateral walls, and the corbelled pendantives transform from a square to a circular supporting base for the dome. The arrangement of the brick layers in the pendantives differ slightly from the usual system. Instead of changing the layers alternately, two layers of bricks are placed together diagonally and the successive three horizontal layers run together radially. The hall is roofed over by a semicircular dome, which was also restored.



92: Front elevation, Chunakhola mosque

The roof cornice is curved; there are three string courses on the cornice; the upper and lower ones being bold and strong contain the comparatively weaker one in between. Below the string courses there is a band of geometric terracotta patterns with rhythmic intervals within a continuous frame. All of them together create a spectacular termination of the mosque. The size, proportion and exterior of this mosque show some resemblance with the Singar mosque in Bagerhat. But walls here are more articulate than other mosques in Bagerhat. The solid surfaces in between the doors and the corner turrets of the exterior wall are decorated with terracotta features. The eastern outside surface is embellished with four terracotta ornate panels. This type of ornate panel is noteworthy in this group of mosques at Bagerhat.



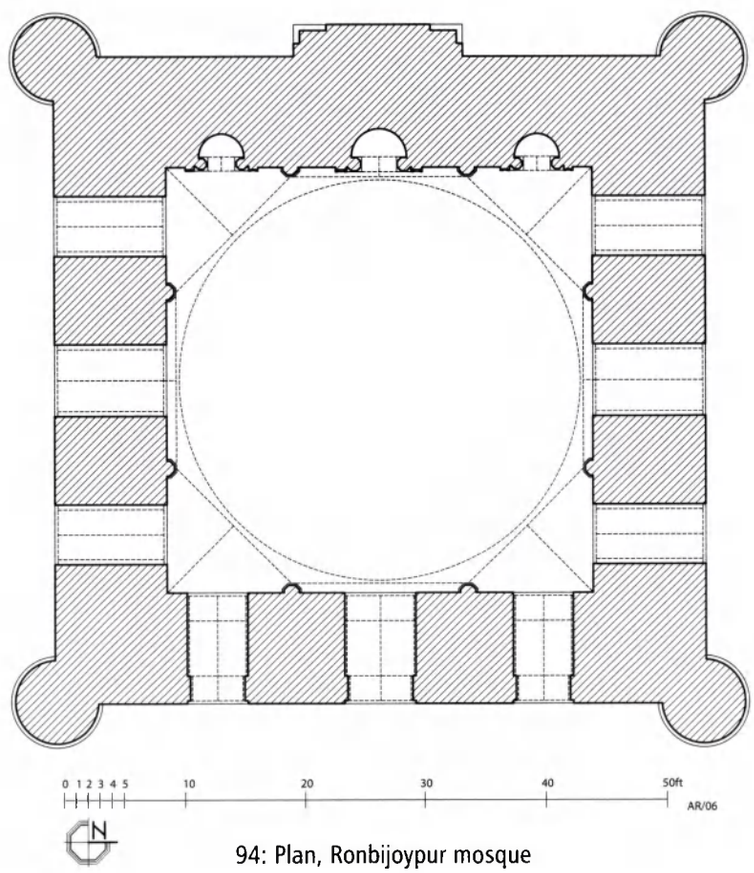
93

Bagerhat

RONBIJOYPUR MOSQUE

15th century A.D.

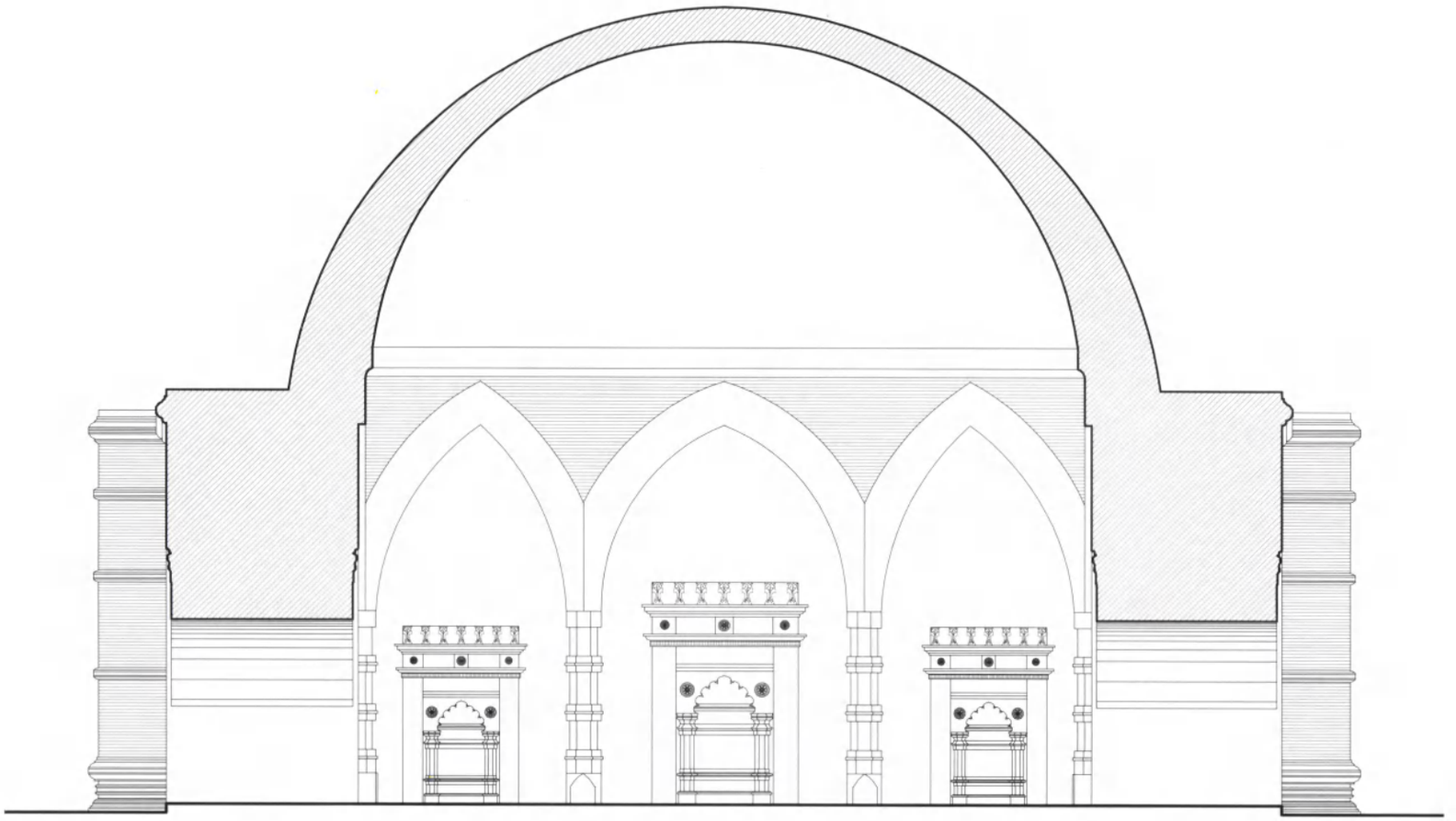
It is situated about one and a half kilometer east of the Shait Gambuj mosque and on the northern side of the original Khan-e-Jahan road; Khalifatabad-Bagerhat. The mosque stands on the southern embankment of the old bed of Bhairab river facing the node of Khan-e-Jahan road from where the secondary road which approaches the Mausoleum complex offshoots at a right angle



94: Plan, Ronbijoypur mosque

towards south. The name of this mosque is derived from the village called Ronbijoypur. It belongs to the group of buildings of Khan Jahan Ali built in the middle of 15th century (Ahmed 1984:309-13). The structure has gone under extensive restoration work for which some of the original features may have been lost.

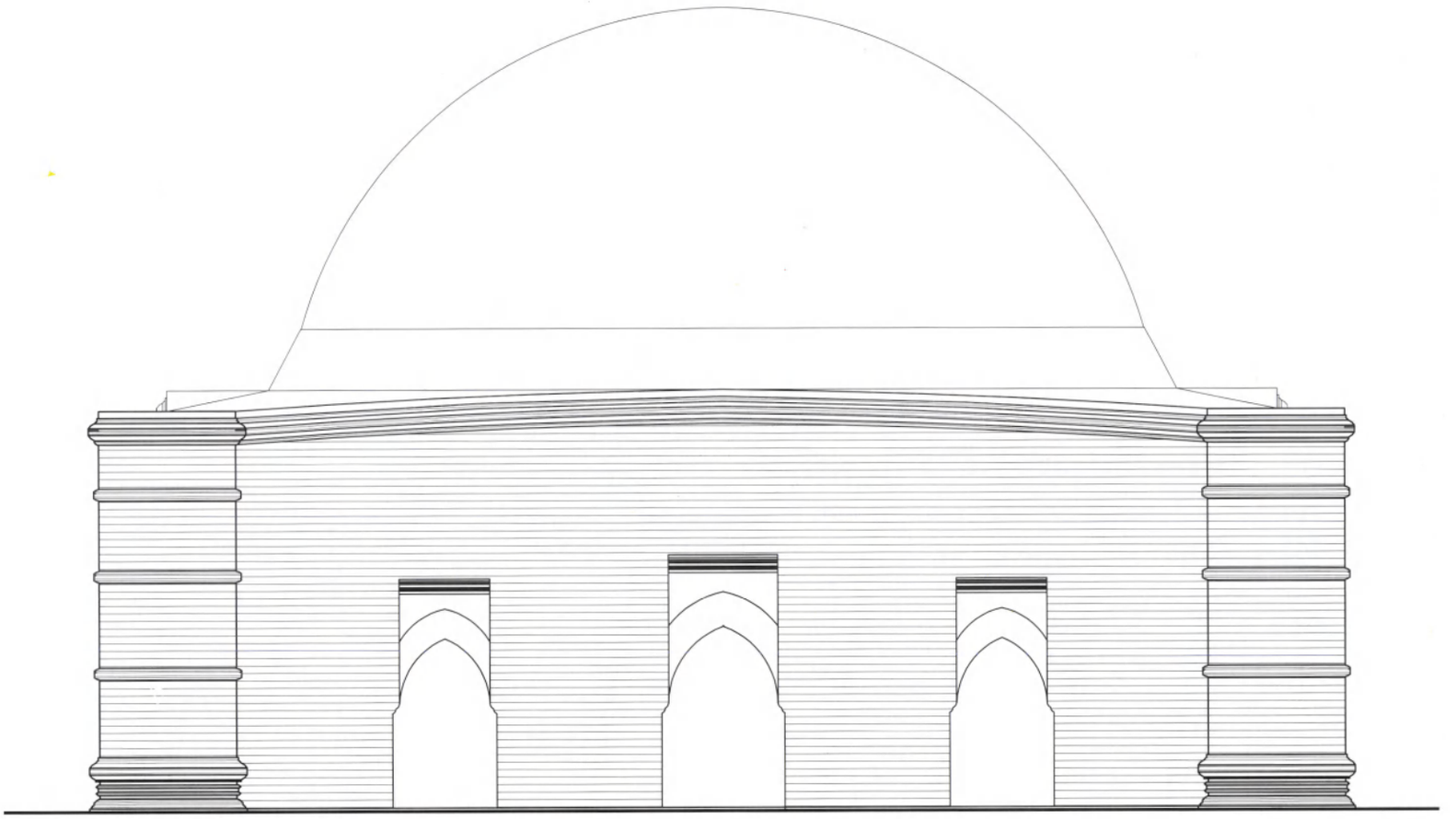
Among the single domed mosques Ronbijoypur is stupendous in mass. It measures internally 10.80 m each way and 16.40 m square externally. The surrounding brick walls are thus 2.80 m thick and constructed with 2" x 5" x 6" bricks. The prayer hall has access on the eastern side by three openings and each of the two walls has three pointed-arch openings. The central opening of all the three side walls is higher and wider than the flanking ones measuring 1.80 m wide. Each of the three frontal openings consists of three pointed-arches. The middle one is higher and wider than the flanking ones. On the other hand the side openings have a single pointed arch. Each opening has a little recess in the wall with ornamental mouldings above. Corresponding to the three frontal openings, the *kibla* wall is niched with three *mihrabs*, which are ornate with terracotta floral panels. There are multi-foiled arches in front of the three *mihrabs*. The arches end in a spear-head detail. The central *mihrab* niche is larger than those flanking it. To manifest the main *mihrab* niche from outside, the *kibla* wall is 80 cm projected towards the west. The four corners of the building are buttressed by four circular corner turrets measuring seven feet diameter and divided into four tiers by horizontal mouldings. There are two brick pilasters in each wall, from which spring



95: Longitudinal section, Ronbijoypur mosque

the four corner squinches. The squinches spring from projected stone brackets on the inner wall surface at a height of eight feet from the floor level. The transformation of the square supporting area to a circular base is achieved, firstly by four squinches at each corner and after that a slightly sloped pendentives to make it a perfect circle.

The huge dome over the square prayer hall is a hemispherical one. The highest point reaches up to 39'-3" from the ground and the thickness of the dome gradually decreases at the top. The hall is covered by a very spacious and the largest dome in Bangladesh. This is the most distinguishing feature of this mosque. According to M. A. Bari, "the inside surface of the dome



96: Front elevation, Ronbijoypur mosque

had ornamentation in the past with circular rows of projected bricks set header wise. But unfortunately this historic ornate feature of the mosque has been destroyed by plastering the dome during restoration defacing its original character"(Banglapedia 2003: 371). All the structural materials of this edifice are from locally fire-brunt bricks. The cornice of the roof is curved and the upper part or cornice on all four sides is gently curved. There are three mouldings in this cornice impressed with ornaments. The interspaces between the mouldings are also ornate with continuous geometrical relief. One bold string course of the cornice acts as a vertical termination of the building.

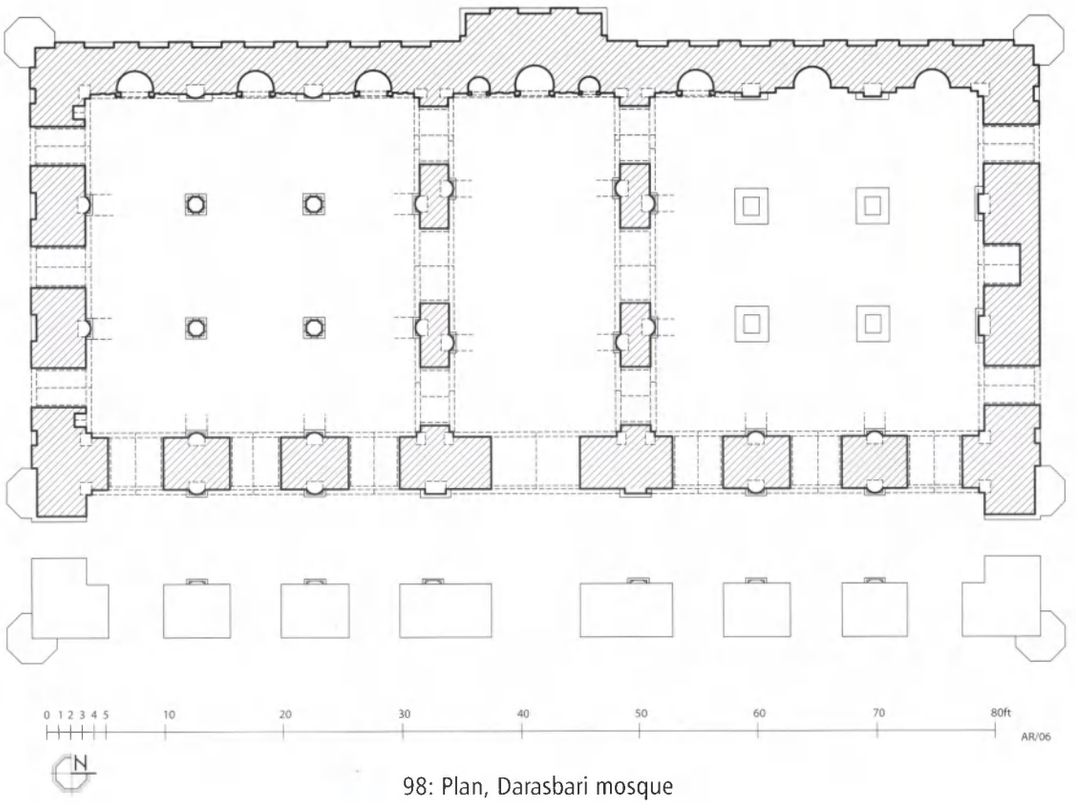
97

Gaur, Chapainawabanj

DARASBARI MOSQUE

1479 A.D.

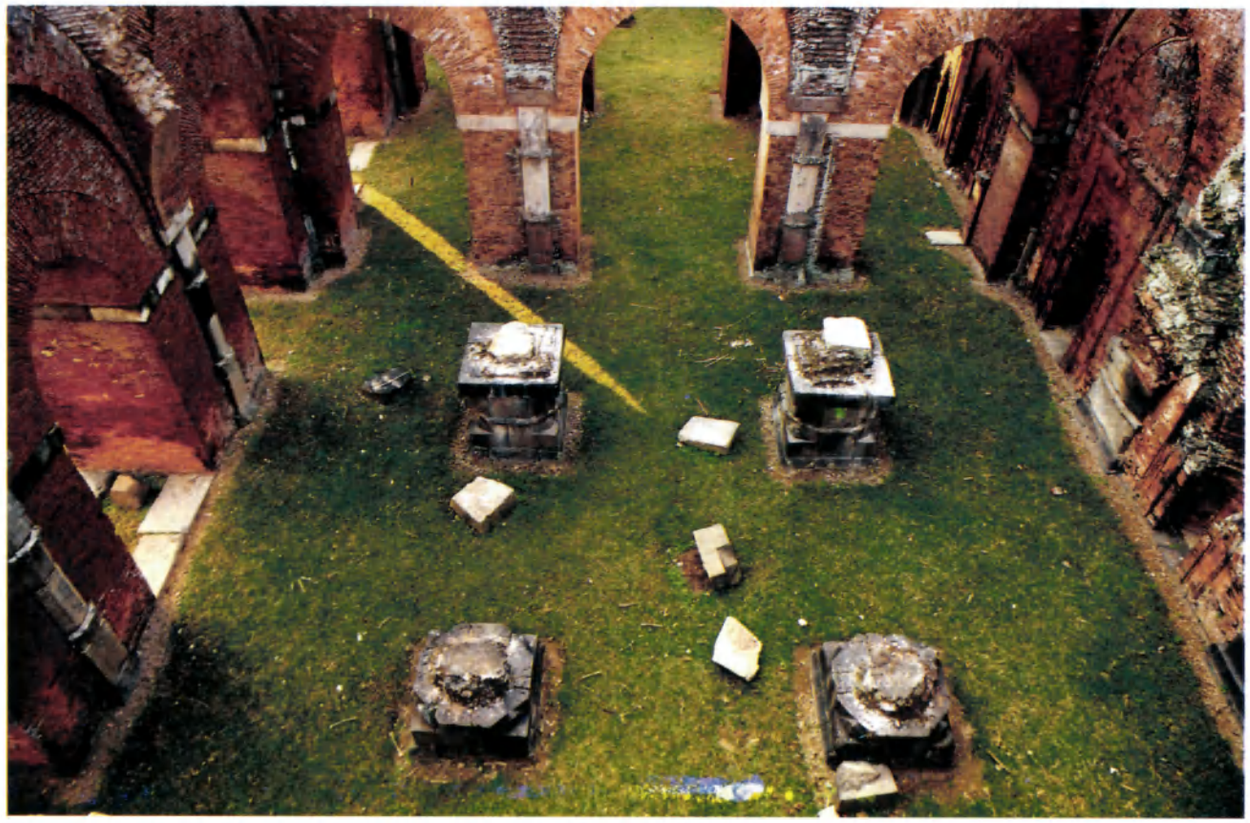
The Darasbari Mosque is located in the southern suburb of the old capital Gaur, presently under the district of Chapainawabganj in Bangladesh. I. Bakhsh discovered an inscription near the Darasbari mosque, recording the erection of the mosque by Sultan Yusuf Shah in the year 884A.H./1479-80A.D. (Hasan 1980:157). This Friday mosque belongs to rectangular shaped plan type



98: Plan, Darasbari mosque

with a foreroom and is the earliest example of this type. It is severely damaged and the entire roof, corner turrets and the foreroom have disappeared.

The oblong main prayer chamber measures internally 30.35 m by 11.92m and the foreroom is 3.20 m broad. The prayer hall is divided into three parts by the 5.35 m wide central nave or transept. The two side wings are divided into three bays and three aisles. The prayer hall is accessed from the east by seven pointed-arch openings from the foreroom. Among them the central one is larger than the others. The left wing has three openings in the southern wall. The right wing has two openings and a niche at the lower level and two openings at the upper level. The northernmost opening of the upper level in the northern wall is the entrance for a raised gallery. The four grids in the north-west corner of the left wing were reserved for the ruler or royal members. This was reached from the ground level by an entrance platform from outside. Only the brick foundation of this entrance platform can still be observed and the rest is missing. Four massive stone pillars and four corresponding brick pilasters engaged in the wall supported the floor of the gallery and are in situ. There exists no evidence of usual stone beams and floor slabs in this mosque. After detailed investigation in the ruined arches of the northern wall, it can be assumed that the gallery floor is supported by four groin vaults. This type of gallery construction is exceptional in Bengal. The *kibla* wall contains three *mihrab* niches in the left wing and five *mihrab* niches in the right wing, two of these belong to the gallery at the upper level. The central part has three *mihrab* niches and a small extra *mihrab* niche at the upper level for the missing *minbar* or pulpit. The typical surviving *minbars* in Bengal are made of stone and have no structural bonding with the *kibla* wall. The evidence of arch, starting from the *kibla* wall, proves that the *minbar* was exceptionally a brick



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structure and supported on the *kibla* wall. The location of a small niche and the unfinished brick masonry in the *kibla* wall demonstrate that this *minbar* was very high compared to other remaining *minbars*.

Each of the side wings was covered by nine domes and opinions differ about the roofing on the transept. The earliest thought by A. A. Khan was a long barrel shaped roof (Khan1930: 77). Later on A. H. Dani wrote that "the central nave was roofed over by three uniform covers and the cover consisted of the Bengali *Chouchala* roof type like Chhoto Sona mosque and Shait Gambuj mosque" (Dani1961:110) . M. Hasan and C. Asher also agreed with A. H. Dani. After the recent survey, it is clear that the transept of the prayer hall does not have a uniform grid. The middle unit is distinctly square, the front and the back unit along with the unit of the foreroom are rectangular. There exists no example in Bengal, in which a square unit is covered with a *Chouchala* vault, but always covered with a semicircular dome. Examples of other mosques also show that *Chouchala* vault in the central aisle requires no extra massive piers as supporting members. On the other hand the transept of the Darasbari mosque has massive brick piers like the Adina mosque and the Gunmant mosque, where the trancept is covered with a tunnel vault. After considering these similarities it can be assumed that the transept or the central aisle was covered with a tunnel vault.

The interior and exterior surfaces of the mosque are embellished with terracotta ornamentation, most of which, except the western wall, has now disappeared. The entire outside surface of this western wall has alternate recesses and offsets vertically, and is divided into two parts by a horizontal string course in the middle. Terracotta panel with chain and bell motif is embedded in the upper part of each offset. The *mihrab's* niches and their face panels in the *kibla* wall still retain magnificent specimen of terracotta ornamentation. Each *mihrab* is enclosed within a rectangular frame decorated with double friezes of spiral creepers and contained within a broad arch. The tympanum of these arches mostly depicts tree and creepers motifs.

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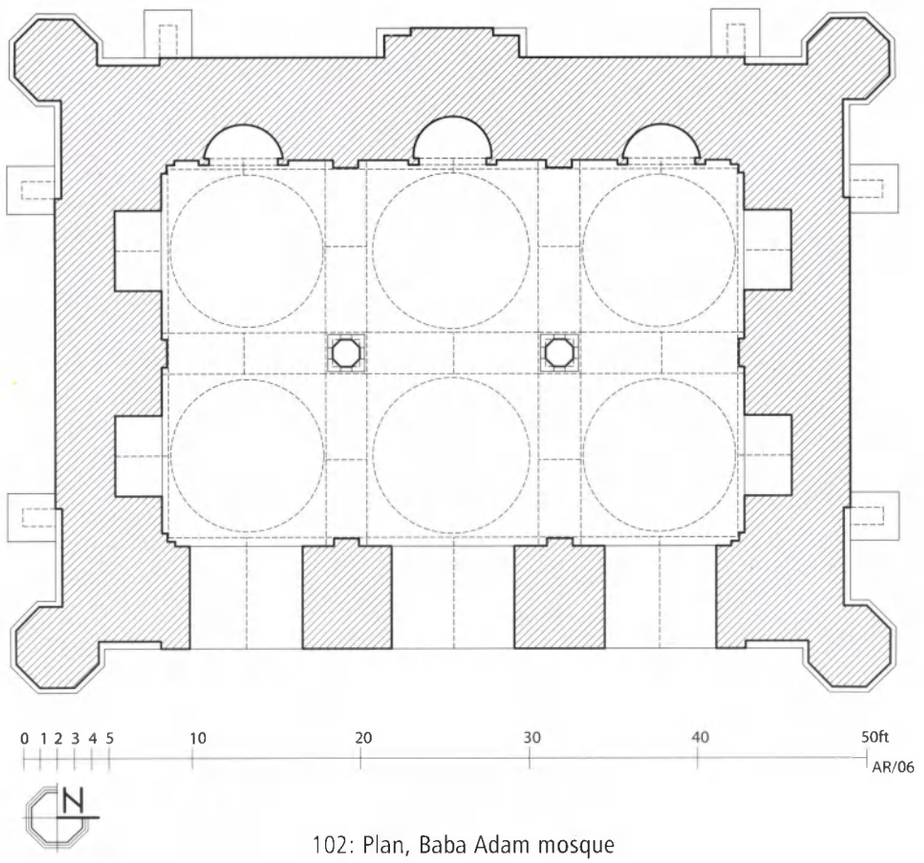
Rampal, Munshiganj

BABA ADAM MOSQUE

1483 A.D.

The mosque is the only surviving example in the ancient Hindu settlement of Rampal upazilla in Munshiganj district, far away from the old capital Gaur. The Baba Adam mosque, though renovated, is in a seemingly good state of conservation. It is named after a locally famous saint Baba Adam, who died in a holy war against a local Hindu Raja. According to the local



102: Plan, Baba Adam mosque

legend he was buried near the mosque in a simple unadorned graveyard. According to an inscription fixed above the central entrance, the mosque was built in 888A.H./1483-84A.D. by Malik Kafur during the reign of Sultan Jalal al-din Fath Shah (Ahmad 1960:118).

This mosque represents the six-domed verity of early Islmic period and has the usual oblong shape measuring 6.64 m by 10.23 m internally with a 1.85 m thick surrounding brick wall. The interior space of the mosque is split into six square areas by two bays and three aisles. There are three entrances in the eastern facade and correspondingly, the *kibla* wall contains three arched *mihrab* niches, the central one being larger than the ones on each side. There are multi-foiled arches in front of the central *mihrab*. The arches rise from decorated octagonal pilasters. They are bordered within two rectangular frames with two parallel terracotta details on the top within recessed brick mouldings and the spandrel is decorated with one terracotta rosettes on either side. The space between the two frames is decorated with terracotta details. A chain and bell terracotta motif decorates the deep apse of the *mihrab* and on the top of the frames there is a series of mouldings. The three entrance doors in the east are flanked with two pointed arches bordered within recessed rectangular frames with parallel terracotta details on the top within raised brick mouldings. The central door is slightly elevated and wider than the two adjacent ones. It is the only multi-domed mosque in Bengal without openings in the side wall. Instead of openings, two 1.38 m wide and 0.79 m deep arched niches are placed in each side wall. The outer side of the *kibla* wall is projected in three steps of which the central

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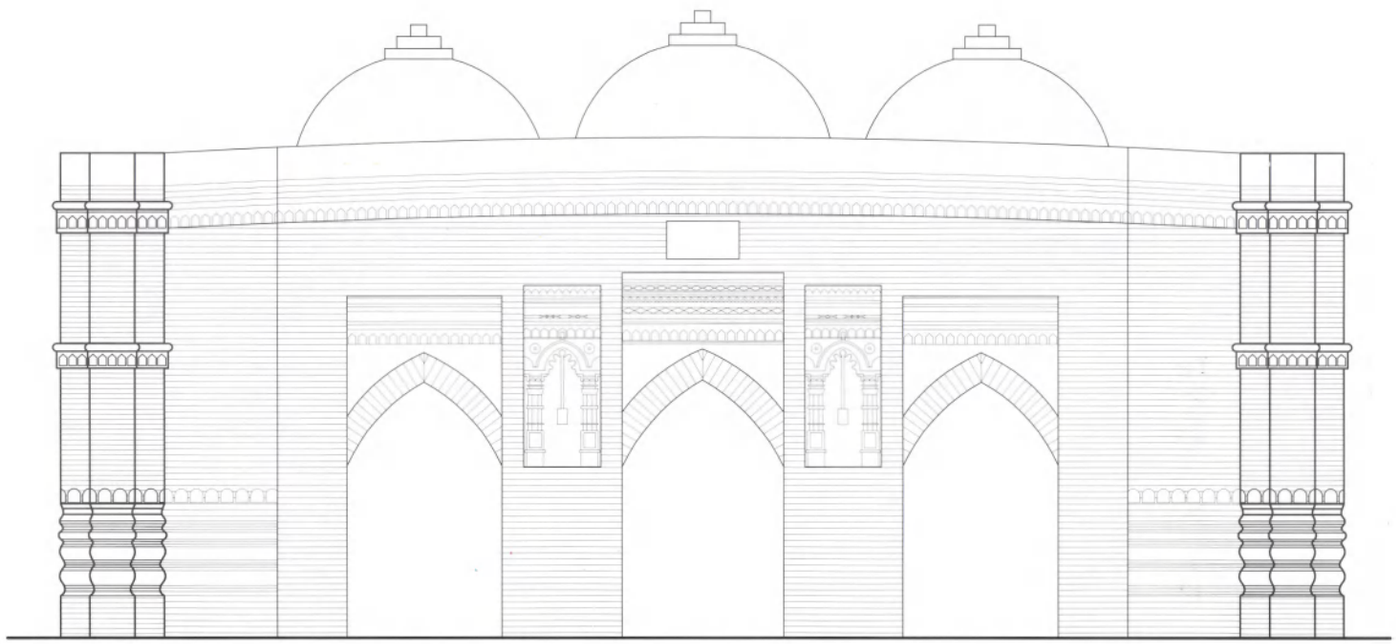
part contains an ornamental panel. The four outside corners of the mosque are buttressed by octagonal turrets. The turrets have a circular foundation at the plinth level, which is still visible. It proves that the turrets were once circular in shape, but the restorer had erroneously built the upper portion of the turrets as octagonal. These turrets have brick mouldings at the base, impressed with terracotta lozenge and the interspaces are embellished with terracotta frieze. These mouldings in the base continue up to certain distance in the side walls to integrate the corner turret with the facade.

The roof is supported on the arches rising from the two original monolithic stone pillars and the brick pilasters in the wall. The form and shape of these stone pillars are a little different from the stone pillars of Gaur and Bagerhat, but the same type of pillar is still in situ in the Bari mosque at Chhoto Pandua in India. They are octagonal in



105: Front elevation, Baba Adam mosque

shape at the base. The sixteen-sided shaft have a bell and chain motif. The brick pendentives at each corner transfer the square supporting area into a circular base. The prayer hall is covered by six hemispherical domes and the domes are crowned with a finial consisting of three stepped circular disc, which is not seen anywhere else in Bengal.

Traditionally, the mosques in Bengal have water spouts in the side wall, but this mosque has two extra water spouts in the *kibla* wall. Although it has been renovated, the inside and outside ornamentation of the mosque remains almost intact. Between the three entrances in the frontal façade, occur two rectangular terracotta panels placed at the springer level of the arch having hanging chain and bell motif. The upper part or cornice on all four sides is slightly curved. There are several mouldings in this cornice impressed with ornamentation. The interspaces between the mouldings are also ornate with continuous floral relief.

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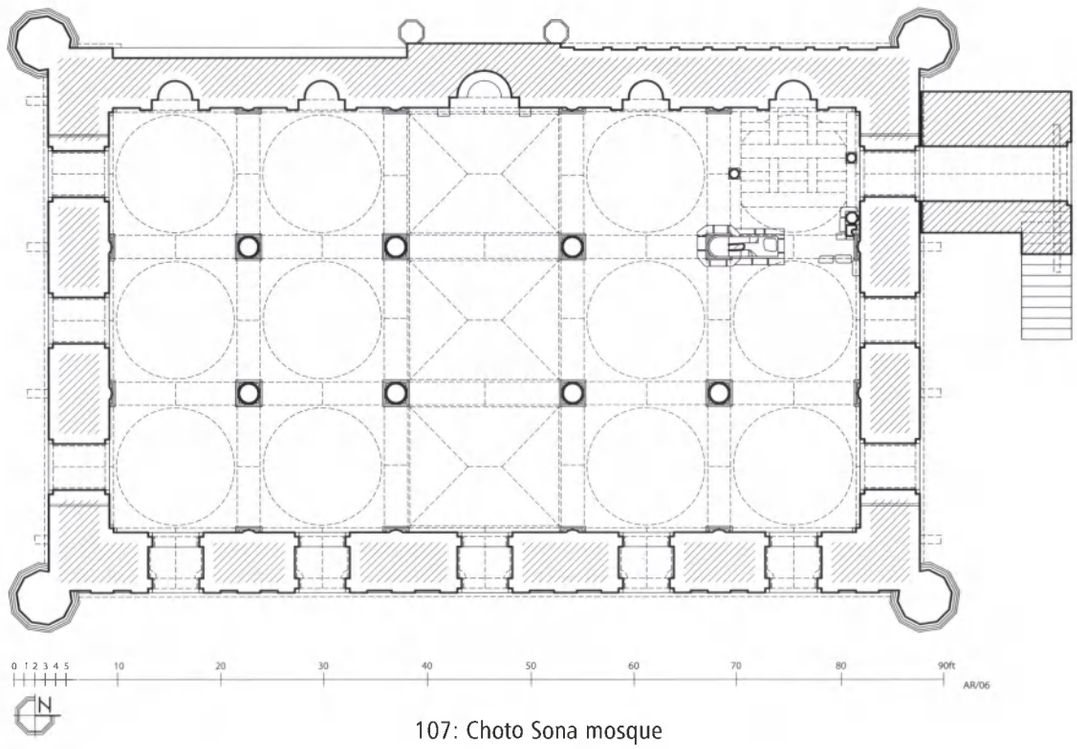
Gaur, Chapainawabnganj

CHHOTO SONA MOSQUE

1493-1519 A.D.

The Chhoto Sona mosque, meaning the little golden mosque, is regarded as "the gem of Gaur". It is situated on the eastern side of a road connecting Gaur in India and Nawabganj in Bangladesh. Gaur was the fortified capital of ancient Bengal. The mosque was built by one Wali Muhammad during the reign of Sultan Husayn Shah (1493-1519), an independent ruler of Bengal



107: Choto Sona mosque

(Dani 1961:136-38). This is evident from a broken inscription placed on the top of the middle doorway.

The Chhoto Sona mosque is an isolated building from its present neighbourhood and stands on an open piece of land in the southern side of a big tank. People perform ablution before the prayer with the water of this tank. The area of the mosque was enclosed with a boundary wall which is no longer existing. The front courtyard can be reached through the main entrance gate located at the central axis. The open courtyard was once paved with colourful clay tiles recently excavated by the Directorate of Archaeology(Plate 06). At a little distance from the gate stand two tombs. H. Creighton suggests that the tombs belong to the founder of the mosque and one of his kindred (Creighton 1871: XIV). On the south-eastern side of the courtyard is the new grave of Bir Shresto Mohiuddin Jahangir buried in 1971 during the Liberation War.

The mosque is a small building of great architectural merit in a seemingly good state of preservation. A part of the western wall along with three domes fell during the earthquake in 1897 and subsequently it was restored in 1900-07 by the Archaeological Department of India (Annual Report ASI 1908-09: 45). It has only one prayer hall with simple rectangular floor plan measuring 22.30x12.54 m from the inside. The hall is divided into three bays and five aisles. The middle aisle is broader and divides the prayer chamber in two parts. Each part consists of six quadrilateral areas covered by six semicircular domes. The central nave is divided into three rectangular areas covered with three special forms of vaults called *Chouchala*. It is derived from the traditional Bengali rural thatched roof form. The prayer

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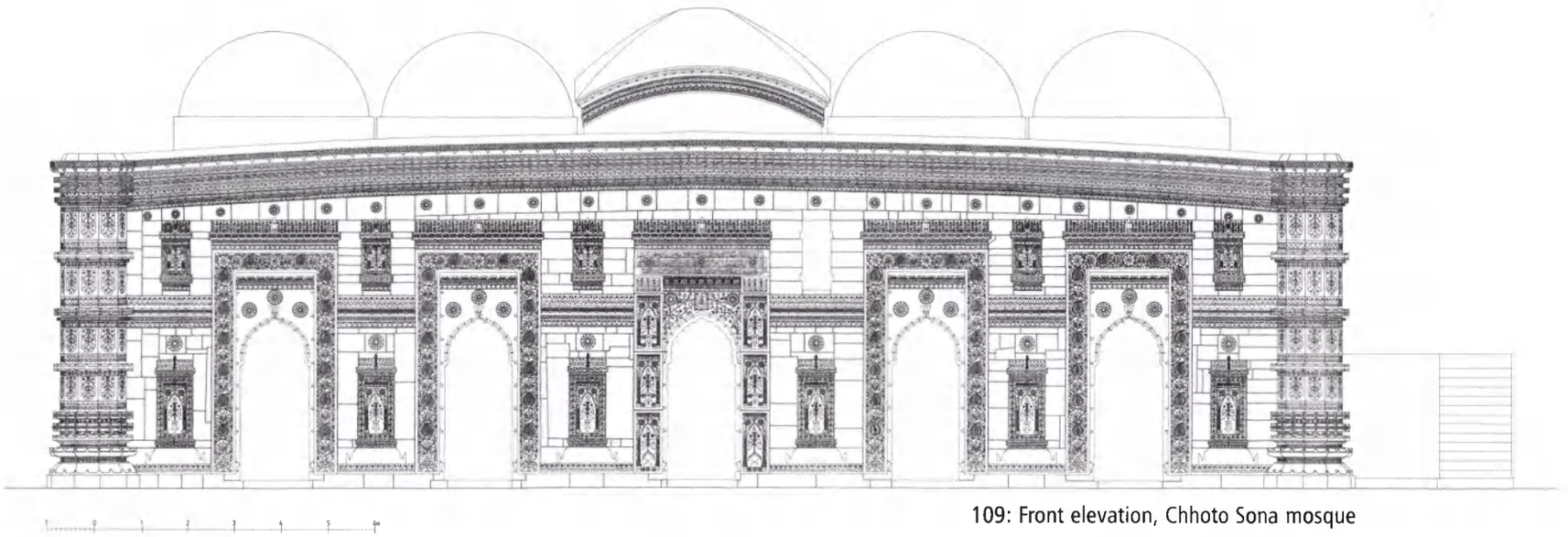
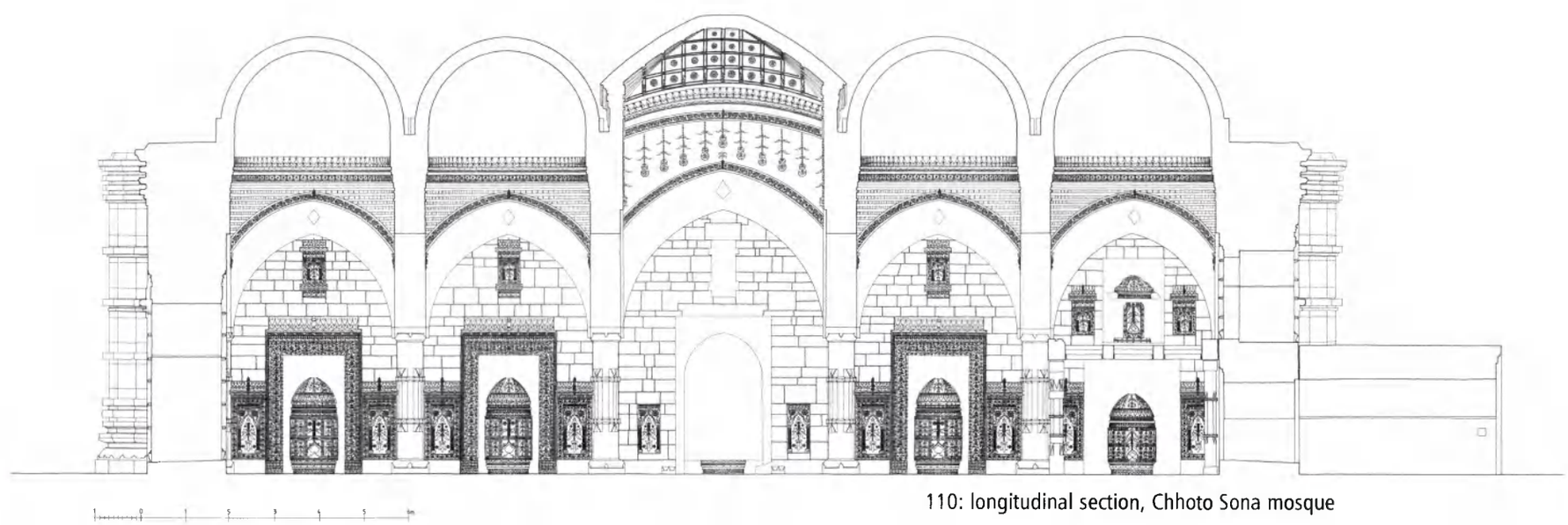
room is surrounded by a 1.78 m thick wall with an entrance from the east by five pointed multi-foil arched openings. Corresponding to each aisle is an opening in the eastern wall leading directly to a niche in the *qibla* in the western wall with five *mihrab* niches. The total number of openings in both northern and southern walls is three.

Each of the four outside corners has a ten-sided turret enhancing the beauty and monumentality of this mosque without having any functional and structural utility. There are also two octagonal corner turrets at the back of the projected wall of the central *mihrab* niche. Only the foundation of these corner turrets is in situ. The remaining parts are lost. In the north-west corner of the prayer hall is a raised stone gallery reserved only for the rulers or dignitaries. A flight of steps leads to the entrance platform for this gallery, which is attached to the north-west side of the mosque. Like the traditional rural bamboo hut, the roof of the mosque is sloped in both north-south and east-west direction to remove rainwater. The rainwater disposes through four spouts in each side and the total number of spouts is eight. All the walls are faced with black basalt stone up to the bottom of the arches inside and up to the edge of the cornice outside.

The exterior facades are richly decorated; all the motifs are carved in stone. The upper part or cornice of all the four sides is gently curved. There are four mouldings in this cornice impressed with ornamentations. The interspaces between the mouldings are also ornate with continuous floral motifs.



109: Front elevation, Chhoto Sona mosque



110: longitudinal section, Chhoto Sona mosque

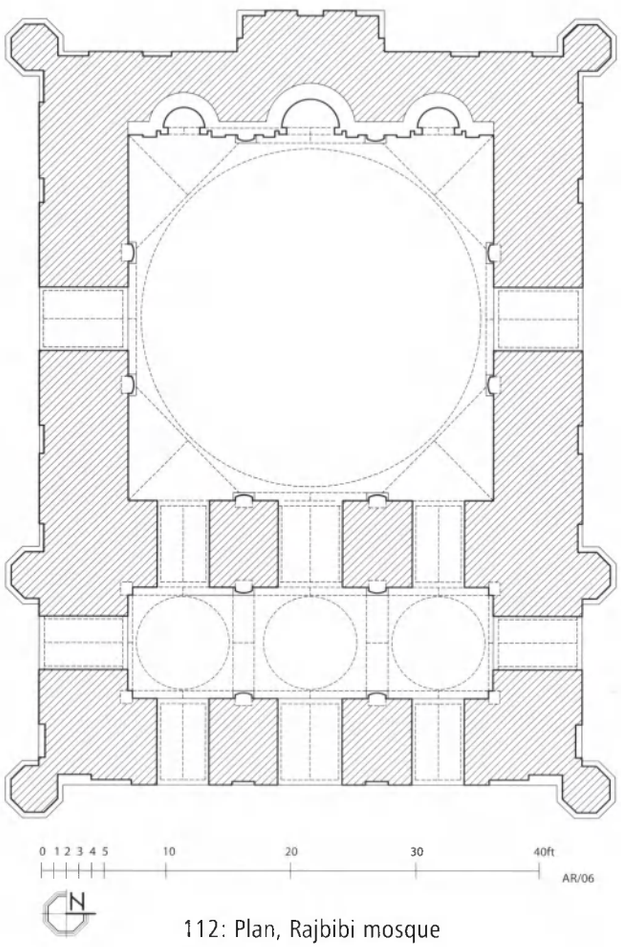
111

Gaur, Chapainawabganj

RAJBIBI MOSQUE

15th century A.D.

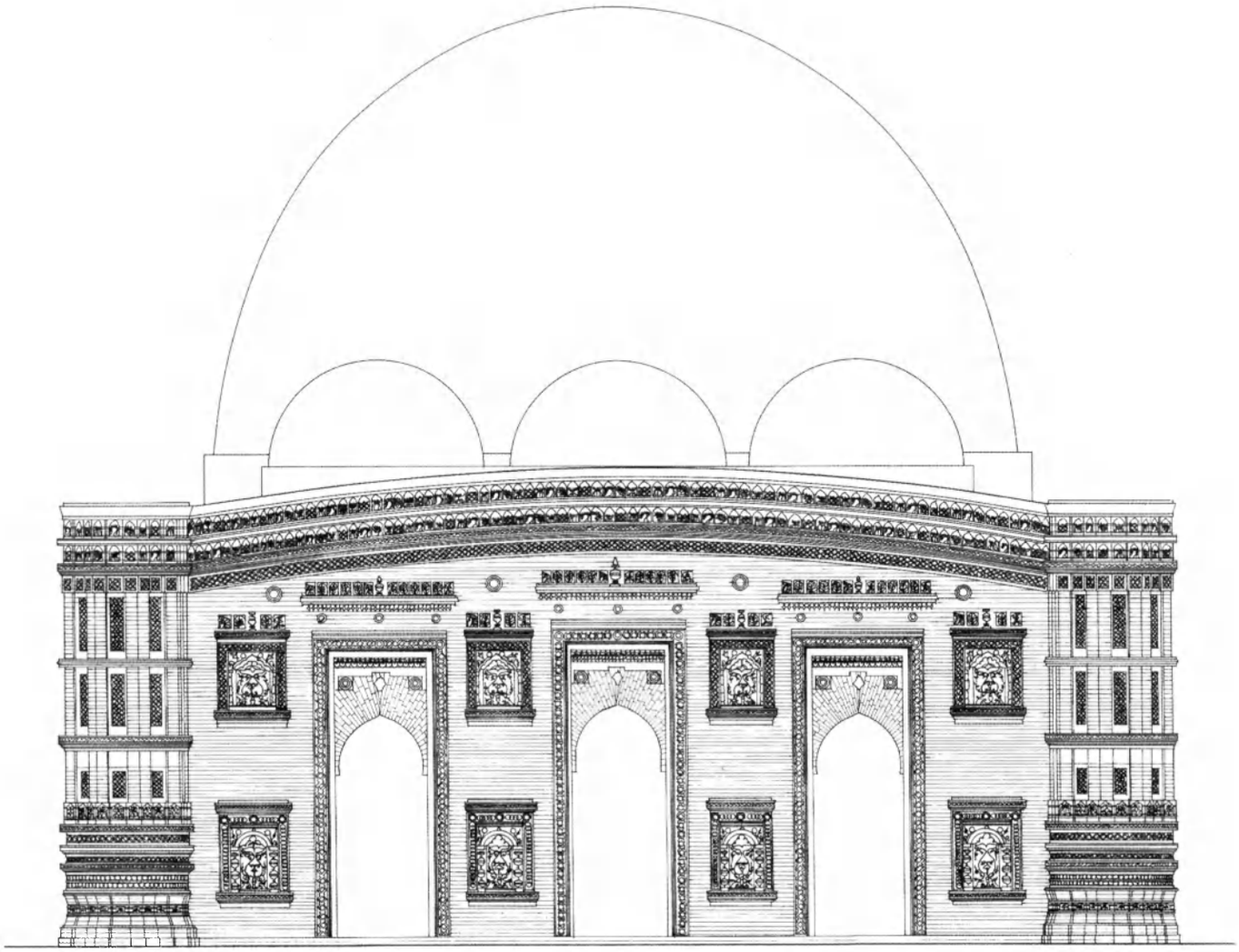
From the literal meaning of the word Rajbibi (royal lady) it can be presumed that this mosque was built at Gaur, Chapainawabganj by an influential family member of the ruler. The time of founding cannot be ascertained as there is no inscription. According to S. M. Hasan, "it may be placed between the early Ilyas Shahi



112: Plan, Rajbibi mosque

period and the Husayn Shahi period, that is, during the restored Ilyas Shahi dynasty which ruled from 841A.H./1437A.D. to 892A.H./1487A.D. (Hasan 1979: 208). This small mosque lies on the western side of the tank *Khania dighi*, the orientation of this tank towards east-west proves that it was dug by a Muslim ruler.

The mosque belongs to the group of square-shaped plan with a foreroom. The old photograph of the mosque shows that the outer surface, the foreroom and the corner turrets had fallen down, but it was reconstructed by the Directorate of Archaeology of Bangladesh in 1990. The mosque measures externally 17.78 m by 13.05 m and internally the prayer hall is 8.85 m square with a 2.67 m wide foreroom. There are three arched openings in the east facade and one at each side of the foreroom. The main hall is accessed by three openings from the foreroom and has one opening at each of the north and south side. Corresponding to the eastern openings there are three *mihrab* niches in the *kibla* wall. Each of these *mihrab* niches, contained within a rectangular frame, is arched with multi-foil cusps in the face. The outside of the *kibla* wall shows a projection of the main *mihrab* niche. All the walls are brick-built with a stone layer at the plinth level and another stone layer in the lintel level. At the time of reconstruction a stone layer was introduced in the mid-level of all the corner turrets. Only the *kibla* wall is faced with stones from within. There are six octagonal turrets at the corners: four at the corner of the main hall and two in the



113: Front elevation, Rajbibi mosque
(Pundranagar to Sherebanglanagar-Architecture in Bangladesh, 1997)

foreroom. These turrets have brick mouldings at the base, impressed with terracotta lozenge and the interspaces are embellished with terracotta frieze.

The main prayer hall is roofed over by a semicircular dome. The shoulder of the dome is decorated with merlon and projected mouldings from within. The extrados of this dome is restored as a smooth surface, but after showing the different examples in Gaur and the photographs before restoration, it can be assumed that the extrados of the dome had a series of bands. The foreroom is divided into three unequal bays by two lateral arches running from the east to west wall. These arches are also supported by stone pilasters engaged in the corresponding walls. The roof of the ruined foreroom is rebuilt by the restorer with three small domes, but there is doubt whether the middle part of the foreroom was covered with a semicircular dome. In the old photographs, the pendentives on both side-domes are clearly visible, but the central area has no evidence of such pendentives. Besides, the central bay is rectangular and wider than the flanking units. Hence we can assume

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that the central rectangular area of the foreroom was most likely covered by a *Chouchala* vault like the Latton mosque at Gaur.

The exterior facades are richly decorated and marked by two rows of rectangular panels. Each of these panels is embellished with a cusped arch on pillars framing a typical chain and bell motif within. The upper part or cornice on all four sides is gently curved. There are three mouldings in this cornice impressed with ornaments. The interspaces between the mouldings are also ornamented with continuous floral motifs. At the bottom is a necklace and tassel design, in the middle a jalli pattern and in the topmost a pattern of arched niches filled in with rosettes.

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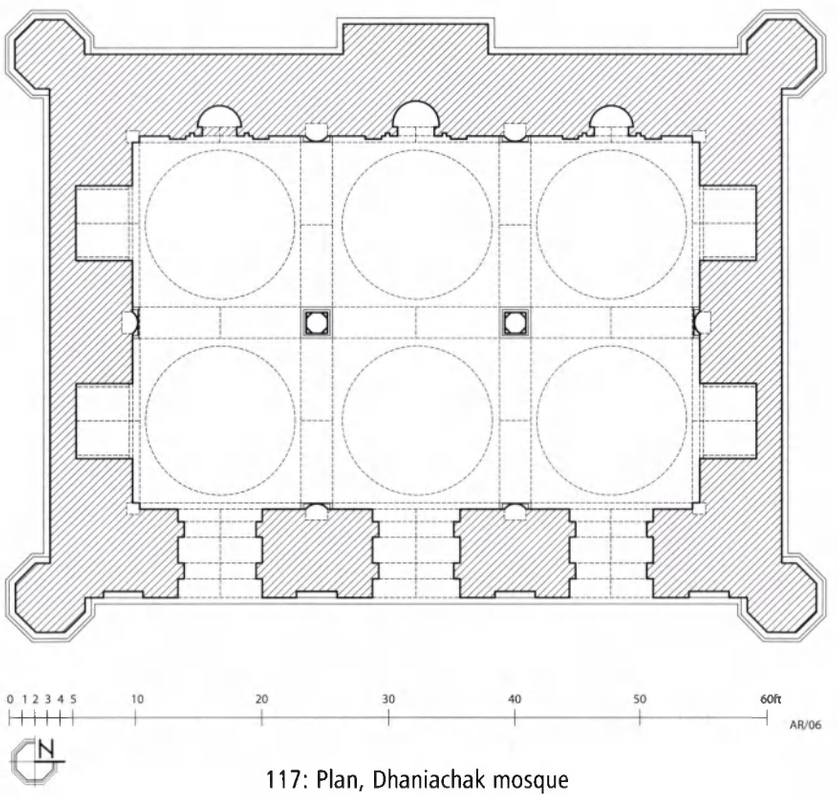
Gaur, Chapainawabganj

DHANIACHAK MOSQUE

15th century A.D.

The Dhunichak mosque is situated in the southern suburb of the old city Gaur and presently in the village Shahbajpur under Shibganj upazilla of the District Chapainawabganj. This mosque bears no inscription, but after comparing similar mosques, such as the Shahi mosque at Basirhat (871A.H./1466A.D.), the Hathazari mosque at Chittagong (879A.H./1474A.D.) and the Baba

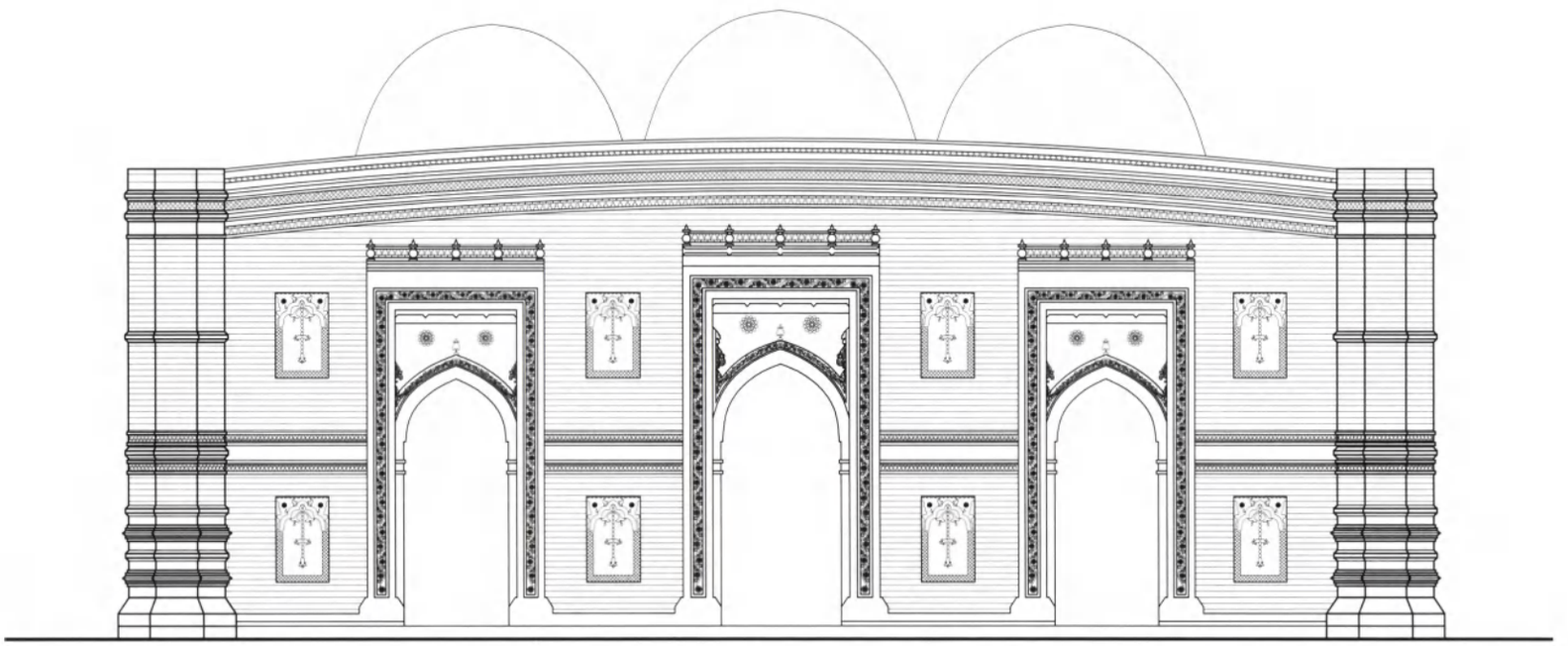


117: Plan, Dhaniachak mosque

Adam mosque at Rampal (888A.H./1483-84A.D.), it can be presumed that it was probably constructed in the late fifteenth, when three-aisled mosques were popular in Bengal.

The Dhunichak mosque is an oblong shaped mosque, measuring 13.40 m by 8.78 m internally surrounded by a 1.94 m wide brick wall. The mosque is almost ruined except parts of the *kibla* and the northern wall. The eastern and the southern walls along with the four octagonal corner turrets had disappeared, but the foundation of the turrets and some portion of the foundation wall could be observed. The *kibla* wall contains three *mihrab* niches. The central *mihrab* niche in the *kibla* wall is higher and wider than the rest and faced with a pointed cusped arch with ornate finial. The outside of the *kibla* wall shows a projection of the main *mihrab* niche. There are two openings in the northern wall, which were later sealed with brick. The prayer hall is divided into three aisles and two longitudinal bays by a row of two freestanding black basalt pillars still in situ. The shafts of those pillars are monolithic like the conventional stone pillars in Gaur whereas the capital and the base are also from two different pieces of stones. The remnants of the pendentives in the north-west corner of the mosque still exist. An example of a monolithic stone water spout lies in front of the mosque. Till the end of 2005 it was one of the best preserved remnants in Bangladesh. The unfold section of a living ancient edifice can help an architectural historian search his unsolved queries about the construction system of that period.

Unfortunately this mosque was recently reconstructed



118: Front elevation, Dhaniachak mosque

using modern technique and building materials, and new ornamental details by the Directorate of Archaeology. The whole eastern wall, parts of the southern wall, supporting arches for the dome, all hemispherical domes and their pendentives and the floor were reconstructed. According to the surviving foundation, the east facade was rebuilt, which contains three arched entrances corresponding to the three mihrab niches in the *kibl*a wall. Two freestanding stone pillars and six partly concealed pilasters support the roof of six equal hemispherical domes. The brick pendentives at each corner of a square grid transfer the square supporting area into a circular base, upon which six new hemispherical domes rest. The shoulder of the dome is ornate from within with a row of mouldings impressed with terracotta lozenge and a row of merlon above it.

The restorer tried to reproduce the original facades once ornate with terracotta. But it shows some definite symptoms of erroneous restoration such as: the rectangular frame of all three openings has an unusual pedestal on each side; the space reserved for the ornamentation in this frame is comparatively very narrow than the boarder; horizontal string course placed in the lower part instead of the middle; projected mouldings in the center of the string course is discarded;

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absence of horizontal mouldings in the upper and lower part of all rectangular terracotta panels, series of separate rosettes instead of interlocking rosette are used for the decoration of the interspaces between the mouldings in the lower part of the corner turret; space between the cornice and middle frame is too narrow. The upper part of all four sides is reconstructed as typical curved cornice of the Sultanate period. There are four mouldings in this cornice impressed with ornaments. The interspaces between the mouldings are also ornate with continuous floral relief.

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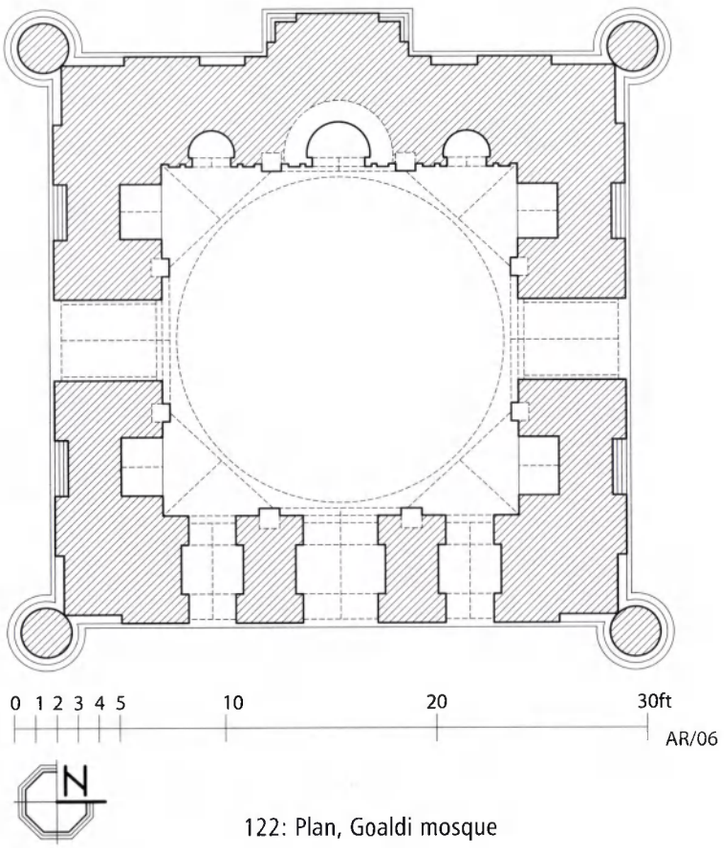
Sonargaon

GOALDI MOSQUE

1519 A.D.

Goaldi mosque is a very nice edifice. It was built following the style of square shaped mosque found in Bagerhat during the regime of Khan Jahan Ali. This small neighborhood mosque is located in the village Goaldi at Sonargaon upazilla under Narayanganj district and about half -a-mile north-east of the ancient Panam city. According to an inscription slab which was once

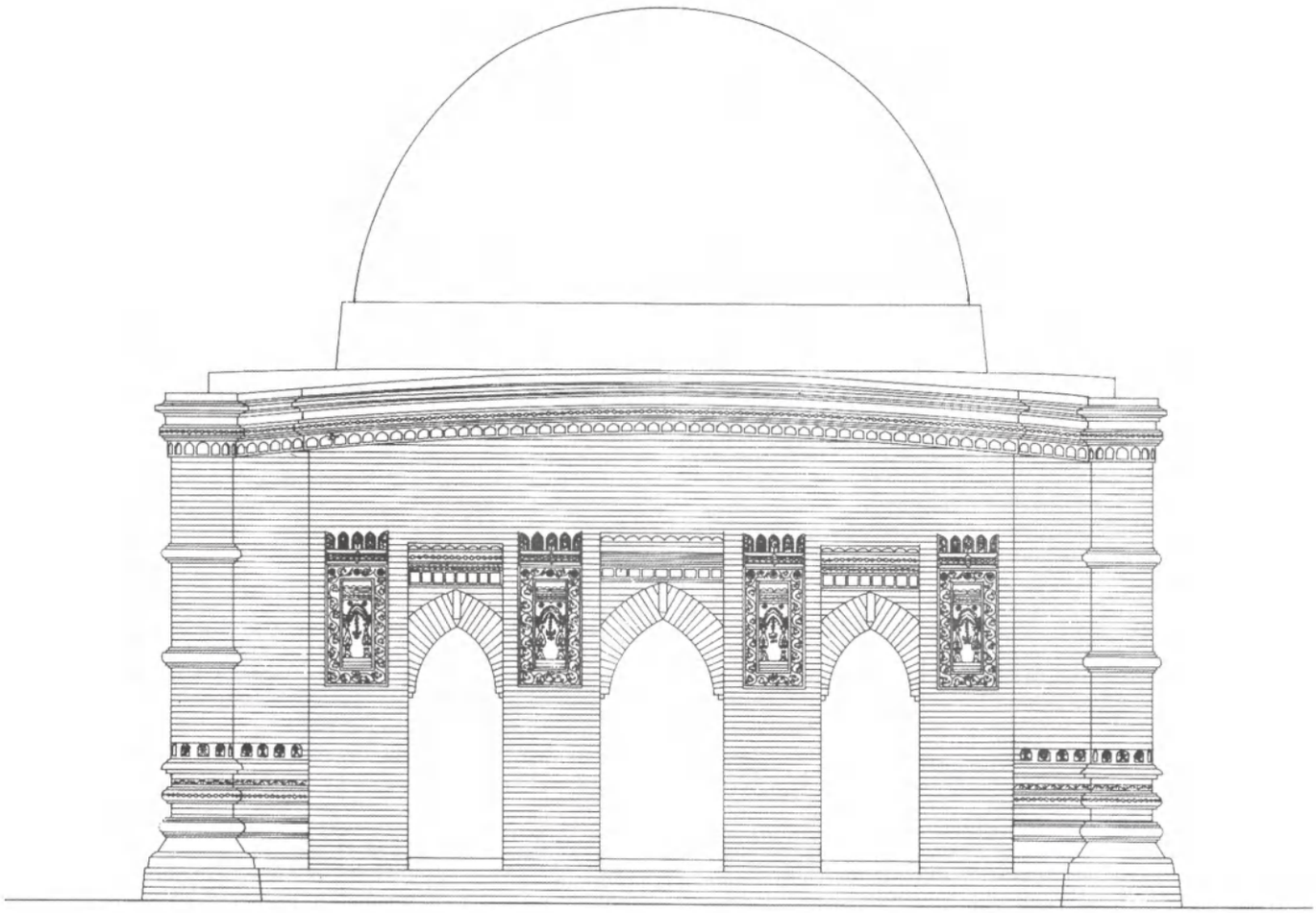


122: Plan, Goaldi mosque

fixed over the entrance door, this mosque was constructed in 925A.H./1519A.D. during the reign of Sultan Alauddin Husayn Shah by the Mulla Hidjbr Akbar Khan (Cunnigham1882:143). Before the restoration in 1975A.D. by the Directorate of Archaeology of Bangladesh, the dome and major portions of the south, east and north walls had fallen down, the only exception being the *kibla* on the west (Hasan 1984:186).

The Goaldi mosque has a square shaped prayer hall measuring 4.90 m square internally with a 1.65 m wide surrounding wall. The layout of the mosque shows a strong deviation by fixing the Mecca direction. The *kibla* wall of the mosque is 21° inclined towards south from west. It has three entrances in the eastern wall. The central one is higher and wider than the flanking ones. The wall on the south and north contains one arched opening in the centre flanked on either side by a shallow niche like a blind entrance from outside and a spear-headed multi-cusped arched lamp-niche from within. The opening in the eastern wall is a combination of three successive pointed arches, while the opening of the side wall is covered by a single pointed arch. Each opening is contained within a rectangular panel, a little recessed in the wall. These recessed panels end at the top by triple horizontal mouldings above the spandrel, which are impressed with terracotta lozenge.

In the *kibla* wall there are three *mihrab* niches corresponding to the entrance on the eastern wall. The central *mihrab* niche, faced by black basalt stone, is larger than the other two brick faced *mihrab* niches, like the central entrance opposite to it. There is a multi-foiled arch on the frontal side of the central *mihrab*. The arch rises from decorated octagonal pilasters and ends in a spear-headed detail. They are bordered within two rectangular frames. The central *mihrab* is beautifully ornate with carved floral and arabesque relief, while the flanking ones are decorated with delicate floral and geometrical pattern in brick and fine terracotta work. The outside of the *kibla* wall shows a projection of the main *mihrab* niche. There are four round turrets at each outside corner and divided into three parts by the mouldings. This is the only example of a circular turret



123: Front elevation, Goaldi mosque
(Pundranagar to Sherebanglanagar-Architecture in Bangladesh, 1997)

instead of an octagonal turret in the mosques in this eastern region of Bangladesh. In the plan it is clearly visible that the shaft of the turret does not interlock in the corner masonry, but only touches the corner of the wall and hence the pure circular form is visible. This is probably an error during the reconstruction time. Two stone pilasters are engaged in each of the side brick wall, from which the corner squinch springs. The transformation of the square supporting area to a circular base is achieved, firstly by four squinches at each corner and after that a slightly sloped pendentives to make it a perfect circle, upon which the hemispherical dome rests.

The solid surface in between the doors and the corner turrets of the exterior wall are decorated with terracotta panels. The eastern, northern and southern outside surfaces are embellished with four terracotta ornamented panels decorated with chain and bell motif, which is very popular in Gaur. Arches used in these panels and also in the *mihrabs* are spear-headed multi-cusped type arch.

The cornice of the roof is curved; the upper part or cornice on all four sides is gently curved. There are four mouldings in this cornice impressed with ornaments. The interspaces between the mouldings are also ornate with continuous floral relief. Combination of all these details acts as a highly decorated and rhythmic finishing of the building.

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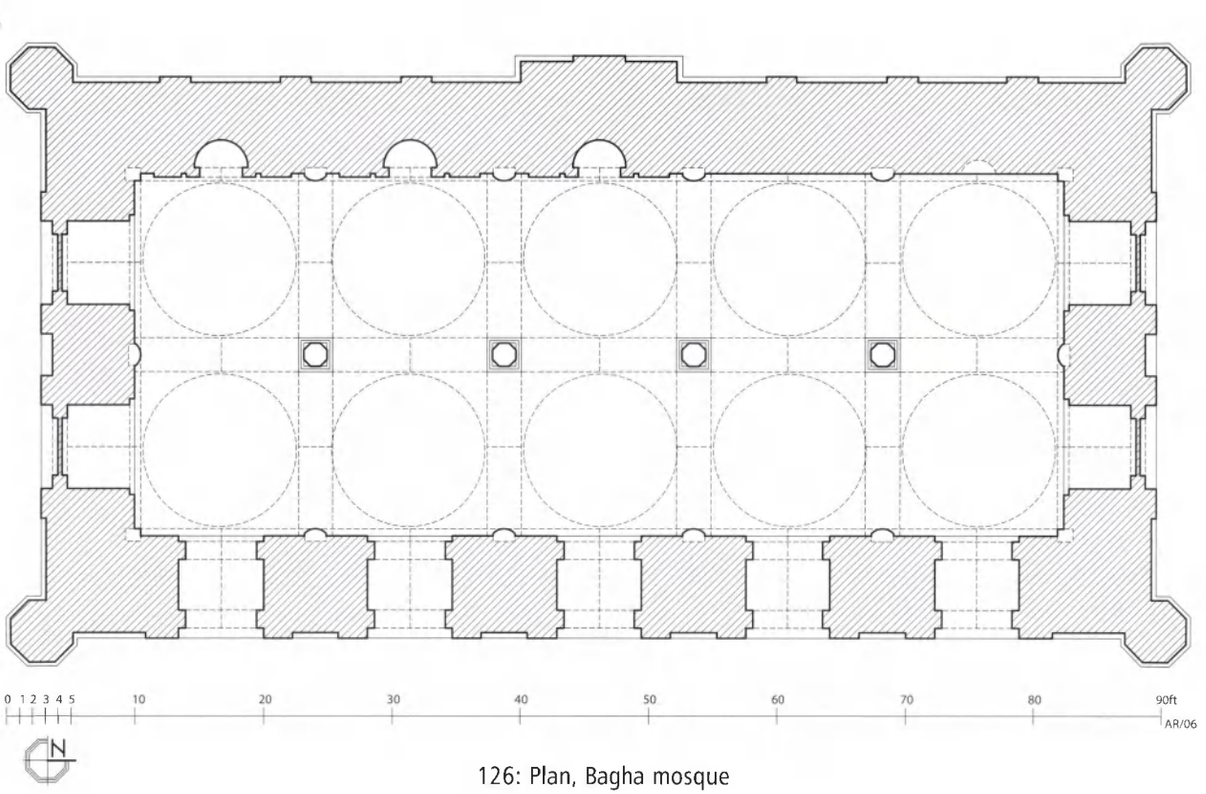
Bagha, Rajshahi

BAGHA MOSQUE

1523 A.D.

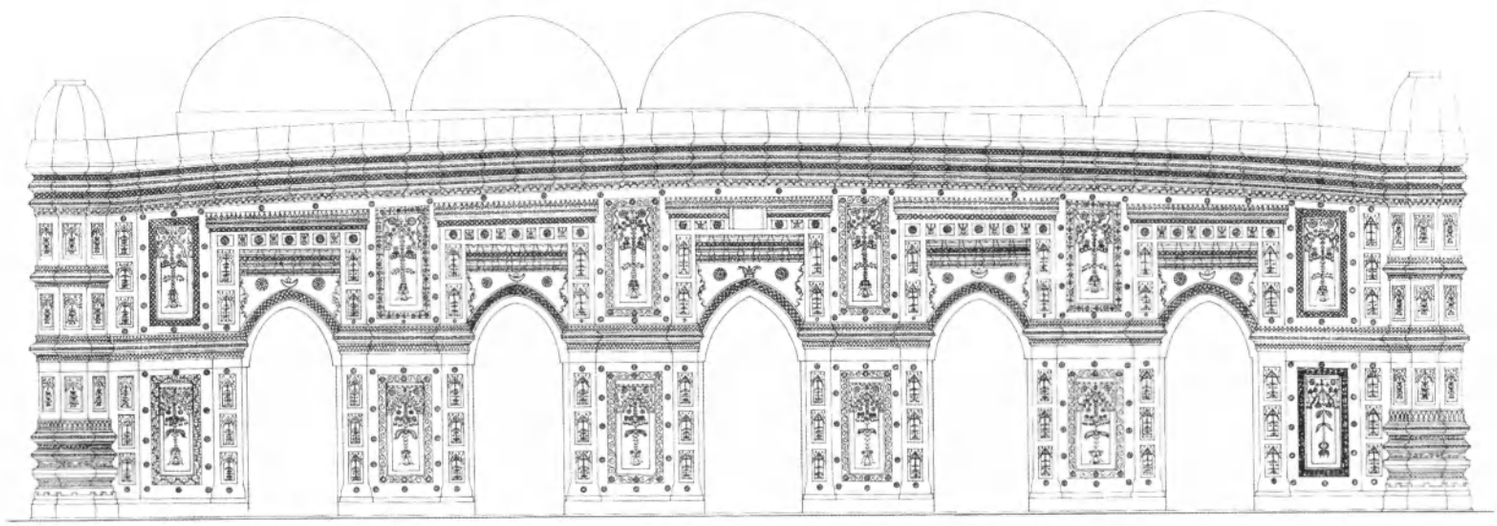
The mosque lies near the upazilla headquarter of Bagha, about 35 km south-east of Rajshahi city. According to an inscription earlier fixed over the central entrance (at present in Karachi), the mosque was built in 930A.H./1523-24A.D. by Sultan Nusrat Shah, (S. Ahmed 1960 :212). It is an isolated mosque standing on a high mound of earth and stands within a



126: Plan, Bagha mosque

compound surrounded by a low wall. It is accessed through two arched gateways from the north and south. A big tank was dug on the eastern side. This mosque was seriously damaged in the earthquake of 1897 when all the domes and the eastern wall collapsed (S. Ahmed 1960:213). The praiseworthy restoration was undertaken in 1978 by the Directorate of Archaeology Bangladesh.

The boundary wall with two entrances and the evidence of the ruler gallery shows that it belongs to the group of a Friday mosque. It is apparently in a good state of preservation and is an oblong shaped mosque measuring 26.35 m by 12.86 m externally. The prayer hall is divided into five aisles and two longitudinal bays by a row of four freestanding black basalt pillars. The shafts of those pillars are monolithic like the conventional stone pillars in Gaur whereas the capital and the base are also from two different pieces of stones. The external brick wall is 2.23 m thick and has two stone layers. One stone layer is placed at the plinth level and the other is placed at the lintel level. The prayer hall is accessed from the east by five identical pointed-arch openings, and the side walls contain two openings sealed at present. A stone lintel proves the existence of perforated bricks in the side openings for ventilation and lighting. The *kibla* wall contains four richly ornate terracotta *mihrab* niches: the three southern aisles have one *mihrab* each; the fourth aisle has no *mihrab* which was probably a place for a *minbar*. The fifth or the northernmost aisle has a small *mihrab* niches placed at the upper level. This small *mihrab* proves that there was a raised gallery covering the north-western part of the prayer hall. Similar to the



127: Front elevation, Bagha mosque
(Pundranagar to Sherebanglanagar-Architecture in Bangladesh, 1997)

gallery of the Kusumba mosque at Rajshahi, this raised gallery was probably accessed from the interior of the hall, while the adjacent side in the northern wall has no entrance in the gallery level. The four corner turrets octagonal in shape, one at each corner, are divided into five tiers by horizontal mouldings, and are covered by a plain solid cupola. Four freestanding stone pillars and ten partly concealed pilasters support the roof of ten equal hemispherical domes. The brick pendentives at each corner of a grid transfer the square supporting area into a circular base, upon which the hemispherical domes rest.

Bagha mosque in Rajshahi is worth mentioning for its profound terraccota ornamentation, although much of the original terracotta panels are replaced by new replica panels. The wall surfaces and the octagonal corner turrets are decorated with various terracotta motifs. The wall surface is vertically divided by a string course, with a lozenge on its face, run all around the four walls and breaking only at the position of all openings. Above and below the string course, are friezes of upright and inverted merlons respectively. All the openings and the *mihrabs* are set within ornate rectangular frames that are surmounted by ornamental merlons. Spaces

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between these rectangular frames for the opening are adorned with two large rectangular terracotta panels, placed one above the other. Each panel is encircled by a frame of tendrils, and a chain and bell motif inside. The upper part or cornice on all four sides is gently curved. There are four mouldings in this cornice impressed with ornaments. The interspaces between the mouldings are also ornate with continuous floral frieze motifs.

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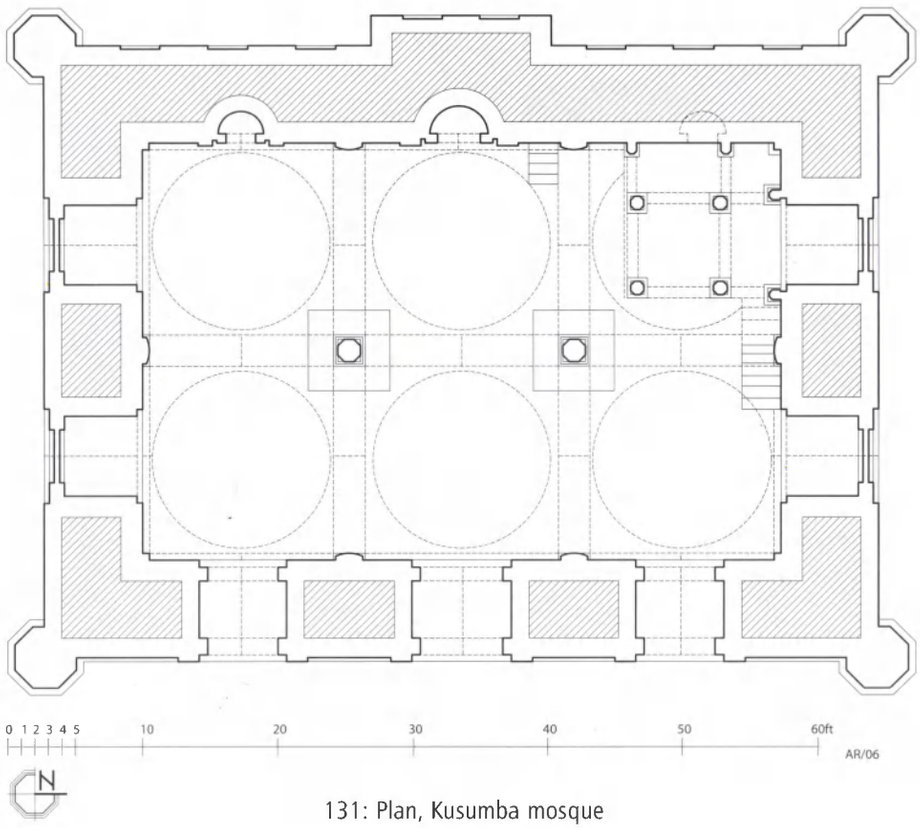
Naogaon

KUSUMBA MOSQUE

1558 A.D.

Kusumba mosque, termed as the Black Gem of Bengal, is situated at the village Kusumba in Naogaon. According to an inscription it was erected by a patron Sulayman in 966A.H./1558A.D. during the reign of Ghiyath al-Din Shah (Hasan 1987:231). It is located on the west bank of a big tank measuring 381 m by 274 m. There is a big courtyard in front of the mosque



131: Plan, Kusumba mosque

surrounded by a low boundary wall. This mosque is still in a good state. Stone was scarce and was used to build the finest edifices in Bengal. Only six stone mosques exist in greater Bengal that was built during the early Islamic or Sultanate period. Kusumba mosque is one of them. Stones of this mosque are dark black-basalt which was shipped from Rajmahal hill of Bihar.

This mosque conforms to the typical oblong enclosed mosques in Bengal built during the early Islamic period. The interior of the prayer hall is divided into two bays and three aisles surrounded by 2.26 m thick wall. The prayer hall, at present, has stone pavement which is not the original floor. The stone layer at the bottom of the surrounding wall and the exposed foundation of the pillar prove that the original floor was elevated than the present level. The mosque has access only from the eastern side by three pointed archways and the north and south sides have two arched openings. These side openings are closed by perforated stone screens up to the lintel level. A long single monolithic stone decorated with rosettes is used as lintels. The area (tympanum) between the lintel and the arch is sealed with stones. Anchor stone for holding the door post can be observed in both sides of the three frontal openings from which the existence of a pivotal wooden shutter is evident. The *kibla* wall contains three highly ornate *mihrab* niches; among them the northern one is placed at the level of the raised gallery. The walls are built of brick core with stone facing up to the bottom of the arches from within and the whole outside surface. The arches and the roof are brick-built. Two freestanding stone pillars and eight partly concealed pilasters support the roof of the six

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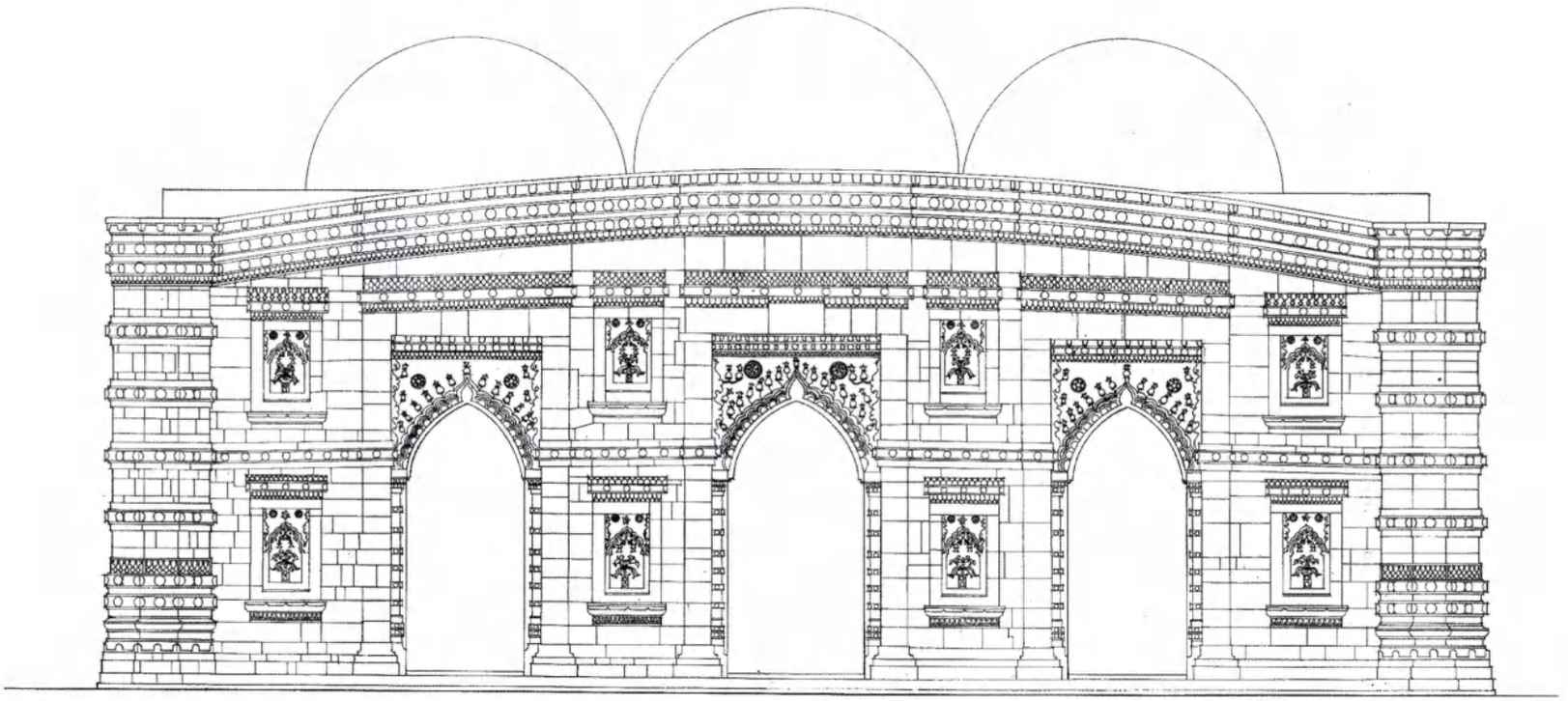
domes. This mosque has only four octagonal corner turrets, one at each corner of the building. These turrets invariably form a part of the buildings, and are built either to reinforce the corners or merely as ornamental appendages.

The Muslim rulers were introduced to the Bengali architecture and Islamic features like the dome and the pointed arch and certain local tendencies that belonged to Bengal as well as to Islam. The foremost of these was the curved cornices, which was reproduced by the Muslims in their work from the traditional rural bamboo hut. It ensured quick drainage of rainwater. This typical curved cornice is also observed in four facades of the Kusumba mosque.



134: Front elevation, Kusumba mosque
(Pundranagar to Sherebanglanagar-Architecture in Bangladesh, 1997)

At the north-west corner, there is a well-designed raised gallery on four stone pillars. The raised gallery is accessed by a single flight of stairs from the ground level of the prayer room. There are no traces of hand railing in these steps. This is the only surviving example of an unscreened internal connecting staircase. But the place for male worshippers in Kusumba mosque defies all justification of the historian, who termed this type of raised space in the prayer hall as ladies' gallery in different Jami mosques in Bengal. It can be a *Badshah Ka Takht* or King's gallery, is a place for the sultans or rulers or builders and their immediate entourage, although this segregation of worshippers is contrary to the spirit of Islam. The stone carving of the mosque shows no novelty but betrays its pre-Muslim workmanship.

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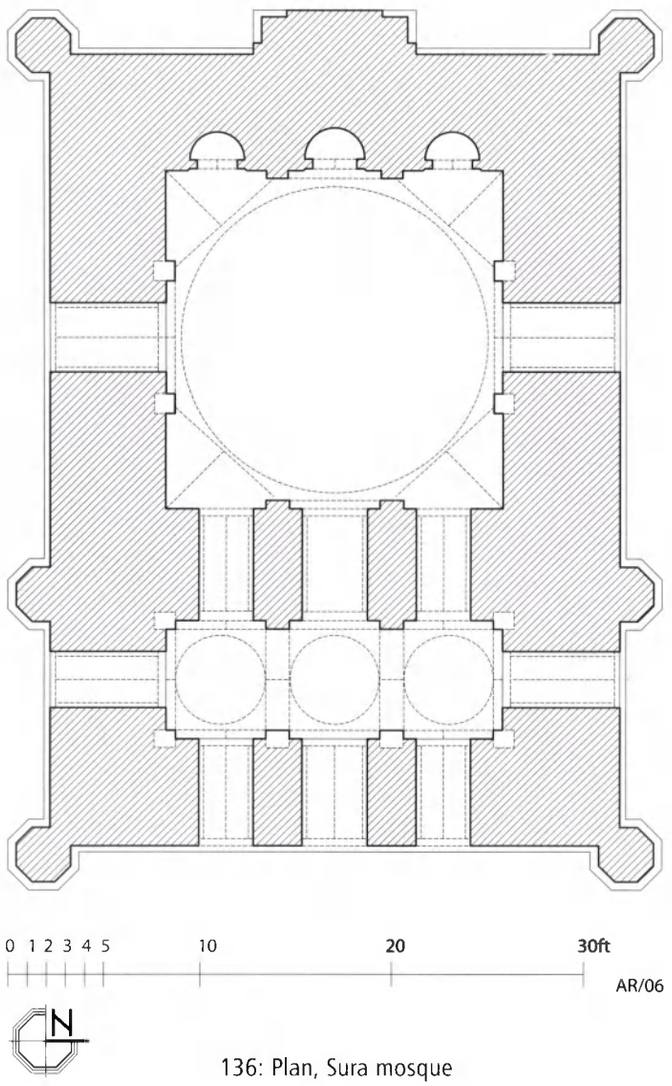
Dinajpur

SURA MOSQUE

16th century A.D.

The Sura mosque stands in the village Chorgacha under Ghorahat upazilla in Dinajpur district; about six kilometers from the upazilla headquarter. Although unadorned, the Sura mosque is dated back to the early sixteenth century in the light of its close links with dated monuments of that time. "Recently an inscription of the time of Alauddin Hussain Shah, dated at 910 A.H. /1504

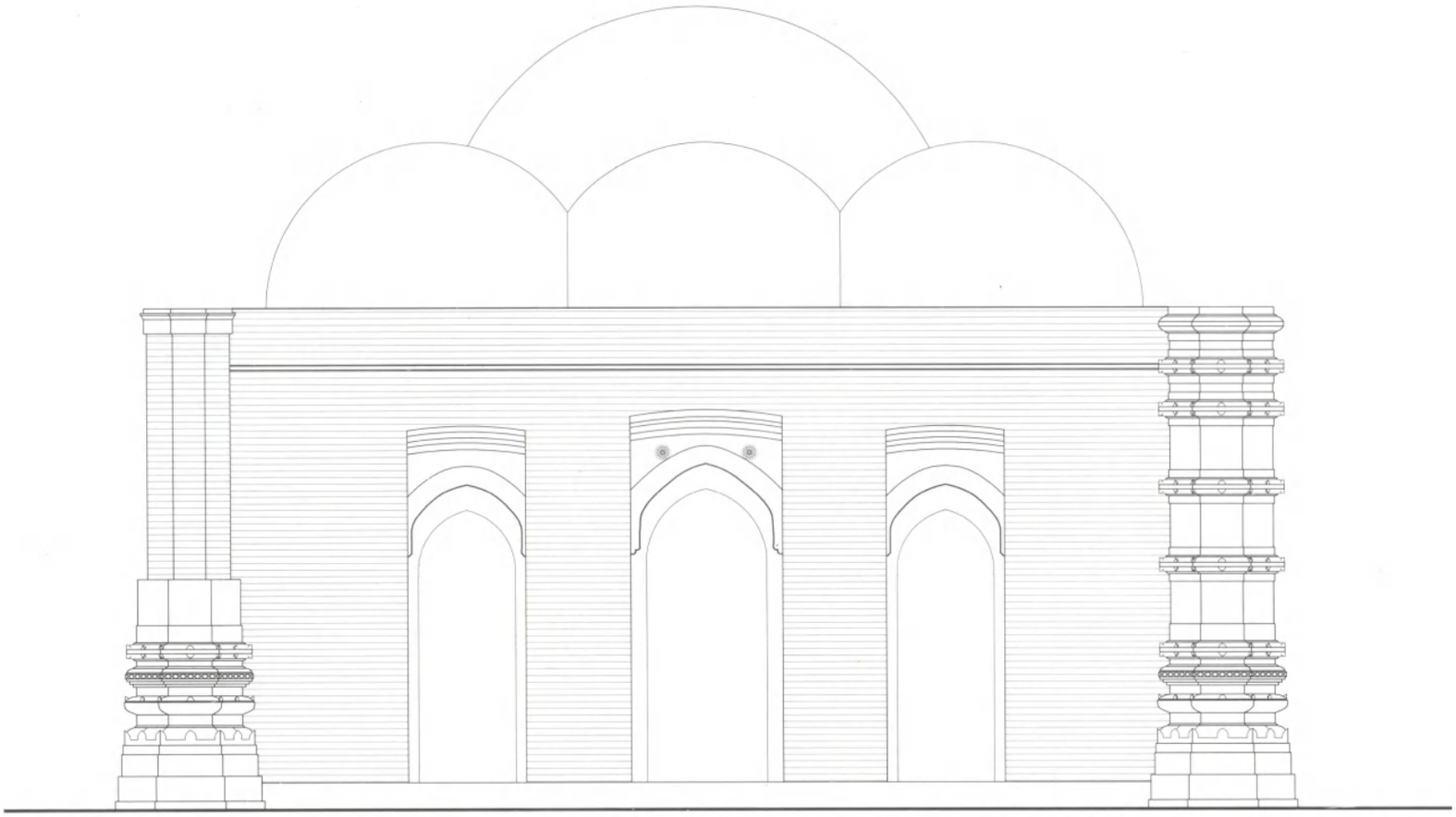


136: Plan, Sura mosque

A.D. has been discovered in the village Champatali, a few miles away from the place. It records the construction of a mosque. If this inscription is taken to have any connection with the mosque at Sura, the year 1504A.D. can be assumed as the date of its construction" (Banglapedia 2003: 480).

The mosque stands on a raised mound of earth and is approached from the east by a flight of steps. There is a long tread through an arched gateway built of brick. In order to make the area sacred, the open *shan* or courtyard was originally encompassed by a high boundary wall, which is now at the level of the plinth.

The Sura mosque belongs to the group of a square shaped room with a foreroom. It has a 4.87 m square prayer chamber flanked on the east by a 1.82 m wide foreroom and measures externally 8.53 m by 12.50 m. Both forerooms and the prayer hall have three entrances each on the eastern, northern and southern side. The *kibla* wall contains three *mihrab* niches of stone enclosed within rectangular frames. The central *mihrab* niche has an outside projection in the *kibla* wall. There are six octagonal corner turrets, four in the main room and two in the foreroom. All the turrets are faced with stone slabs and have mouldings at the base, at the middle and on the top, which recalls the turret of the Chhoto Sona mosque at Gaur. The upper part of the six octagonal turrets has disappeared save two. These two are still complete and in situ. Historian A.H. Dani published an old image of this mosque, where a brick kiosk instead of a typical cupola is observed upon the



137: Front elevation, Sura mosque

southwest corner turret. The cornices were originally curved, but made straight during the restorations in the later times. Eight stone pilasters along with the enclosed walls support the squenches at each corner of the prayer hall. Finally, the small brick pendentives make the circular supporting area, upon which rests the dome of the hall. The transformed fore-room contains the brick pendentive. It is roofed over by three small domes.

The brick walls are faced with stone slabs from within and the outside surfaces have some evidence of richly decorated terracotta panels. All the interior surfaces are faced with black basalt stone and have rich carving work of terracotta imitation. The three semicircular *mihrab* niches faced with an engrailed pointed arch are supported on ornate octagonal pillars. The surface panels of the niches bear an exact resemblance to the terracotta panel in the southern façade. The shoulder of the dome from inside shows the terracotta friezes with continuous merlon, intersecting neckless with pendants and several mouldings faced with rosette. A stone string course runs horizontally through the mid-level of all four facades. Spaces between the corner turret and the opening were probably adorned with several repetitive rectangular terracotta panels, placed one above the other. Example of such kind of ornamentation is still in situ in the southern wall. The combination of the terracotta-panelled outside façade with stone faced octagonal corner turrets is the only example of the "brick and stone style architecture" in Bangladesh.

MUGHAL PERIOD

140: Sat Gambuj mosque in Dhaka
Drawn by Sir Charles D'Oyly, 1814

139: Atiya Mosque at Tangail, Terracotta panal

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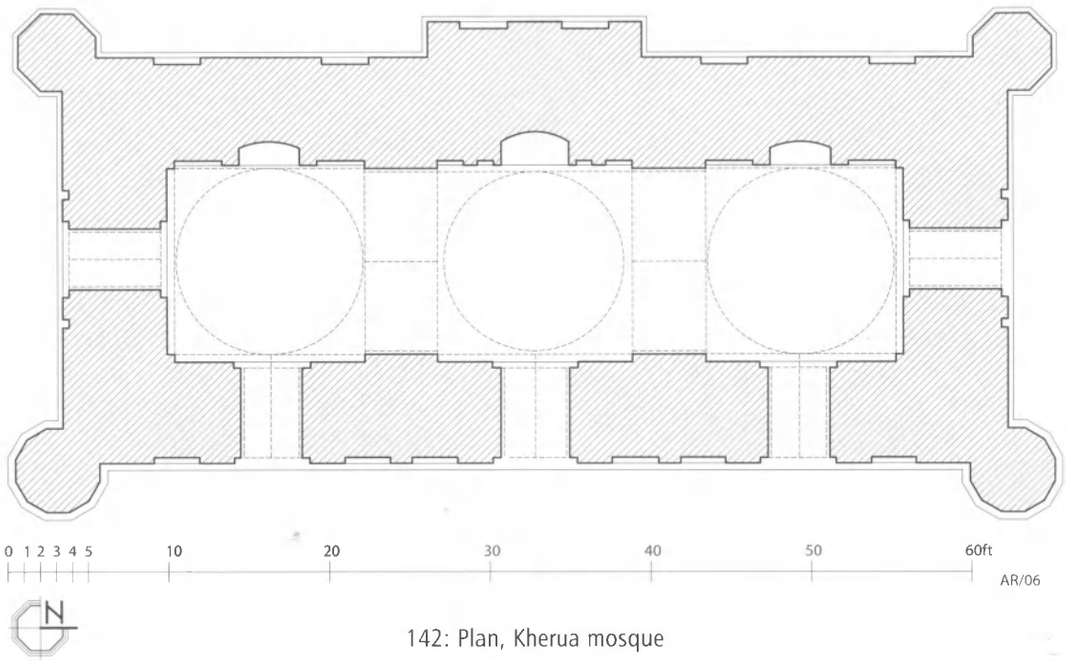
Sherpur, Bogra

KHERUA MOSQUE

1582 A.D.

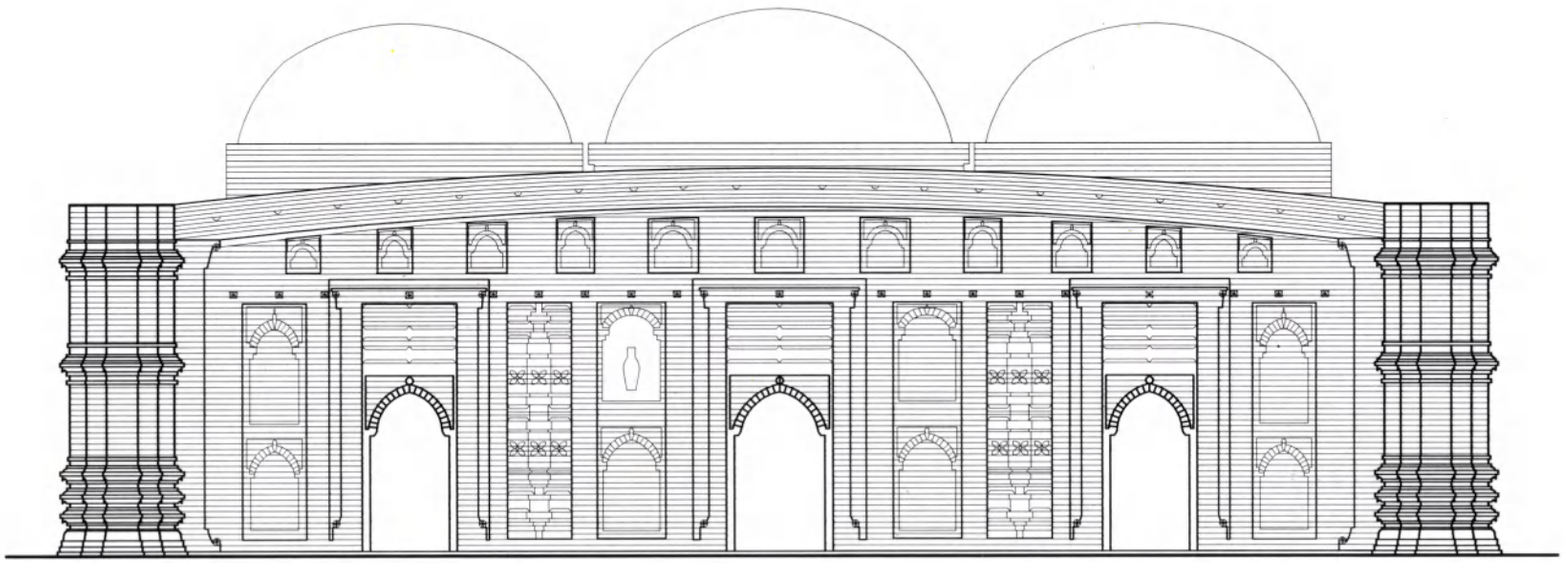
This mosque is located in the village Kherua about 1.5 km south of the Sherpur district headquarters. A stone Persian inscription placed on the facade of the mosque records that it was built by Mirza Murad Khan, son of Jahwar Ali Khan in the year 989A.H./1582A.D. (Ahmed 1960:161). According to S. M. Hasan "the mosque had a second inscription in Persian, now in the Karachi



142: Plan, Kherua mosque

museum which refers to charitable endowments in verses" (Hasan 1980:27).

This neighborhood mosque belongs to the group of enclosed-typed oblong-shaped ground plan, and measures externally 17.50 m long and 7.54 m wide with 2.01 m thick surrounding wall. This arrangement of dividing a rectangular prayer hall into three equal square bays, is the earliest known example of a three bay mosque. Three-bay mosque constitutes a new feature in Bengal architecture, which, during the Mughal period became popular. The mosque is accessed from the east by three pointed-arch openings. Corresponding to each aisle is an entrance opening, which leads directly to a niche in the *kibla* or western wall. As a result the *kibla* wall has three *mihrab* niches, which are very shallow and rectangular in shape. The *kibla* wall shows from outside the projection of the central *mihrab* niche. In the center of the bay there is one opening on both lateral walls. There are four corner turrets, one at each corner. The two western turrets were conceived from an octagonal plan and the two eastern turrets from twelve-sided plan, which are partly interlocked in the corner. This type of different corner turrets in the same mosque has never been observed before in Bengal, but it is doubtful whether this variation is original or is an error made during the restoration work. The whole length of the hall is divided into three square areas by means of two 1.25 m wide arches springing from the eastern and western walls. With the help of brick pendentives the square area is transformed into a circular supporting area, upon which the dome supports. All the three domes are very shallow and equal in size.



144: Front elevation, Kherua mosque

Besides a stone inscription (Plate 63), not a single piece of stone is used anywhere in this mosque. The whole structure is made of bricks. The outside surface decoration shows clearly the "phase of transition". Instead of terracotta decoration different types of recess panels were used in the surface decoration. Three arched openings in the eastern façade are encompassed within a rectangular recessed frame having simple band of mouldings on the top, discarding the traditional terracotta ornamentation. Below the curved cornice in the eastern facade runs a frieze of small recessed arched panels instead of the usual rosettes. The mouldings courses in the cornice and the mouldings in the topmost part of the turrets are placed at different levels, which is also a mentionable change in the development process of Mughal façade. Except the ornamentations and mouldings in the curved cornice, there is a little terracotta ornamentation in the building and the wall surface is almost bare. It means that the traditional terracotta art, which evolved from this soil and were suited to the local environment, is discarded here. The style of architecture that the Mughals introduced in Bengal was, therefore, different from the local tradition. This Kherua mosque is the example of a monument which belongs to the transitional phase, as it is a blend of early Islamic and Mughal architectural elements.

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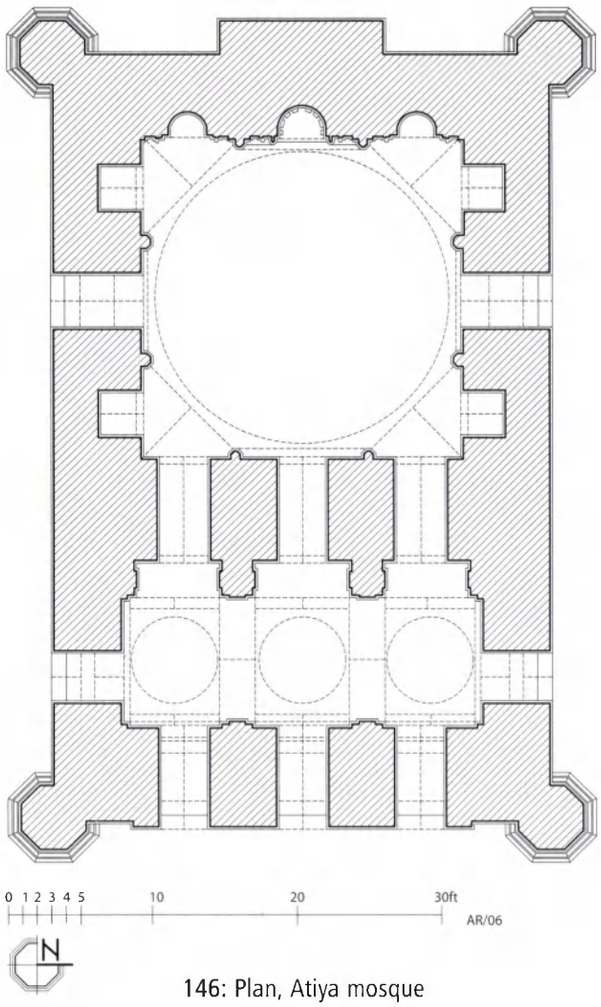
Tangail

ATIYA MOSQUE

1609 A.D.

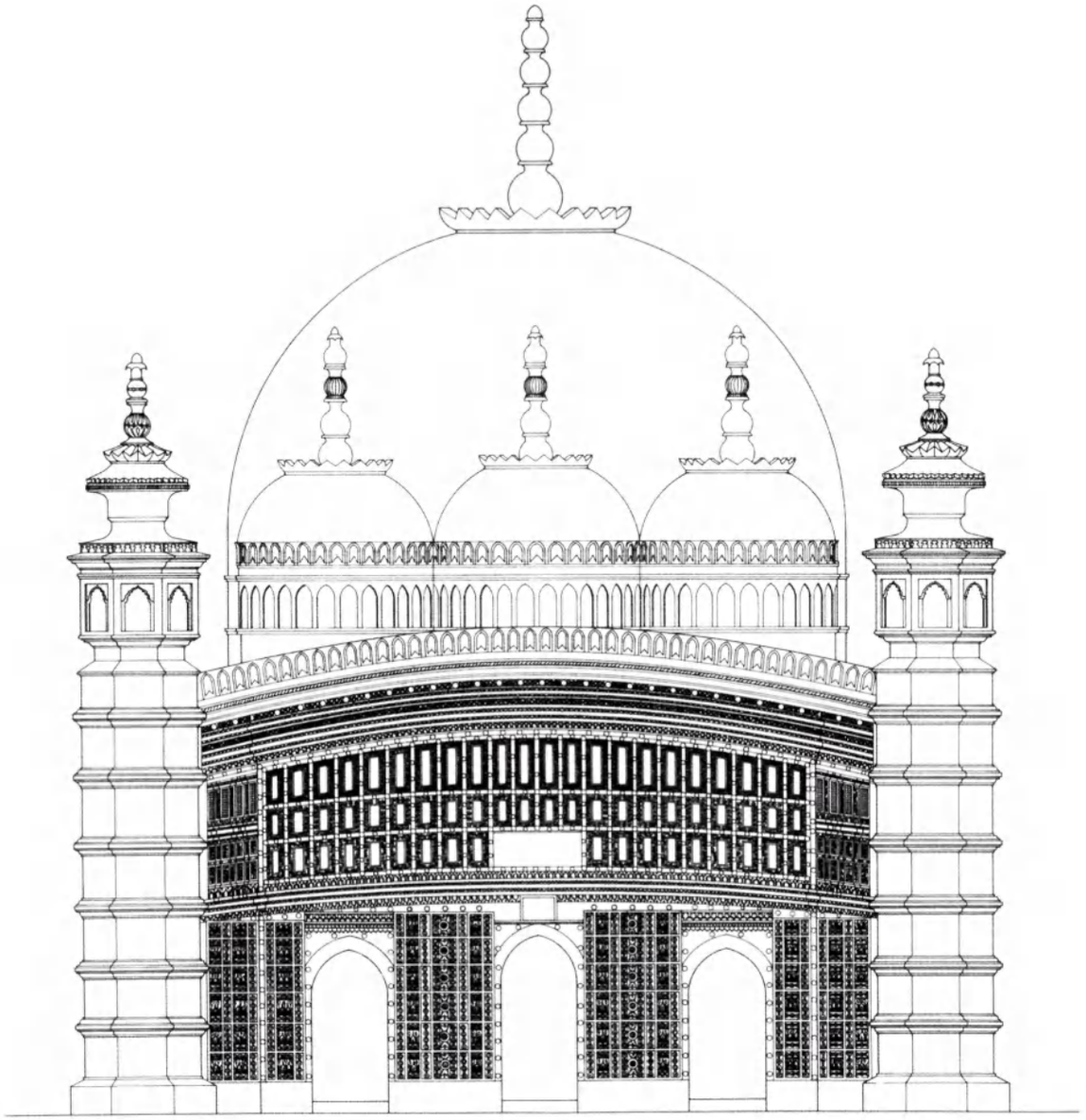
A few number of mosques built in the outlying areas of Mughal Capital Dhaka during the early Mughal Period reveal a happy blending of the Sultanate features with the new Imperial Mughal features, which characterise a transitional phase in the development of the mosque architecture in Bangladesh. This Atiya mosque is an illustrious example of this transitional



146: Plan, Atiya mosque

phase. It is located, about six kilometers south of Atiya Union under Sadar Upazilla in the District Tangail. There are three inscriptional tablets in this mosque. Two are placed over the central doorway of the eastern façade and the third one is placed on the *kibl*a wall. According to the original date-plaque inscription, which is now preserved in the Bangladesh National Museum, the mosque was erected in 1019A.H./1610-11A.D. by Sayid Khan Panni, son of Bayazid Khan Panni in honour of the great saint Pir Ali Shahansha Baba Kashmiri, who propagated Islam in this part of Bangladesh (Banglapedia 2003: 321). His grave lies nearby.

The mosque belongs to the group of square shaped plan with a foreroom that developed during the Sultanate period. The mosque measures externally 16.51m by 10.52m and internally the prayer hall is 6.71m square with a 3.55m wide fore-room. There are three arched openings in the east facade and one on each side of the fore-room. The main hall is accessed by three openings from the fore-room and has one opening on each of the north and south side. Corresponding to the eastern openings there are three *mihrab* niches in the *kibla* wall. The outside of the *kibla* wall shows a projection of the main *mihrab* niche. Introducing typical mughal octagonal turret, four instead of six in each corner, is the most inquisitive feature of this mosque. The large central dome on the square prayer hall is supported on sequences at each corner and the three domes over the foreroom are carried on pendentives. The eastern and northern facades of the mosque are covered with exquisite terracotta ornamentation and the other two surfaces are simply plastered. The entire eastern façade is adorned with several rectangular recessed paneled



147: Front elevation, Atiya mosque
(Pundranagar to Sherebanglanagar-Architecture in Bangladesh, 1997)

niches and divided by a string course in the middle. The area of each recessed niches is faced with extensive terracotta ornamentation of geometrical and floral nature. Varied nature of façade treatment confirms that this mosque had undergone several repair works. Eastern façade has gentle curved cornice embedded with merlon shaped battlements, where as the southern and western façade has straight parapet. On the northern façade two separate curvilinear cornices demarcate both the main prayer hall and the fore-room, giving rather a strange wavy cornice.

The mosque brings together harmoniously both the Sultanate and Mughal features of Bengal. Square shaped room with a verandah, flat façade, curved cornice, exquisitely terracotta ornamentation, horizontal string-course are typical sultanate features, where as, plastered turret embellished with niched paneling, blind kiosk on the corner turret, plastered surface paneling, dome with octagonal shoulder embellished with merlon, *kalasa* typed finial on a lotus base recall Mughal architecture in Bangladesh.

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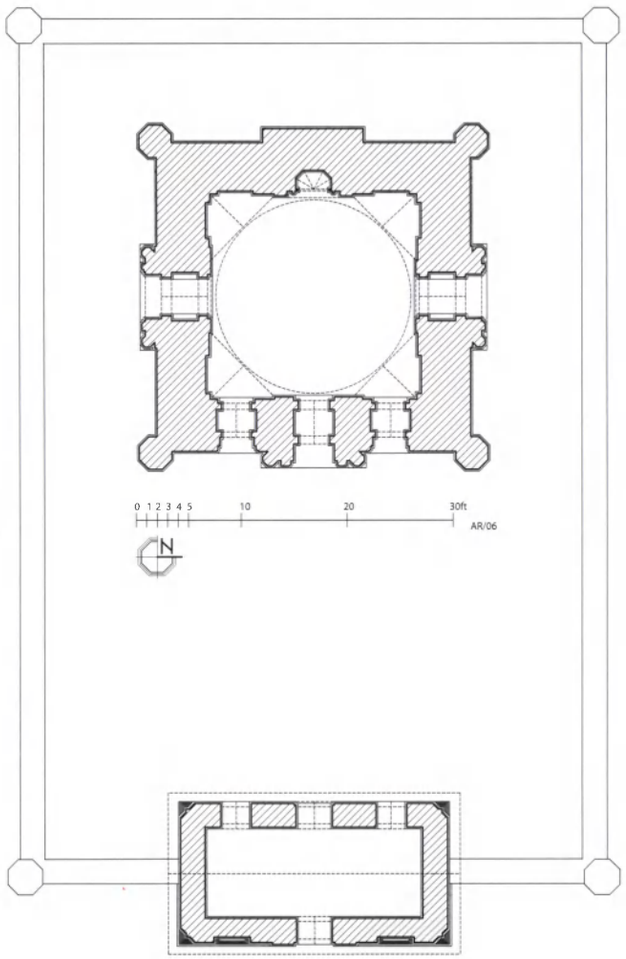
Pakundia, Kishoreganj

SHAH MUHAMMAD MOSQUE

17th century A.D.

This Shah Muhammad mosque is located at Egarasindhur under Pakundia upazilla of Kishoregonj district and about half a kilometer away from another famous mughal mosque named Sadi's mosque (1652). The origin of its name is till unknown, but probably after the name of the builder. The original inscription slab which was once fixed over the entrance door is

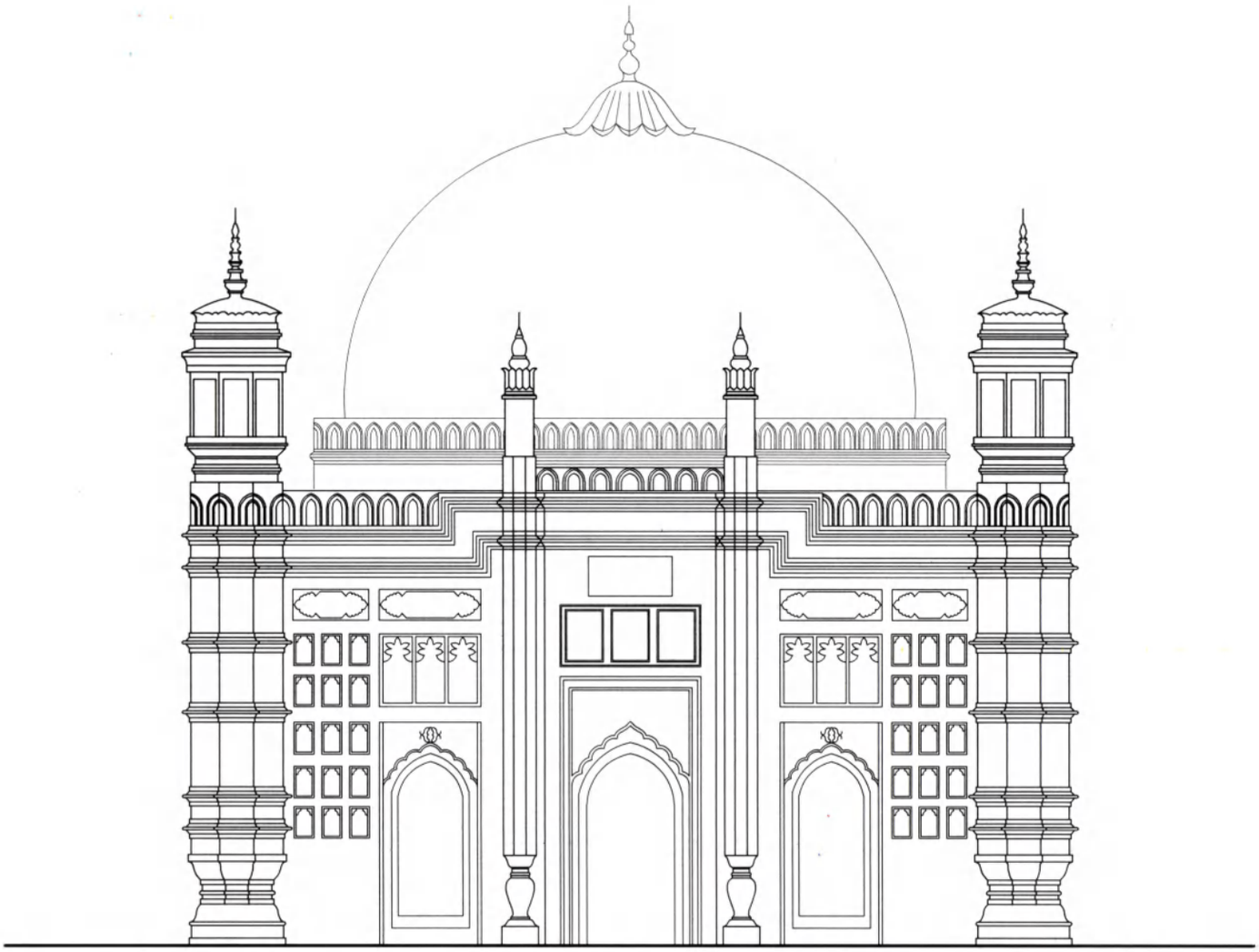


150: Plan, Shah Muhammad mosque

now missing. So its exact time of erection is not known. However after analyzing its architectural style, many historians presumed that it may be dated to about late 17th century.

This small neighbourhood mosque complex stands on the western bank of a big *dighi* or tank, which has a broad steep flight of steps leading down to the vast expanse of water and used as ablution space. The mosque structure is placed on the western end of a stone paved *shan* or courtyard, which is encompassed by a low boundary wall with a notable gateway in the middle of the east side. This oblong-shaped gateway, measuring 7.6 m by 4.62 m externally, is covered by a Bengali *do-chala* roof, which recalls the Fateh Khan's Tomb at Gaur. This gateway is entered by an arched opening from outside and three openings from the courtyard, the outer surface of which is richly adorned with typical mughal recessed panels.

The mosque proper is square in shape and measures externally 9.14 m each way and the thickness of the external wall is 1.44 m. Like the other typical pre-Mughal single domed mosques it has also three pointed-arched entrance openings on the eastern side and a single opening on the northern and southern side as well, flanked by a blind doorway on either side of the central side opening. Corresponding to the three frontal openings, the *kibla* wall is niched with three *mihrabs*. The central one is semi octagonal and the side ones are rectangular. The central opening on the eastern side and the central *mihrab* niche are much larger than the flanking ones. The square shaped prayer hall has four axially outside projected frontons, each corresponding to



151: Front elevation, Shah Muhammad mosque

the central opening and the central *mihrab*. Each of this projection is again framed by octagonal turrets having jar shaped pedestal on its either flanks, which are extended above the parapet by a pinnacle. The massive brick walls have octagonal turrets at four corners and are divided into several tiers by horizontal mouldings, carried beyond the parapet by a blind kiosk ended in an unusual umbrella shaped cupola. Half-domed squinches at each corner, which are springing direct from the side walls, transform from a square to a circular supporting base for the dome. The hall is covered by a single hemispherical dome on an octagonal shoulder and the dome being crowned with lotus and *kalasa* finial. There are four water spouts, made of stone, two at each northern and southern side wall.

The spandrels of the three eastern entrances were originally enriched with terracotta ornamentation, still observed in the central opening. Either end of the frontal façade is embellished with horizontal rows of paneled arched niches, each being marked with floral motif in terracotta. The straight parapet and the shoulder of the dome are ornamented with usual Mughal merlon. All the structural materials are from locally fire-burnt bricks and no stones were used in the masonry here. This well preserved mosque structure illustrates a happy blend of Mughal façade treatment with local terracotta ornamentation erected on a pre-Mughal typology of ground plan.

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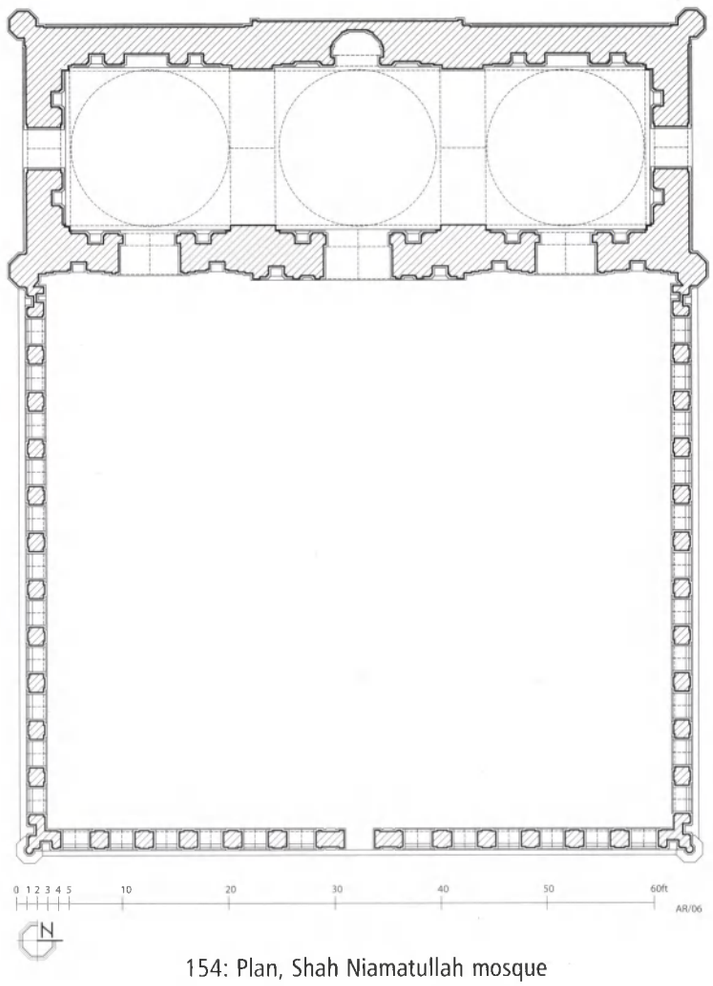
Gaur-Chapainawabganj

SHAH NIAMATULLAH MOSQUE

17th century A.D.

This Mughal mosque is a part of the *Tahkhana* complex, which consists of a large residential enclave, the tomb of a holy saint Shah Niamatullah Wali and some ruined service quarter. This complex, stands on the western bank of a large tank, is located about half a kilometer to the north-west of the Chhoto Sona mosque and approached through a metal road which branches off



154: Plan, Shah Niamatullah mosque

from the Chhoto Sona-Kotwali Darwaza road. The building is not inscribed, but it is traditionally affirmed that the whole *tahkhana* complex was built by *Subahdar* Shah Shuja (1639-1660A.D.) (Husain1997:117), who had his court at Rajmahal, in honour of the saint Shah Niamatullah Wali, who lies buried in a nearby earliest known Mughal tomb structure in Bangladesh. Recently the whole area of the *tahkhana* complex along with the mosque proper has been extensively renovated by the Directorate of Archaeology of Bangladesh.

The mosque building is placed on the western end of a paved *shan* or courtyard, which is encompassed by a low arcaded boundary wall with a small simple gateway in the middle of the east side. These arcades, 12 nos in the eastern side and 11 nos in the northern and southern side, are filled up with perforated brick screen and the two outside frontal corners of the boundary wall are buttressed by turrets projected vertically with pinnacle. The prayer hall has the usual oblong-shaped plan measuring 7.62m by 19.81m externally with a 1.37m thick surrounding brick wall. The prayer hall is entered from the eastern side by three four-centered archway and the other two side walls have also one pointed-arch openings each. All the opening archways are framed by recessed panels in the wall. The central archway is larger than the flanking ones and is projected slightly towards the front to emphasize the central axis. Corresponding to the three frontal openings, the *kibla* wall is niched with three *mihrabs*, The octagonal shaped central *mihrab* niche is much larger than those rectangular shallow niches flanking it. To articulate the main *mihrab*

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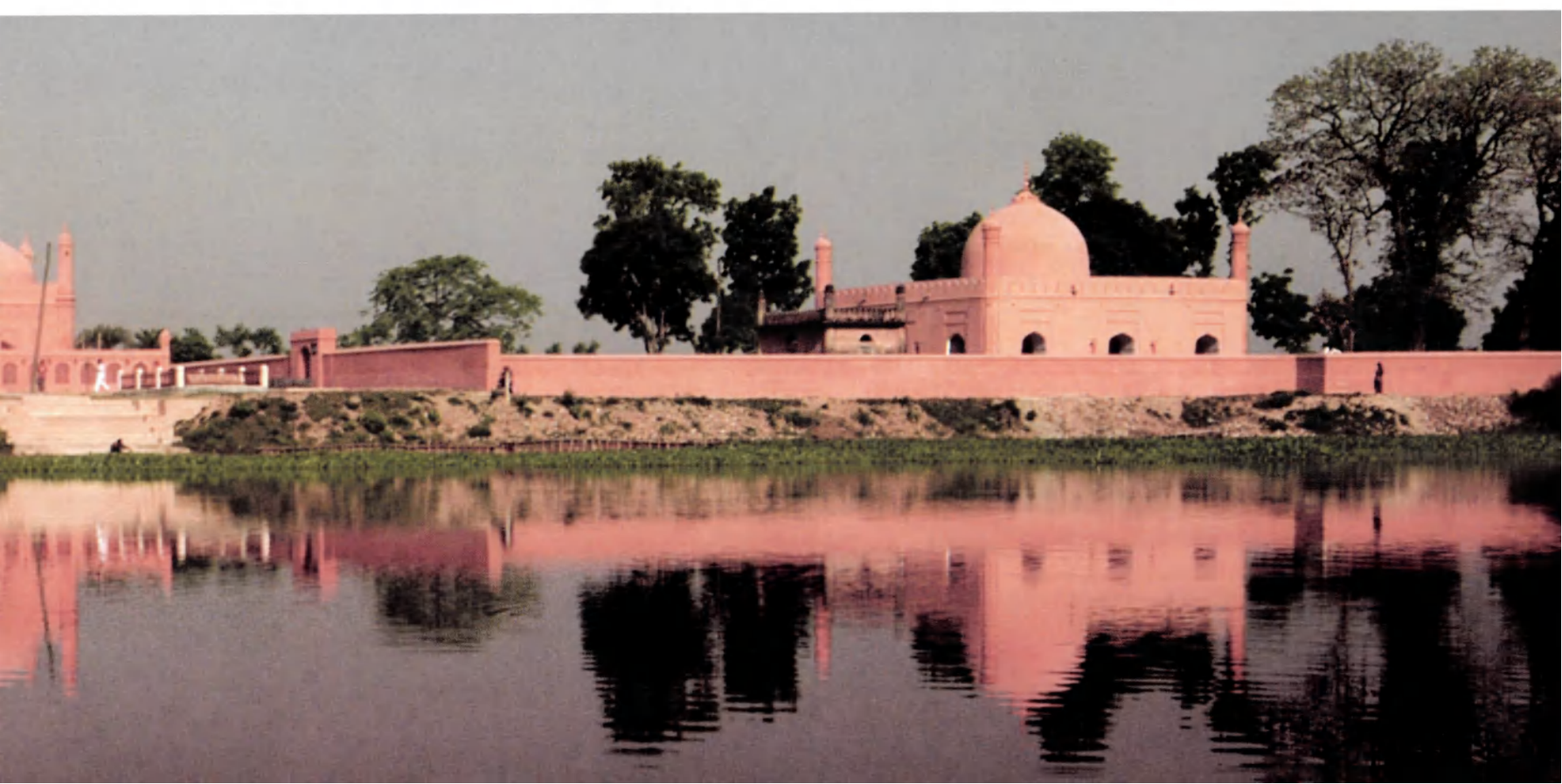
niche from outside, the *kibla* wall is projected in the centre towards the west. The four corners are buttressed by four corner turrets. The turrets are octagonal shaped up to the top of the parapets and then are circular in shape. They are extended high above the roof level and ended in small ribbed cupola having a finial.

The rectangular-shaped prayer room is divided into three equal square bays by two wide transverse arches. With the help of triangular brick pendentives at each corner, each square area is transformed into a circular supporting area, upon which the three closely bulbous dome rest. All the three domes, placed directly on the circular supporting area without a shoulder, are crowned with lotus and *kalasa* finial. The central one is slightly higher than the flanking ones; but the diameter is same. The frontal façade is decorated by recessed rectangular panel containing arched niches and ended in a straight parapet with rows of ornamental panels. Persian origin *muqarnas* design in stucco is observed in the lower surface of the *mihrab's* dome and the triangular pendentives, which seems to be the earliest example in Bangladesh.

156: Front elevation, Shah Niamatullah mosque



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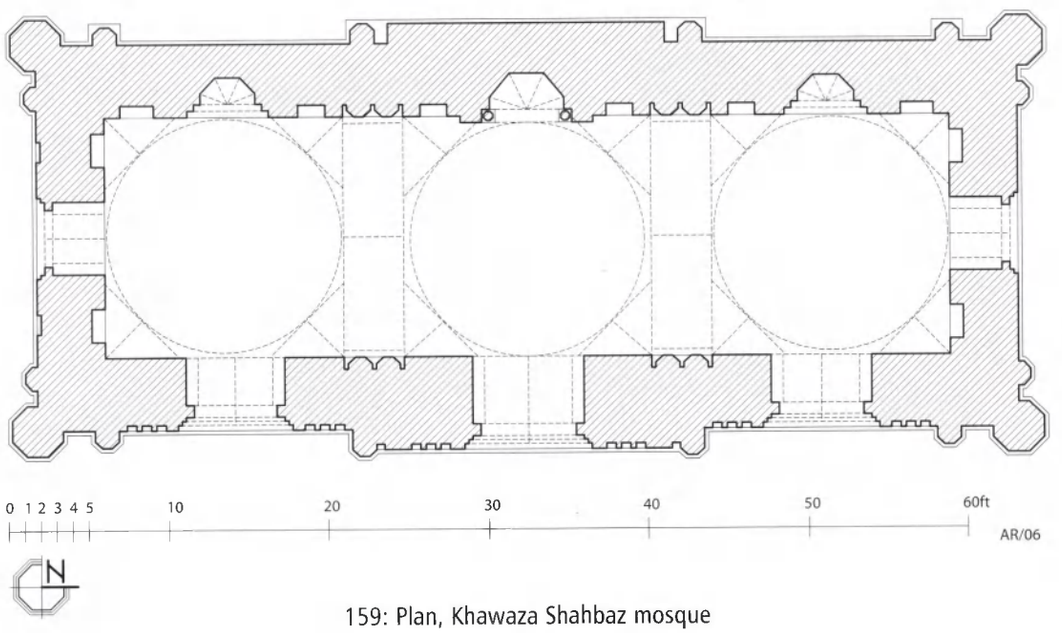
Dhaka

KHAWAZA SHAHBAZ MOSQUE

1679 A.D.

One of the most well preserved mosque complex of Dhaka city belonging to the 17th century is the Khawaja Shahbaz's mosque complex. It is located to the east of the modern mausoleum of three national leaders and to the south-east corner of the Suhrawardy Uddyan. It is named after its builder Haji Khawaja Shahbaz, a well known marchent of Dhaka during the reign of viceroy

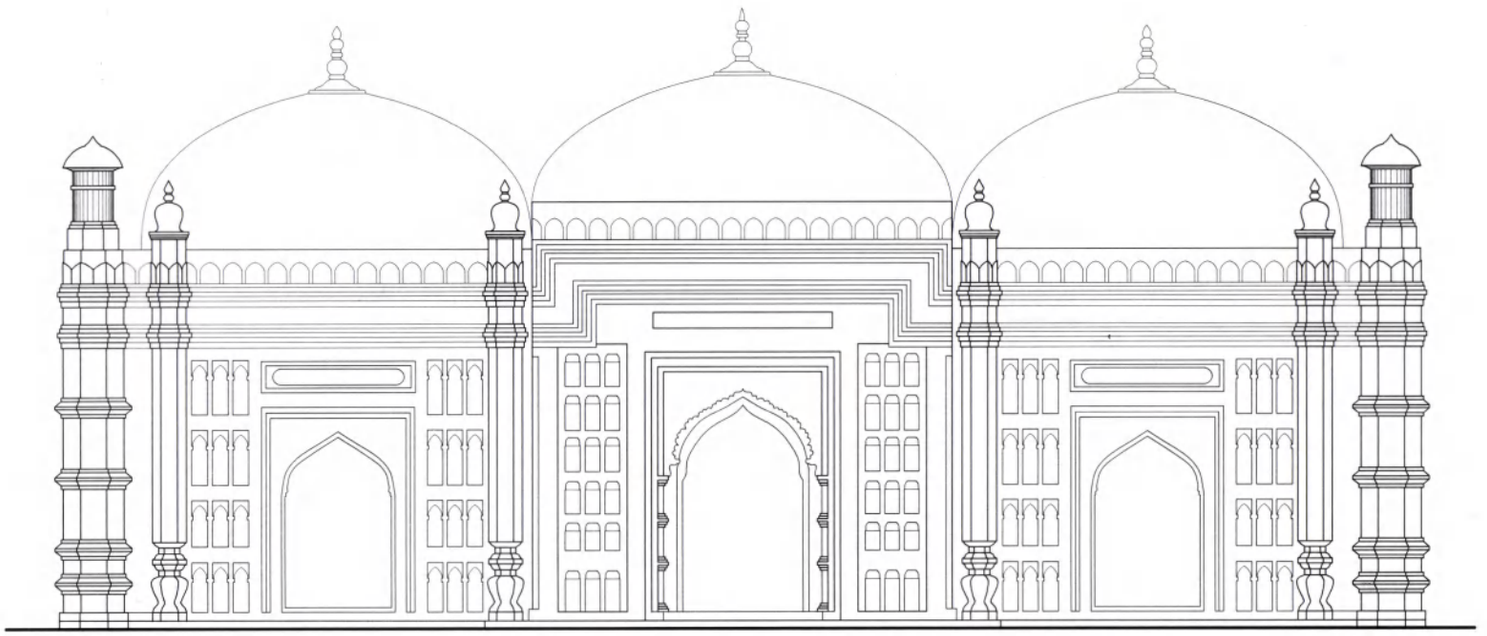


159: Plan, Khawaza Shahbaz mosque

Muhammad Azam, whose tomb lies on the eastern part of this complex. According to the inscription still placed over the central doorway of the mosque, it was built in 1089A.H./1679A.D. (Banglapedia 2003:108).

This complex comprises a mosque building, a tomb and an adjacent *chouchala* structure to the tomb built on a raised earthen podium protected by a brick retaining wall. This complex is presently entered from the north by a flight of steps. The mosque proper, stands on the western part of this courtyard, has the usual oblong shaped plan measuring 20.73m by 7.92m externally with a 1.32m thick surrounding brick wall. Black Basalt stone was used in the plinth level to protect the brick wall from the moisture and the salinity of the soil. Architecturally it contains all the typical features of three domed mosque. The prayer hall is entered from the eastern side by three archways and the other two side walls have also one arch opening each. The central archway is slightly larger than the flanking ones and is projected slightly towards the front flanked on either side by lofty slender turrets to emphasize the central axis. The flanking turrets have *kalasa* base and ended on the top in a pinnacle extended beyond the parapet. Each of the frontal openings consists of three arches; the outside one is a multi-foil, the middle one is an ogee arch made of stone and the deeper inner one is a flat arch.

Corresponding to the three frontal openings, the *kibla* wall is niched with three *mihrabs*. The octagonal shaped central *mihrab* niche is flanked with two *mihrab* niche much larger than those rectangular shallow niches flanking it. To manifest the main *mihrab* niche from



161: Front elevation, Khawaza Shahbaz mosque

outside, the *kibla* wall is projected in the centre towards the west. The four corners are buttressed by four corner turrets, which has moulded bands at regular intervals. The turrets are octagonal shaped up to the top of the parapets and then are circular in shape. They are extended high above the roof level and ended in a small ribbed cupola crowned with *kalasa* finial on the top. The rectangular shaped prayer room is divided into three equal square bays by two wide transverse corbelled cusped arches supported by twin brick pilasters embedded in the east and west walls, which seems to be the earliest example in Bangladesh. With the help of half domed squinch at each corner, each square area is transformed into a circular supporting area, upon which the dome supports. All the three domes, with a very low shouldered dome on a cylindrical drum, are crowned with lotus and *kalasa* finial. The central one is slightly higher than the flanking ones but the diameter is the same.

Due to the lack of red sand stone and marble in Bangladesh, locally available burned bricks were used for the wall masonry and lime with powdered brick were used as mortar as well as plaster in the Mughal building in Bangladesh. Traditional terracotta was replaced by plastered panel with arched niches on the outside surface. All the opening archways are framed by such recessed rectangular panels in the wall containing five rows of arched niches on each side of the central entrance and four rows on each side of the side entrance. The flanking niches of the central opening have flat arch and the niches associated to the side entrances have pointed arch. The parapet is straight and embellished with row of merlon battlements.

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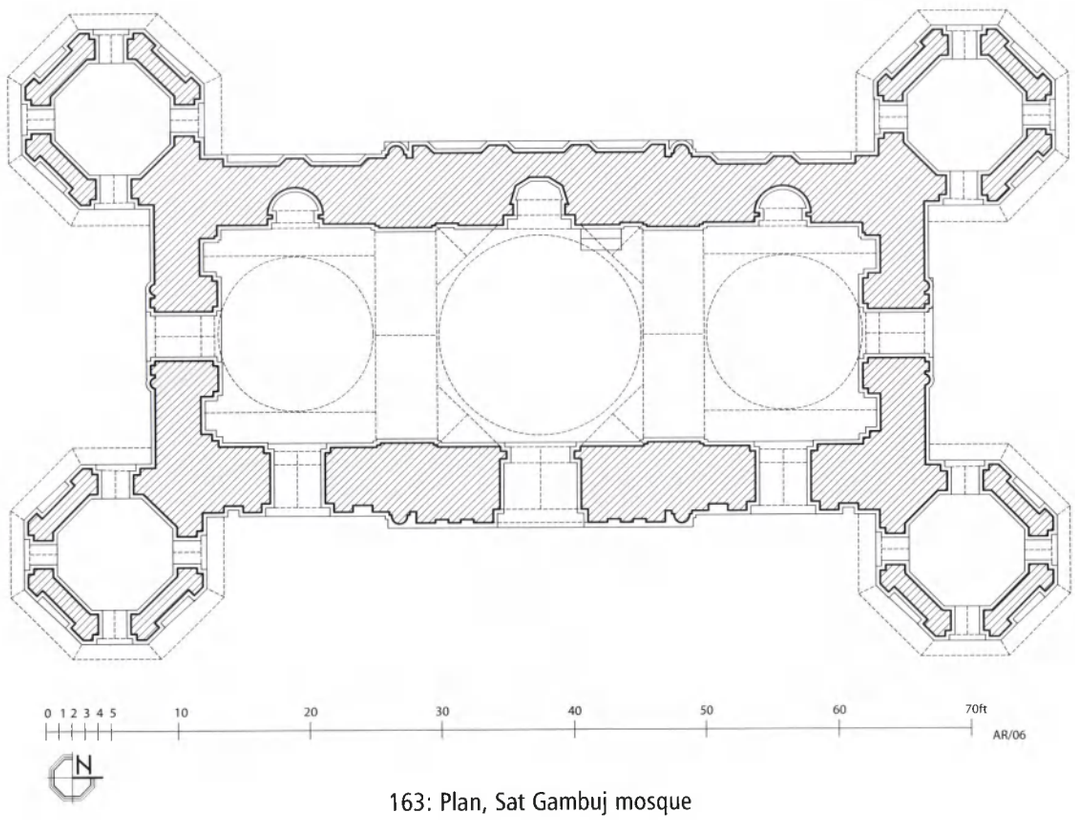
Dhaka

SAT GAMBUJ MOSQUE

17th century A.D.

Sat Gambuj mosque is one of the well preserved seven domed mosques in the ancient Mughal Capital Dhaka, located now in the Muhammadpur area of the city. "It may have been built by Nawab Shaista Khan, as the local tradition remembers. Stylistically it can be dated to the later half of the 17th century A.D." (Dani 1960: 220) Picturesquely it was situated on the edge of a low

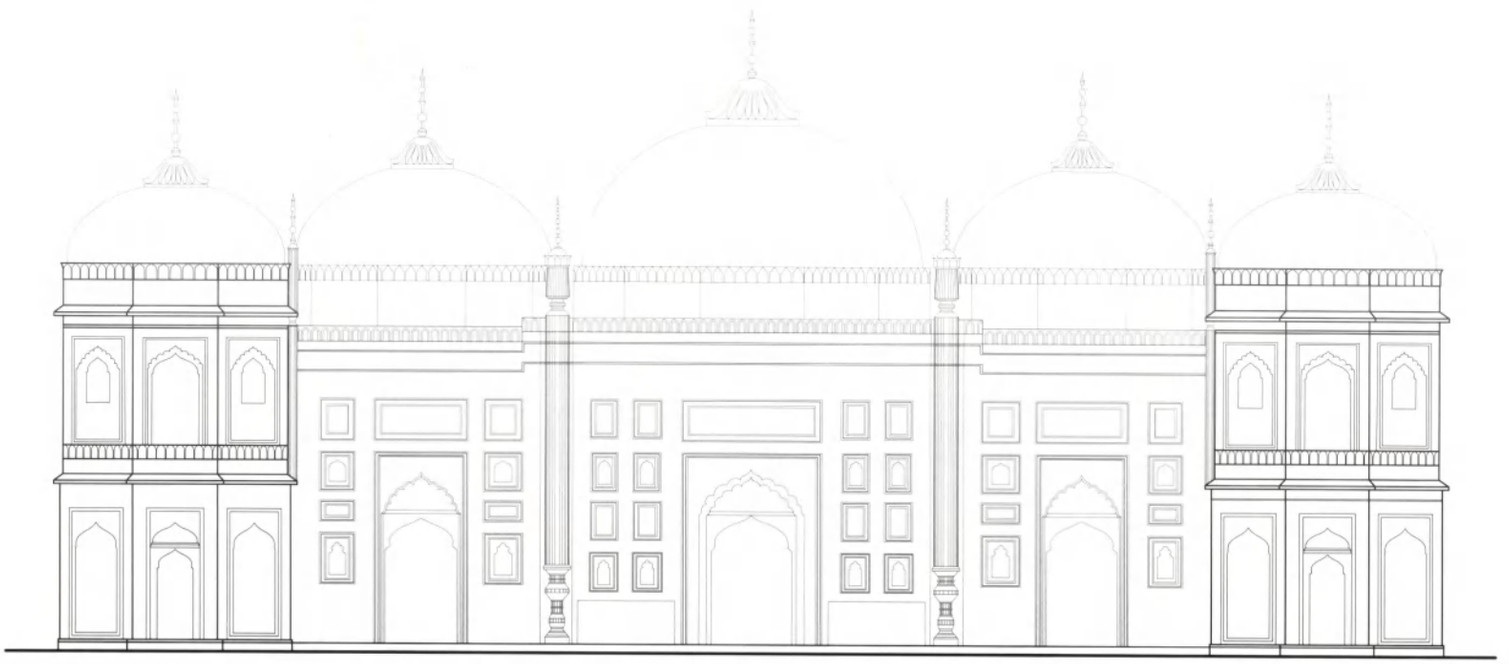


163: Plan, Sat Gambuj mosque

swampy pool, which once formed a part of the river Buriganga presently known as river Turag that now sifted its course to about one km to the west. The original romantic setting of the mosque complex on a solid, spacious and buttressed high podium overlooking extensive water as background is now totally destroyed by the earth filling in the rear areas and subsequently the construction of several residences along with a five storied madrasa building on the back or west.

The mosque building is positioned on the western end of a raised *shan* or courtyard measuring 26.82m long and 25.60m wide, which is encompassed by a low boundary wall with a gateway in the middle of the eastern side. This arched gateway is located at the central axis of the courtyard and the mosque building. A flight of steps leads to the rooftop of the gateway from the north and south side. The mosque building is oblong in plan, measuring 8.22m wide by 17.67m long externally. The mosque is entered from the east by three cusped arched openings, which leads directly to a niche in the *kibla* or western wall. As a result the *kibla* wall has three arched *mihrab* niches, the central one being larger than the flanking ones. All the entrance archways are framed by recessed panels in the wall. The central archway is larger than the flanking ones and is projected slightly towards the front to emphasize the central axis and bordered by two turrets stretched above the parapet and ended in a pinnacle. In the centre of the bay there is one opening on both side walls. The *kibla* wall shows from outside the projection of the central *mihrab* niche.

The whole length of the rectangular hall is divided into three unequal bays by means of two 1.05 m wide arches



164: Front elevation, Sat Gambuj mosque

springing from the east and west walls. The side bays are rectangular in shape and smaller in width, but the central one is bigger and square. With the help of brick pendentives the square central bay is transformed into an octagonal area and again by sequences at each octagonal corner formed a circular supporting area, upon which the slightly bulbous dome supports. In order to make the circular supporting area for the dome, the two rectangular side bays have first been made square by introducing half domed vault on the east and west wall. These square areas are transformed again by pendentives on the corners into octagon and then in a circle, upon which the smaller domes rest. The domes have a shoulder ornamented by blind merlons. The whole outer wall surface is profusely paneled with arched niches in plaster and ornamental rows of merlons are observed at different stages of the straight parapet.

In point of fact, architecturally this structure is a typical three-domed Moghul mosque, but it is the most

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innovative one of all the Mughal monuments because of its four articulated corner towers or pavilions. Each of these consists of two enormous storeys and is an independent structure itself covered by a dome with an extended lotus finial. As a result this monument contains seven domes and hence giving the mosque, its name Sat Gambuj or seven domed mosque.

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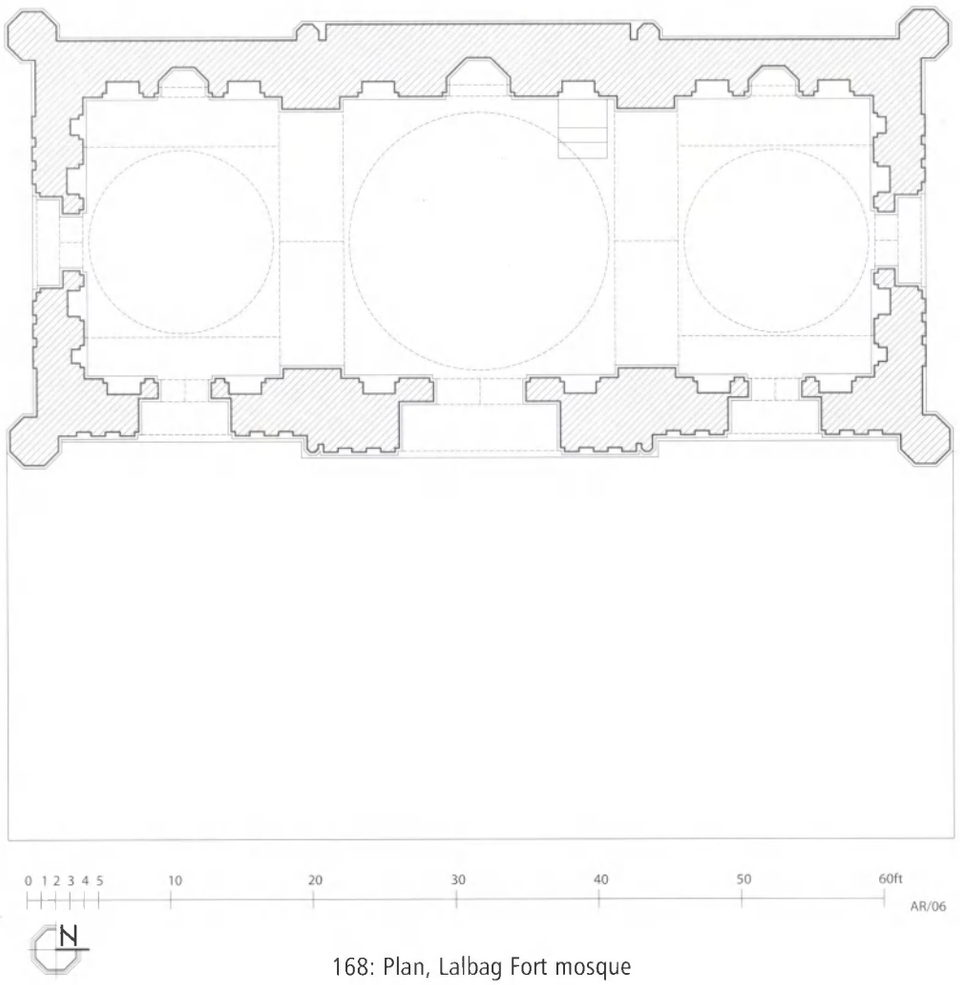
Dhaka

LALBAG FORT MOSQUE

17th century A.D.

The most magnificent, but unfortunately incomplete Mughal fort at Dhaka is the Lalbag fort or fort Aurangabad, situated in the south western part of the old city once overlooking the Buriganga River to the south. The viceroy of Mughal Bengal (1678A.D.) Prince Muhammad Azam, son of Emperor Aurangazeb, was the originator of this fort. Governor Shaista Khan



168: Plan, Lalbag Fort mosque

continued the project, and after the premature death of his daughter Bibi Pari the construction of the fort was not continued and the fort was left unfinished (Dani 1969: 221). Among the remaining structures, there are a long fortified wall, three gates, large tank, darbar hall, hammam, tomb of Pari Bibi, service block with a rooftop garden and a mosque. This elegant mosque is located in the western part of the central axis of the fort complex.

This fort mosque is an unpretentious typical oblong shaped structure measuring 19.5 m by 8.5 m externally with a 1.14 m thick surrounding brick wall. The prayer hall is entered from the eastern side by three archways and the other two side walls have also one pointed-arch openings each. The central archway is larger than the flanking ones and is projected slightly towards the front to emphasize the central axis. It is bounded by engaged turret probably extended high above the roof level and ended in a pinnacle which is now reconstructed. The three frontal openings are covered by a half dome, the underneath of which has *muqarnas* network design in stucco. Each opening has a cusped arch on the outside surface and four centered pointed arch on the inside. The outer side of the northern and southern wall is straight and has no typical projected frame for their openings.

Corresponding to the three frontal openings, the *kibla* wall is niched with three *mihrabs*, The octagonal shaped central *mihrab* niche is much larger than the flanking ones. Each *mihrab* niche is flanked by two small niches designed for placing artificial light sources. To manifest the main *mihrab* niche from outside, the *kibla* wall is projected in the centre towards the west. The four corner

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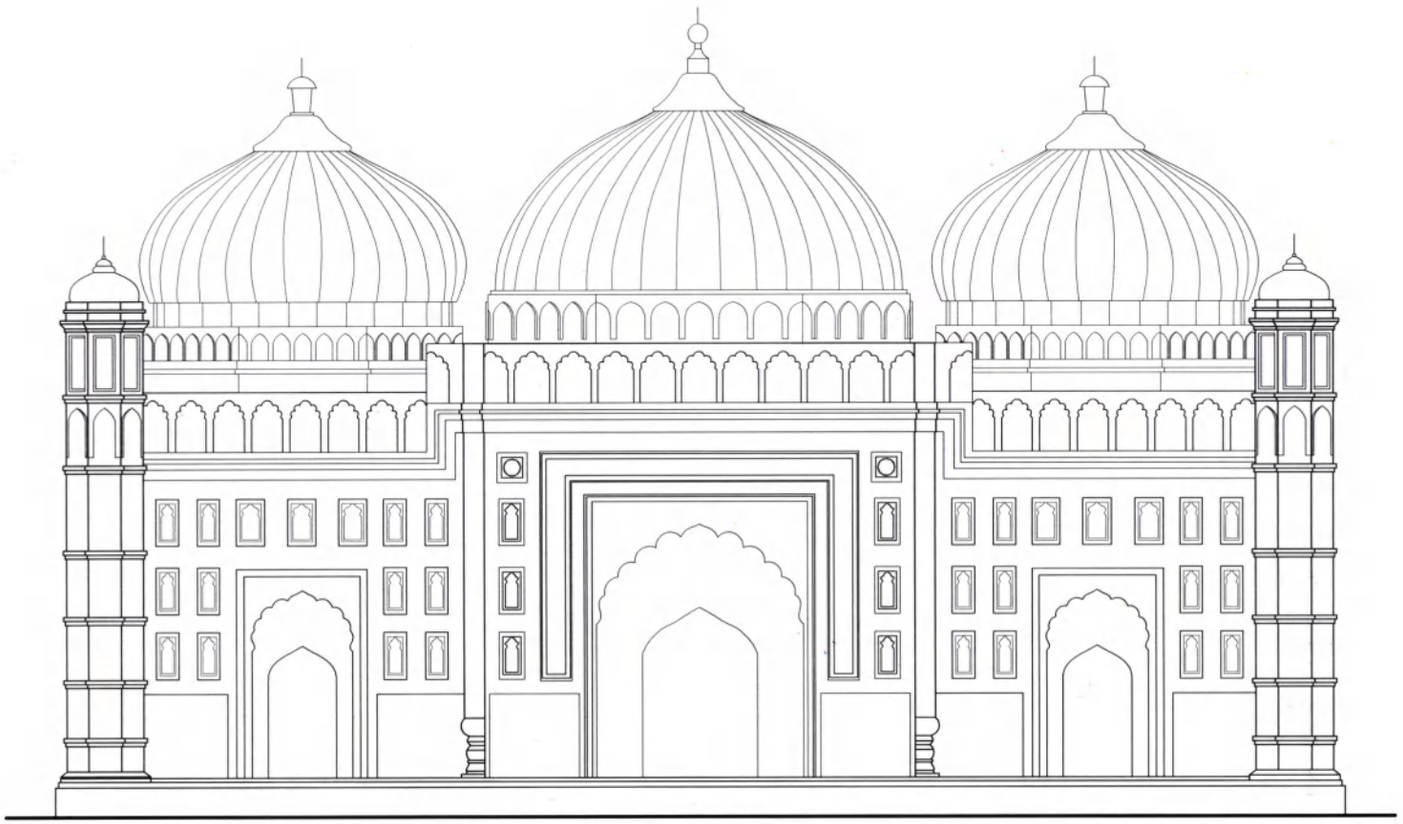
turrets, one at each corner, are divided into five tiers by horizontal mouldings. The turrets are octagonal shaped extended high above the roof level with their plastered blind kiosk ended by small cupola having a finial. The whole length of the rectangular hall is divided into three unequal bays by means of two 1.05 m wide arches springing from the eastern and western walls. The side bays are rectangular in shape and smaller in width, but the central one is bigger and square. With the help of brick pendentives the square central bay is transformed into an octagonal area and again by sequences at each octagonal corner formed



171: Front elevation, Lalbag Fort mosque

a circular supporting area, upon which the slightly bulbous dome supports.

In order to make the circular supporting area for the dome, the two rectangular side bays have first been made square by introducing half vault on the east and west wall. These square areas are transformed again by pendentives on the corners into octagon and then circle, upon which the smaller domes rest. These two side domes are pure bulbous in shape and are fluted, which seems to be the earliest example in Bangladesh. The domes have an octagonal shoulder ornamented by blind merlons and are crowned with finials. Except the bare western wall, the upper part of the rest three outer wall surface is profusely recessed paneled with arched niches in plaster and ornamental rows of merlons are observed at different stages of the straight parapet.

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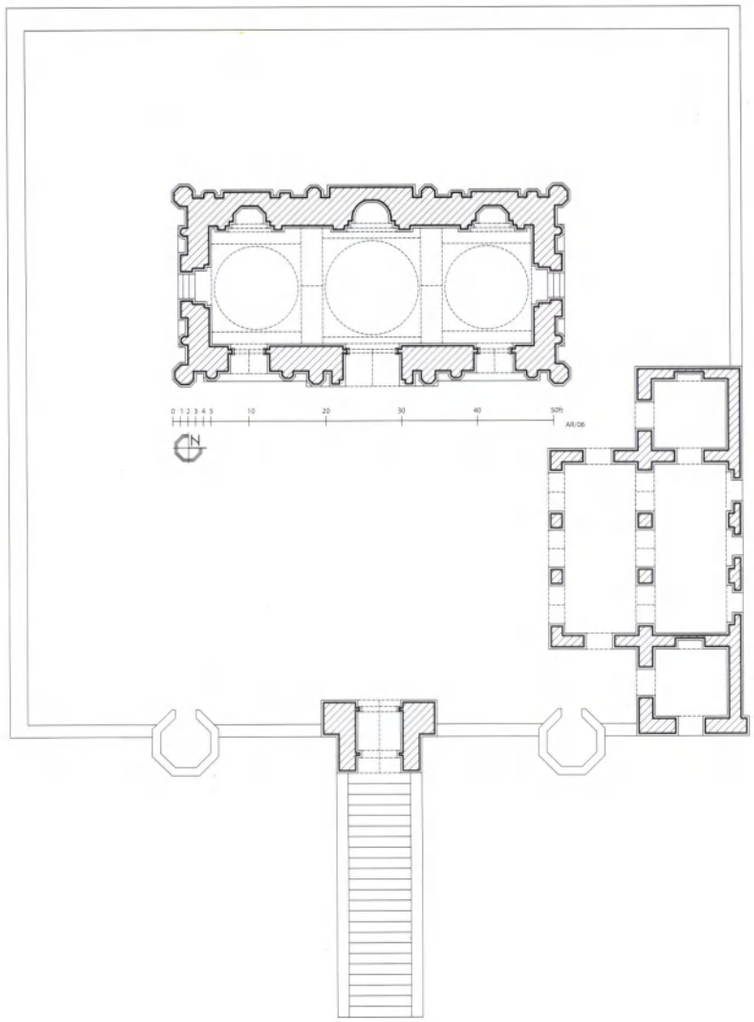
Dhaka

KHAN M. MRIDHA MOSQUE

1704 A.D.

This mosque is located at Atishkhana nighbourh, near Lalbag fort in Dhaka. The mosque of Khan Muhammad Mridha was built in 1116 A.H./1706A.D., according to an inscription placed in the frontal facade of this mosque (Hasan 1980: 59-60). The nomenclature of the mosque derives from that of the builder Khan Muhammad Mridha, who constructed it following the

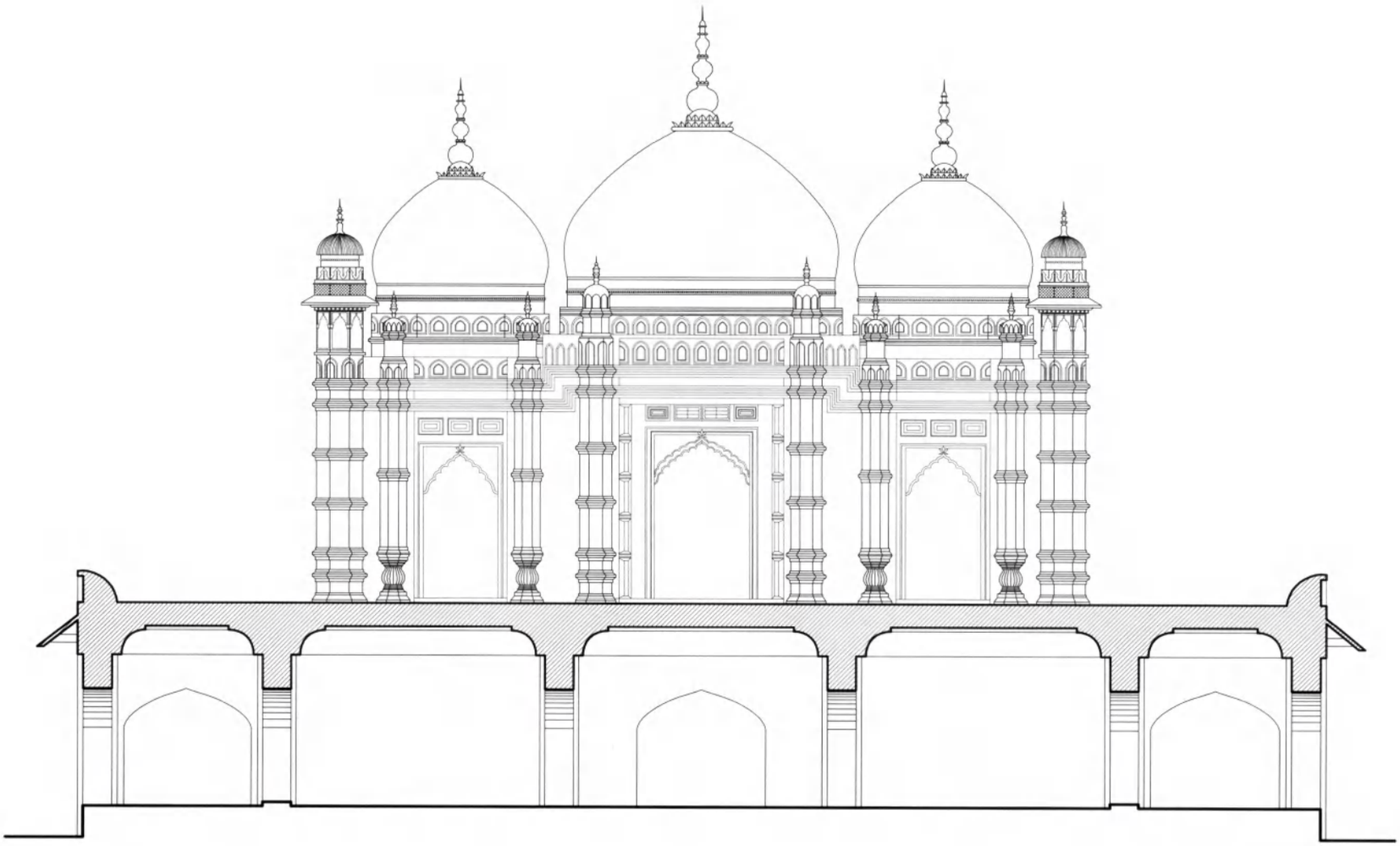


173: Plan, Khan M. Mridha mosque

order of Quazi Ebadullah, who was probably the chief Quazi of the then Mughal Dhaka under the Deputy Governor Farrukshah (Dani 1960:203). The complex is encompassed by a 3.65m high boundary wall, the openings and recessed panels of which are designed in pure geometrical order and symmetric manner. The mosque building is erected on a high podium 4.87m above the ground level. The Tahkhana or the substructure of the podium has a continuous verandah around it and all the internal small rooms are connected from this circulation area and are covered by flat brick roof.

A 2.74m wide single flight of steps leads to the roof of the platform through a gatehouse from the ground, where the main prayer hall is to be found. The high plinth or platform gives a majestic look to the Khan Muhammad Mridha mosque. Black basalt stone are used on the steps joined by metallic clamp. In the eastern side of the *shan* or platform, there are two octagonal projected spaces, may be for gathering or discussion in small group before or after the daily prayers.

The main sanctuary or prayer hall is smaller than the platform, which has also a *huzrakhana* on the northern side. This mosque has the usual oblong plan, measuring 14.63m long and 7.31m wide externally. There are three arched entrance doorways in the eastern wall and correspondingly, the western *kibla* wall contains three *mihrabs* niches, the central one being larger than the



174: Longitudinal section, Khan M. Mridha mosque

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flanking ones. The northern and southern walls contained one opening each, which had been closed by perforated jali screen. The interior is divided into three bays by two lateral arches; each bay is covered by an onion shaped dome. The domes, though squat, stand on high shoulders, and as usual the central dome is bigger than the side ones. The reduction in the size of the side domes is achieved by an intermediary stage of pendentives:- a technique alltogether different from those in the earlier mosques. The high shoulder of these onion shaped dome embellished with relief of blind merlon in plaster work.

There are four corner turrets or *minarets* at each corner, elaborately stretched above the parapet and ended in a ribbed cupola. The subsidiary pilasters border each entrance and the projection of the *mihrab* at the back of the western wall. These pilasters originally ended in pinnacles, but now are missing. All outside facades show profuse paneling, and ornamental merlons are seen at different stages of the parapet. Due to the absence of red sand stone in Bengal, the mughal builders in Bengal used red powdered bricks with lime stone mixture in the outside plaster work to give the essence of red sand stone architecture of the imperial Delhi empire.

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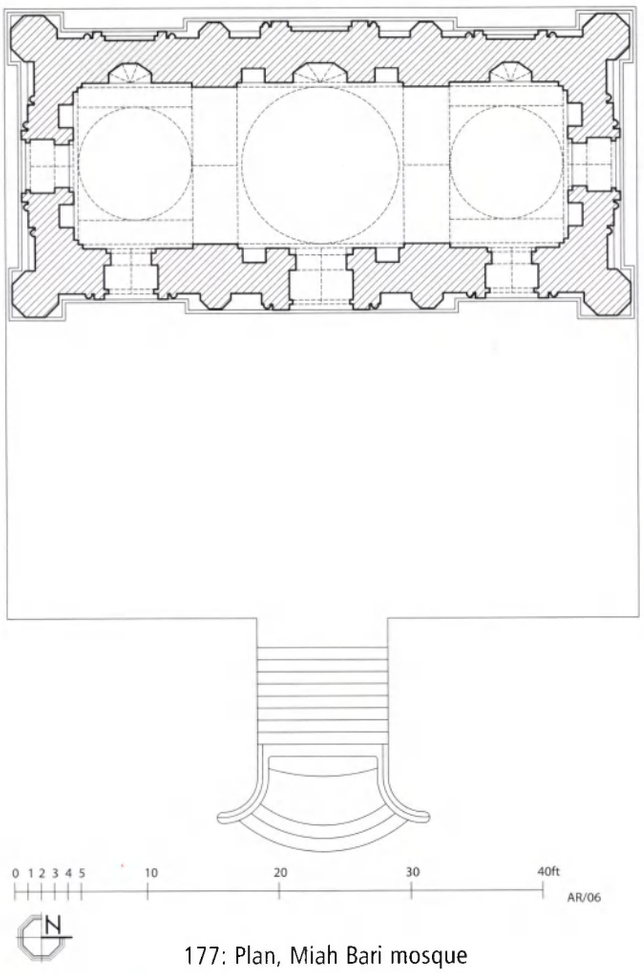
Karapur, Barisal

MIAH BARI MOSQUE

18th century A.D.

Just about ten kilometers from the divisional headquarter Barisal is a village named Ruiya under the union Karapur, where the remnants of a large residential complex is found. This complex comprises of two big tanks with associated *ghat*, ruins of several boundary walls and foundation of few residential buildings. These recall the glorious past of this



177: Plan, Miah Bari mosque

settlement. This impressive two storied mosque structure is located on the north eastern part of the complex and eastern bank of a large tank, presently known as Miah Bari mosque. While this edifice bears no inscription, according to the historian M. Hasan it was probably constructed in the early eighteenth century (Hasan 1987: 23), when two storied mosque structure such as the Khan Muhammad Mridha (1706A.D.) and Kartalab Khan (1704A.D.) mosques were popular in Dhaka.

3.02m wide single flight of steps leads to the roof of the platform from the ground, where the main prayer hall is found. The high plinth or platform gives a majestic look to the Miah Bari Mosque, railing of which was broken and now missing. The square shaped arched substructure of *tahkhana* is presently used as a madrasa and two old unknown graves are lying under the flight of steps. The *tahkhana* is covered by a brick flat-roof that is derived from the technique of flat arch construction.

The main sanctuary or prayer hall is placed on the western side of the platform and has the usual oblong plan, measuring 13.49m long and 6.1m wide externally with a 1.65m thick surrounding plastered brick wall. The prayer hall is entered from the eastern side by three archway and the other two side walls have also one pointed-arch openings each. The central archway is larger than the flanking ones and is projected slightly towards the front. Each of those openings is bounded by a slender engaged turret extended high above the roof level and ended in a pinnacle. Instead of typical alcove typed mughal opening, each of the openings in this mosque has a cusped arch on the outside surface and four centered pointed arch on inside where the wooden louvered shutter was fixed. All the architectural elements

178: Front elevation, Miah Bari mosque

observed on the frontal facade repeat outside the *kibla* wall. Entrances are substituted by blind openings and from ornamentation view point it is bare. The four corner turrets, one at each corner and two additional turrets on the front and back facades are octagonal in shape extended high above the roof level with their plastered blind kiosk divided by three eaves and ended in a small cupola having an *amla kalasa* typed finial. The whole length of the rectangular hall is divided into three unequal bays by means of two 1.05 m wide arches springing from the east and west walls. The side bays are rectangular in shape and smaller in width, but the central one is bigger and square. With the help of brick pendentives the square central bay is transformed into an octagonal area and again by squinces at each octagonal corner formed a circular supporting area, upon which the dome supports. The domes have an octagonal shoulder and are crowned with elongated finials.

Except the bare western wall, the upper part of the rest three outer wall surfaces is profusely ornamented in plaster. The floral relief has white surface coating and the recessed surface is painted in blue. Perforated floral screen is embellished on the straight and projected eaves, and set as parapet in the alignment of the entrance opening. The noteworthy features of this edifice are the introduction of two additional turrets in the front and back facade, colorful stucco floral ornamentations and the perforated floral screen as pediment of entrance opening, which proves that it belongs to the late mughal period.

COLONIAL PERIOD

181: Unknown mosque in Dhaka
Drawn by Sir Charles D'Oyly, 1825

180: Bazra Shahi mosque at Noakhali, Entrance Gate

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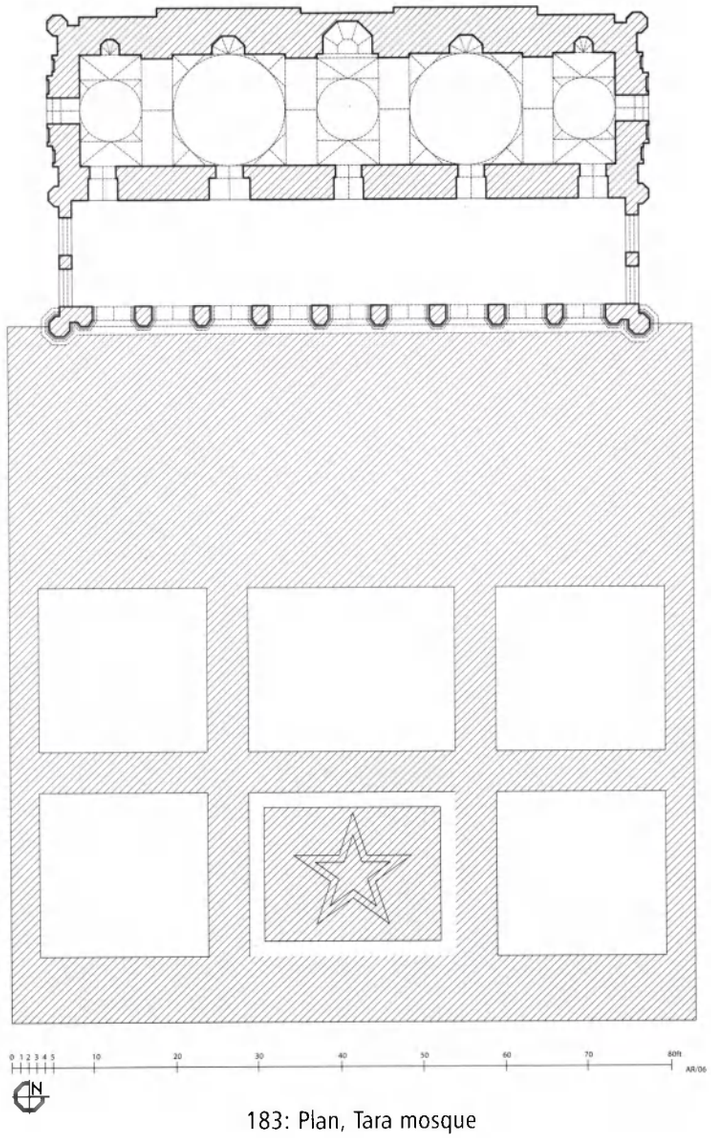
Dhaka

TARA MOSQUE

18th century A.D.

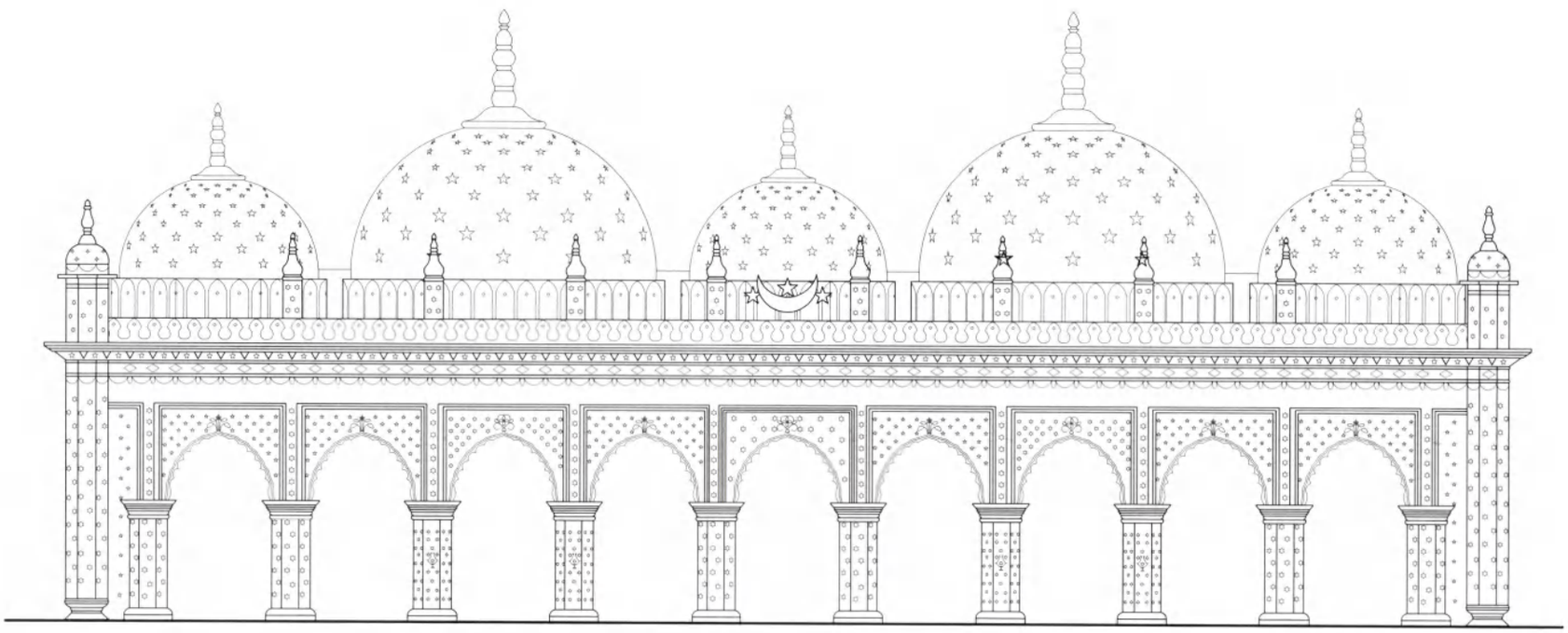
One of the best known and frequently visited ancient mosques in old Dhaka is the petite star mosque or tara mosque, located at Abul Khairat road in the Bangshal-Armanitola area, now surrounded by a high density residential cum commercial area. It is traditionally asserted that this mosque was built by one Mirza Ghulam Pir in first half of the 19th century, but the



183: Plan, Tara mosque

original one has been reconstructed in 1926A.D. by Ali Jan Bepari, a local merchant (Banglapedia 2003: 210). And the last renovation and extension was done by the Department of Architecture, Ministry of Public Works and Housing in 1987.

This mosque was extended in several phases. The original plan was a typical three domed mosque measured externally 21.8m by 6.8m containing all typical mughal features. The original rectangular prayer chamber is entered by three entrance ways and the *kibla* wall has three corresponding *mihrabs*. The central dome is bigger and higher than the flanking ones. The original surface of the mosque was not as decorated as it is now, but probably decorated in panels by plaster work, the western wall from outside bears the evidence of the simplicity of the typical mughal ornamentation. In 1926 a frontal fore-room or verandah was added to accommodate more devotees. The verandah was entered by five cusped arched doorways and two openings sidewise. The austere mughal surface was totally refaced with delicate and richly coloured *chini-tikri* work (mosaic work of broken China porcelain pieces), a style of surface ornamentation that was widely used during the Colonial period. The three-domed mosque was converted into a five-domed mosque during the last extension of the prayer hall by the Department of Architecture. This extension work was



184: Front elevation, Tara mosque

undertaken with extremely wrong direction that is sidewise and not symmetrical. As a result out of five domes including two new domes, the central one is smaller than the flanking ones. So that it loses all belongingness to Mughal period. Even the Islamic idea of emphasizing the central axis is totally disregarded here due to introducing a small dome in the centre.

The newly extended verandah is entered by nine cusped arched openings. The cusped arch of each opening is supported by octagonal pillars, which ended in a pinnacle shooting above the parapet. The octagonal corner turrets, one at each corner of the prayer hall, are carried high above the horizontal parapets and terminate in small cupolas with finials. All the domes rest directly on the octagonal shoulder decorated with basal leaf ornamentation and are crowned with beautiful tall lotus and kalasa finials. Projected eaves without typical mughal bracket run below the straight battelment all around the mosque. The pinnacles, corner turrets and the different sizes of domes break the monotony of the skyline.

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The name of this mosque acclaim that the focus of its surface ornamentation was a cosmic symbol-star. Hundreds of blue star have been inlayed on the domes of white marble. Flowers with five or six leaves are used in repetitive manner on the surface decoration of the eastern facade to represent the star symbolically. Flower-vases, flower branches, rosettes and various floral patterns have been used on all interior surface decoration, either in the form of mosaic or assorted pieces of glazed tiles.

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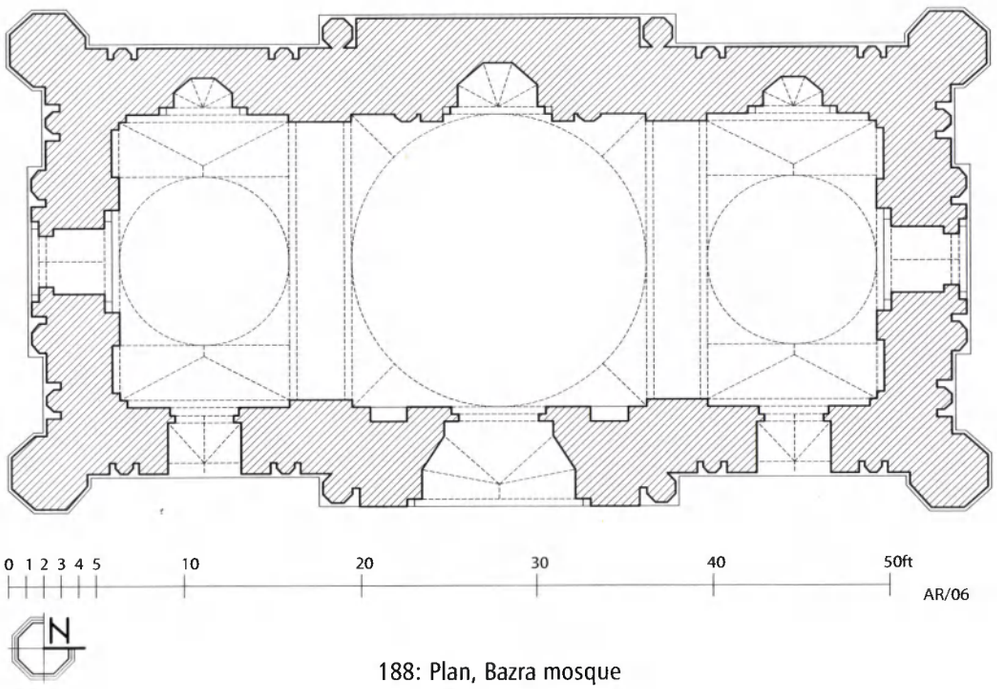
Begumganj, Noakhali

BAZRA MOSQUE

1741 A.D.

Perhaps the most graceful mosque complex in Bangladesh is the Bajra Shahi mosque, popularly known by the local people as the Tajmahal of Bengal. Due to its monumental scale and complexity it can be observed from the Dhaka-Noakhali Highway. It is named after the village of Bajra under the Begumganj upazilla of Noakhali district, on the west bank of a big



188: Plan, Bazra mosque

derelict tank now used as a paddy field. This mosque is seemingly in a good state of preservation due to the series of repair works and recent refurbishing of the façade. The inscription tablet dating the building to 1741A.D. is fixed over its eastern central entrance (Banglapedia 2003:206). It was erected by the *zamindar* Aman Ullah during the reign of the mughal emperor Muhammad Shah. The builder Amanullah, his brother Sanaullah and their mother are stated to have been buried in the south east corner within the mosque enclosure. Other Persian inscription record that it was thoroughly repaired in the Bengali year between 1318-35 by one Ali Ahmed and the name of the chief mason is also inscribed in Bengali which is fixed on the outside of the southern wall.

The mosque proper stands on the western side of a raised platform, which is enclosed by a low boundary wall with a majestic gate in the east. This impressive gateway structure is approached by a splendid staircase from the ground level and has standing or resting spaces for guards in the southern and northern side of the structure. The upper floor or the pillared pavilion is reached by a single flight of stairs from the north which was used for *azan* and covered by a dome. During the façade uplift in 1920 two slender *minars* were built in both corners of the frontal boundary wall.

The prayed hall has the typical mughal oblong shaped plan measuring 15.77 m by 7.54 m externally with a 1.28 m thick surrounding brick wall. The prayer hall is entered from the eastern side by three alcove archways and the other two side walls have one pointed-arch openings each. All the opening archways are framed by recessed panels in the wall and bordered by octagonal turrets with a pinnacle on the top. To articulate the main *mihrab* niche from outside, the *kibla* wall is projected in the centre towards the west. The four corners are buttressed by four corner turrets extended high above the roof level and ended in a blind kiosk covered by small cupola having a finial. The whole length of the rectangular hall is divided into three unequal bays by

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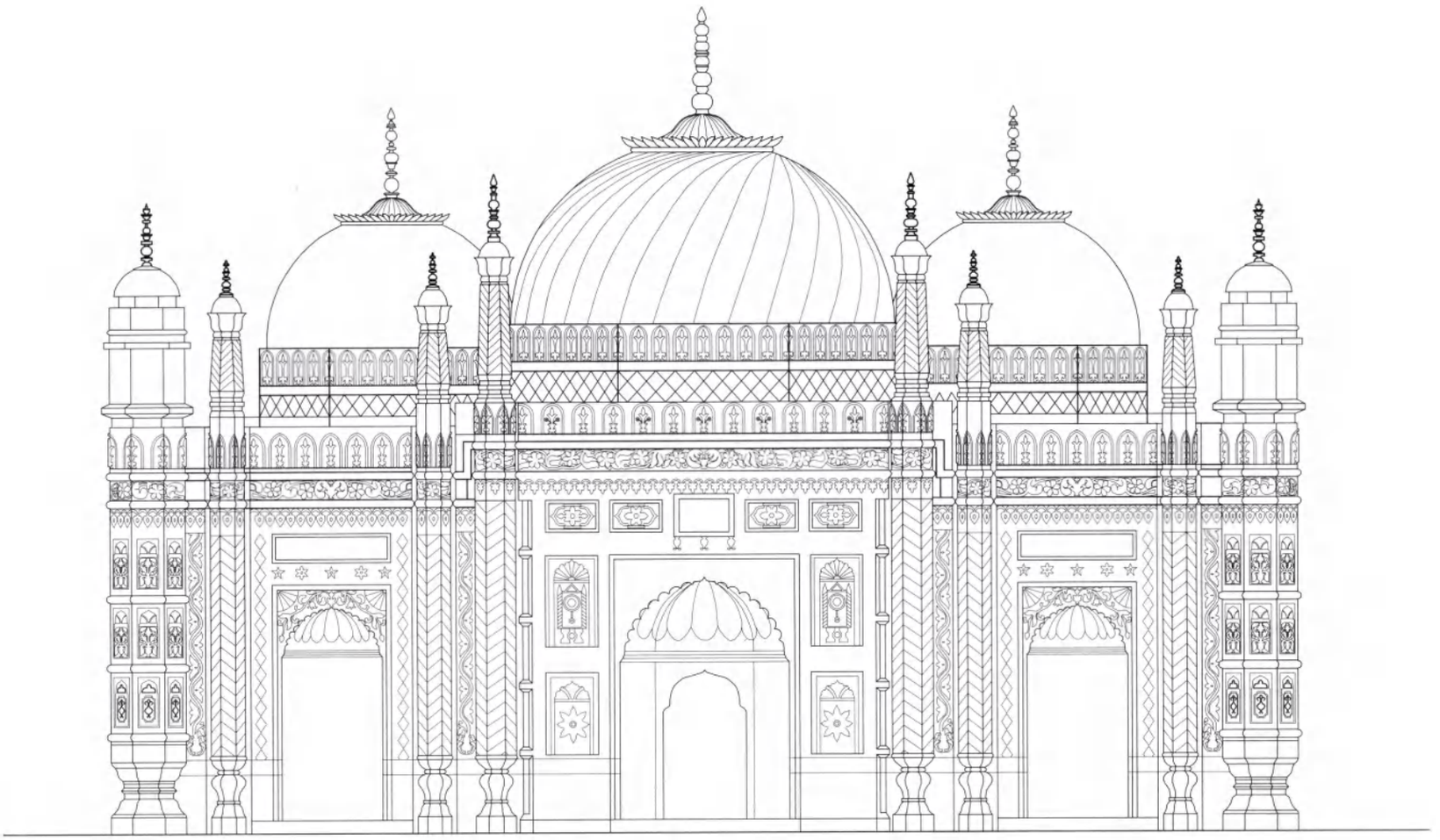

191: Front elevation, Bazra mosque

means of two 1.06 m wide arches springing from the east and west walls. The side bays are rectangular in shape and smaller in width, but the central one is bigger and square. With the help of brick pendentives the square central bay is transformed into an octagonal area. By introducing a series of sequences the octagonal area is transformed into a circular supporting area, upon which the dome supports. The two smaller rectangular side bays are converted into square supporting areas for the dome by using two half domed vault springing from the eastern and western walls. All the three domes have an octagonal shoulder embellished with merlons and are crowned with elongated *amla kalasa* typed finials on lotus base.

The frontal façade is decorated by recessed rectangular panel containing arched niches and ended in a straight parapet with rows of blind merlons. Originally the outer surfaces were plastered with a mortar of lime and powdered bricks. But, during the last refurbishing of the mosque only the frontal façade along with the three domes were profusely ornamented with *Chini-tikri* (chinesse ceramics), a popular surface treatment material during the Colonial period.

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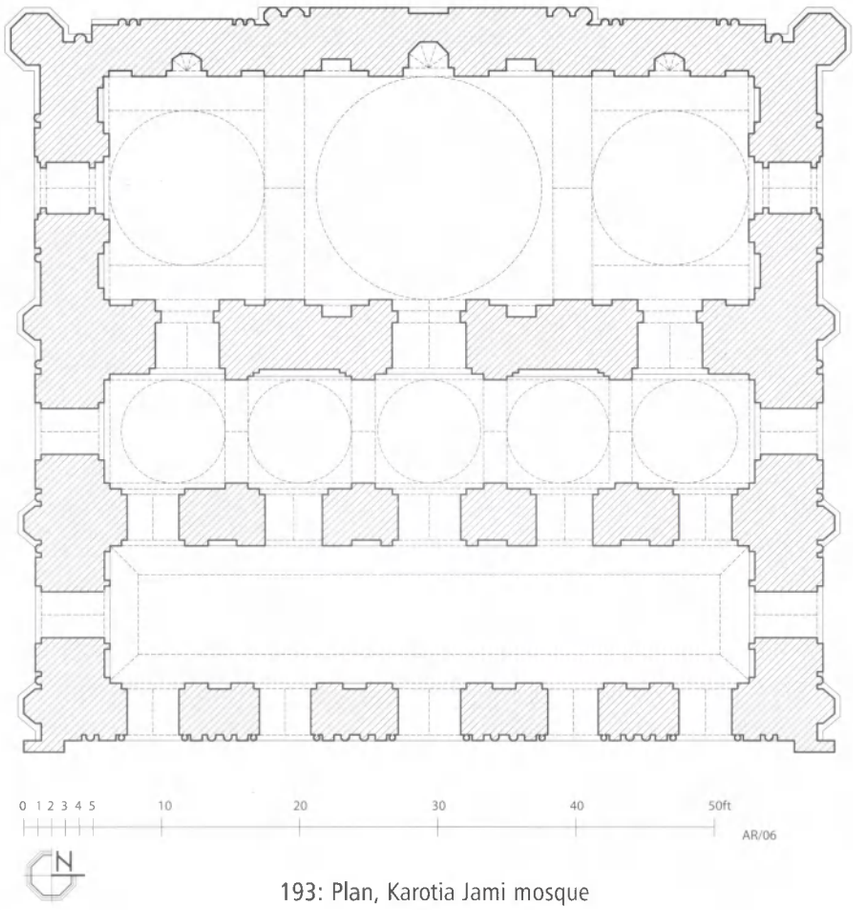
Tangail

KAROTIA JAMI MOSQUE

18th century A.D.

The legendary Panni *Zamindar* family built numerous buildings in and around Tangail District. The Karotia Shahi mosque and the Atiya mosque are the important contributions towards the development of mosque architecture of Bangladesh and belong to the credential of that Panni family. This edifice is located on the southern side of their palace complex at Karotia Sadar

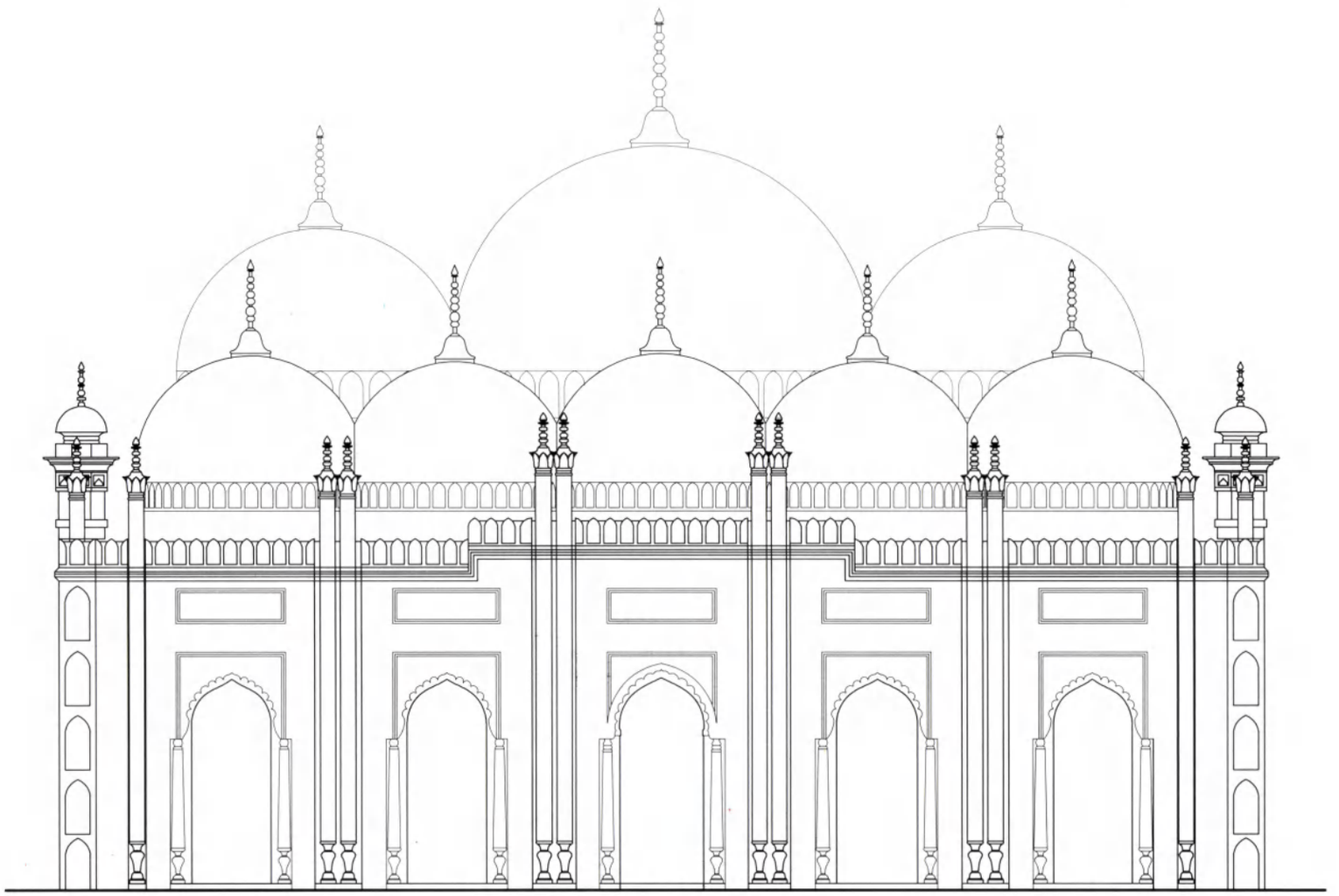


193: Plan, Karotia Jami mosque

upazilla and is seemingly in a good state of preservation.

It was extended in several phases. The original phase was a typical three-domed mosque containing all typical Mughal features. Neither the original structure is inscribed, but as regards its stylistic resemblance with the typical Mughal architecture, it may be assumed that this structure was built in 18th century A.D., when three-aisled mosques were popular in Bengal. According to an information board placed in front of the mosque, the first extension work was undertaken by Hafiz Mahmud Ali Khan Panni in 1871A.D. The mosque proper stands on a high podium and is approached from the east by a flight of circular steps and entered through an elaborated brick built gatehouse. The rooftop of the gatehouse is used for *adhan* and reached by single flight of steps from the north and the south side. In order to maintain the sanctity of the area, the open paved *shan* or courtyard was originally encompassed by a high boundary wall. The conception of the boundary wall design was a seating space for the worshippers before and after the daily prayer, and also serves the purpose of demarcation wall. The graveyard of the Panni family lies on the western side of the mosque proper.

The original rectangular prayer chamber stands on the western part of this courtyard and has the usual oblong shaped plan measuring 17.37m by 7.08m externally with 1.52m thick surrounding brick wall. The main prayer hall is entered from the eastern side through three archways and the other two side walls have also one arch opening each. The central archway is slightly larger than the flanking ones and is projected slightly towards the front. Corresponding to the three frontal openings, the *kibla* wall is niched with three mihrabs. The octagonal shaped central *mihrab* niche is flanked with two *mihrab* niches. To manifest the main *mihrab* niche from outside, the *kibla* wall is projected in the centre towards the west.



194: Front elevation, Karotia Jami mosque

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The rectangular hall is divided into three unequal bays by means of two cusped arches springing from the east and west walls. The side bays are rectangular in shape and smaller in width, but the central one is bigger and square. With the help of brick pendentives the square central bay is transformed into an octagonal area. By introducing a series of sequences the octagonal area is transformed into a circular supporting area, upon which the biggest central dome supports. The two smaller rectangular side bays are converted into square supporting areas by using two half-domed vault springing from the eastern and western walls.

Probably in 1871 a frontal fore-room along with a verandah was added to accommodate more devotees. Both the verandah and the fore-room were entered by five cusped arched doorways and two openings sidewise. Each frontal opening is framed by two pairs of turret having *kalasa* base and ended on the top in a pair of pinnacle extended beyond the parapet. The fore-room is divided into five equal bays by four lateral arches running from the east to west wall. These five bays are covered with five equal domes. All the domes rest directly on a very high octagonal shoulder embellished with basal leaf ornamentation and are crowned with beautiful tall lotus and *kalasa* finials. The frontal verandah is covered by flat roof using corbelling near the peripheral support to reduce the span of the roof. The parapet is straight and embellished with row of merlon battlements. The original surface of the mosque was decorated with rectangular panels by plaster work which bears the evidence of the typical Mughal simplicity.

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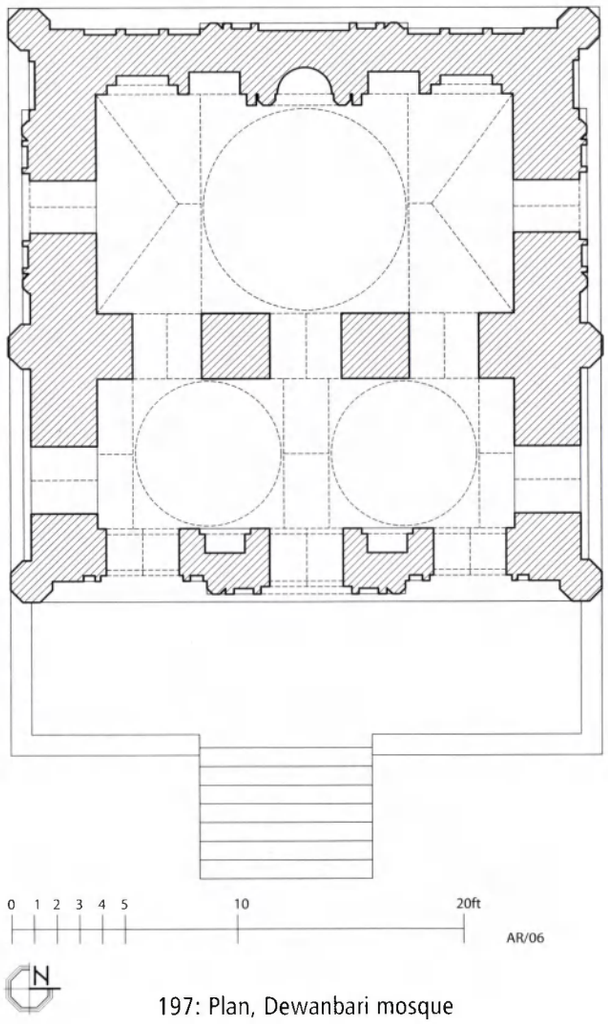
Aminbazar, Dhaka

DEWANBARI MOSQUE

1880 A.D.

After having crossed the Gabtali bridge or two kilometers on the Dhaka-Savar highway, a traveller cannot miss on the right side of this highway a small village named Dewanbari from which a spectacular *Chini-tikri* mosque sparkles in the middle, that recalls the glorious past of the nearby merchant's house. This mosque was built by a leather wholesaler Hazi Janab Ali



197: Plan, Dewanbari mosque

in 1880A.D. The mosque proper lies on the northern side of a big water tank and western side of a courtyard approached by an elegant *ghat* from the tank, which was used as space for ablutions performed before prayer. The whole compound is surrounded by a low boundary wall on three sides and the main house on the north. Presently this compound is accessed through a narrow street from the highway.

The typical single-dome mosque has a square shaped plan, but surprisingly this mosque proper is oblong in plan with a fore-room. The mosque proper stands on a high podium reached by a flight of steps to the frontal open verandah. It measures externally 7.42m by 7.20m and internally the prayer hall is 5.64m by 3.23m with a 2.11m wide fore-room. There are three arched openings in the east facade and one at each side of the fore-room. The main hall is accessed by three openings from the fore-room and has one opening at each of the north and south side. Corresponding to the eastern openings there are three *mihrab* niches in the *kibl*a wall; the central one is semicircular and the flanking ones are shallow rectangular in shape. Each of these *mihrab* niches, contained within a rectangular frame, is arched with multi-foil cusps in the face. The outside of the *kibla* wall shows the reflection in ornamentation of the three *mihrab* niche or the three entrance opening.

The central archway is slightly larger than the flanking ones and is projected slightly towards the front flanked on either side by lofty slender turrets to emphasize the central axis. The flanking turrets have *kalasa* base and ended on the top in a pinnacle extended above the parapet. There are six octagonal turrets at the corners; four at the corner of the main hall and two in the fore-room. They are slender in proportion and extended

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high above the parapet with elongated blind kiosk. Bright colours are used to paint the recessed part of the turret. It is an uncommon combination of colour and *Chini-tikri,* which is unusual in Bangladesh.

The main prayer hall is divided into three bays; the central one is square and the flanking ones are rectangular in shape. The square bay is roofed over by a semicircular dome in the centre and the side bays are roofed over by two semi-circular half vaults springing from the northern and southern wall. The transition from the square supporting area of the main hall to the circular base is attained firstly by four squinches at each corners to an octagonal

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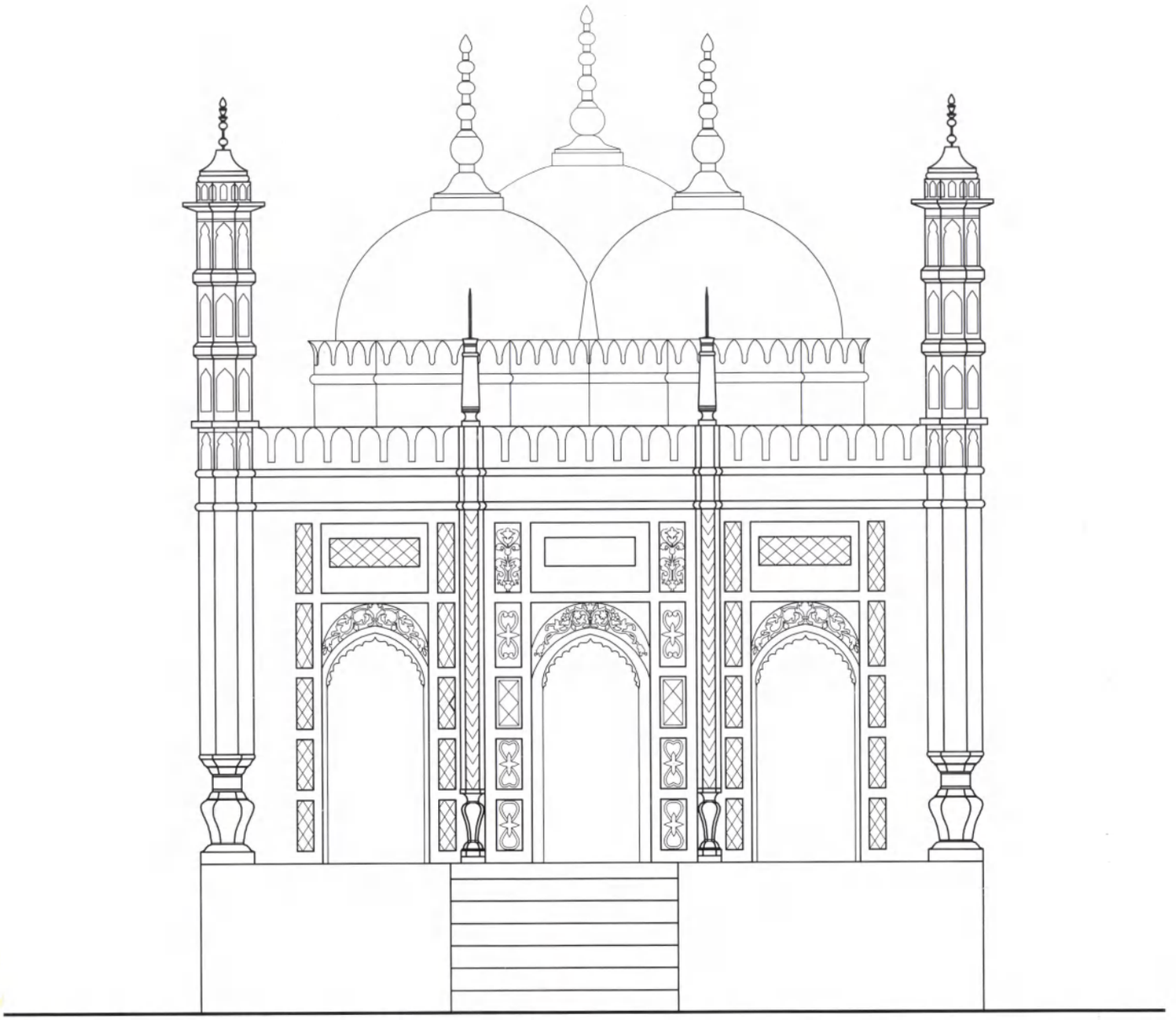

200: Front elevation, Dewanbari mosque

area; and finally from the octagonal area to the circular base with the help of sixteen arched niches, upon which the dome rests. The base or shoulder of the dome is decorated from inside with blind merlons and projected mouldings. The fore-room is divided into two equal bays by three lateral arches running from the east to west wall. These arches are also supported by brick pilasters engaged in the corresponding walls. Two smaller domes covering the fore-room are overlapped or interlocked with each other. All the three domes have an octagonal shoulder embellished with merlons and are crowned with elongated *amla kalasa* typed finials on lotus base.

All the outer surfaces are profusely decorated by recessed rectangular panels containing niches and ended in a straight parapet with rows of blind merlons. All the outer surfaces are covered with *Chini-tikri* (chinesse ceramics), a popular surface treatment material of colonial period. Instead of typical multi-coloured floral *Chini-tikri* ornamentation, they introduced the finest example of monochrome pattern, such as the recessed surface has darker tone of *Chini-tikri* tiles than the projected surface of the façade.

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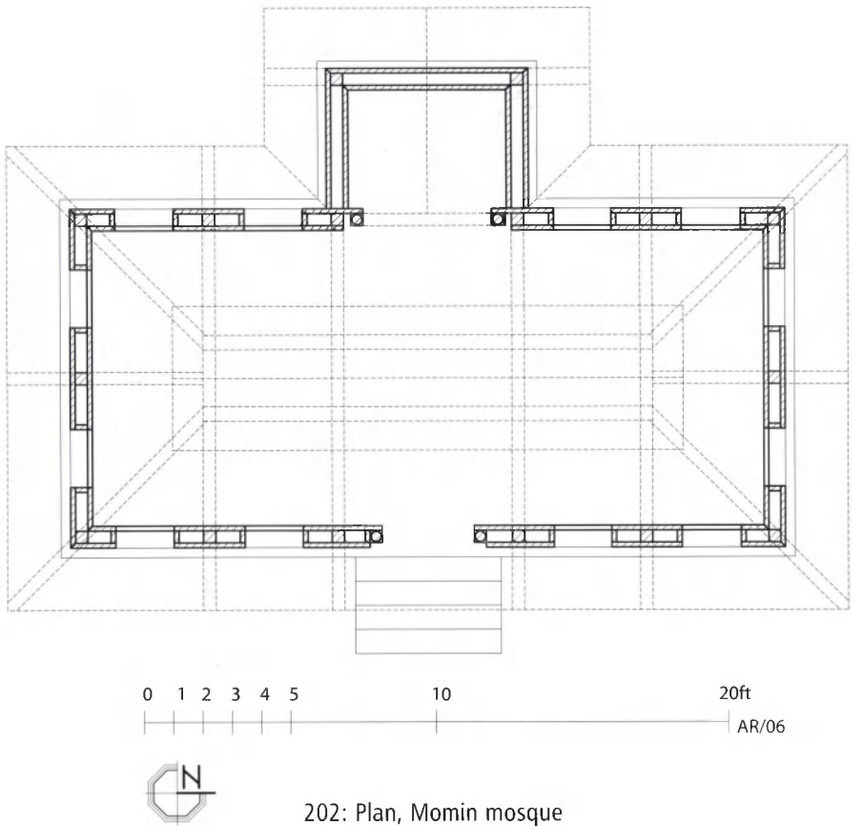
Tushkhali, Pirojpur

MOMIN MOSQUE

1910 A.D.

This wooden mosque is located in the village Udaytara Burirchar under the Upazilla Mathbaria in Pirojpur District. Traditionally the affluent family member of a village donates land and bears construction cost of a mosque for the villagers. So it is obvious that the sponsor will cherish his desire to build within his walking distance or his own vicinity to perform daily



202: Plan, Momin mosque

prayers without traveling a longer distance. Likewise, the Momin mosque was built by a philanthropist named Momin Uddin Akon between 1913-1920A.D. on the right side of the main approach of his own house (Shahidullah 2002: 16-17). The graveyard of the builder lies on the north-west side of the mosque building. Commonly it is called wooden mosque, Akon Bari mosque or Momin Baitul Huda mosque. Recently this mosque has been listed as Momin mosque under the "Antiquities Act 1976" by the Directorate of Archaeology. Two inscriptions have been found in this mosque; one is placed over the main entrance and the other is fixed over the *mihrab*. Information about the construction period is curved on the frontal inscription in Bengali and the other inscription has Arabic verses.

This is an oblong shaped prayer hall measuring 7.47m by 3.55m with a 15cm thick wall made of wood, entered from east by a double leaves door. Corresponding to the frontal opening, the *kibla* wall has a rectangular shaped projected space used as *mihrab*. This mihrab is articulated by a flat wooden arch supported on two posts.

The prayer hall stands on a high plinth; and at present the patent stone floor is finished by neat cement and covered with moveable floor carpet. There are six five-inch square wooden posts in each longer side and three posts in each shorter side support the roof frame of the mosque. Basically it is a four sided pitch roof or *chouchala* covered with corrugated iron sheet, but due to the ventilation or circulation of fresh air the middle portion of the roof is raised properly. This raised apex of the roof is again surmounted by *dochala* or two-sided pitch roof. Ventilation is the major factor which was taken into special consideration by designing the walls. The peripheral wall is divided vertically into three parts. The lower and upper parts are encompassed by fixed perforated wooden screen or panels. The middle portion consists of two types of window; pivoted and swing.

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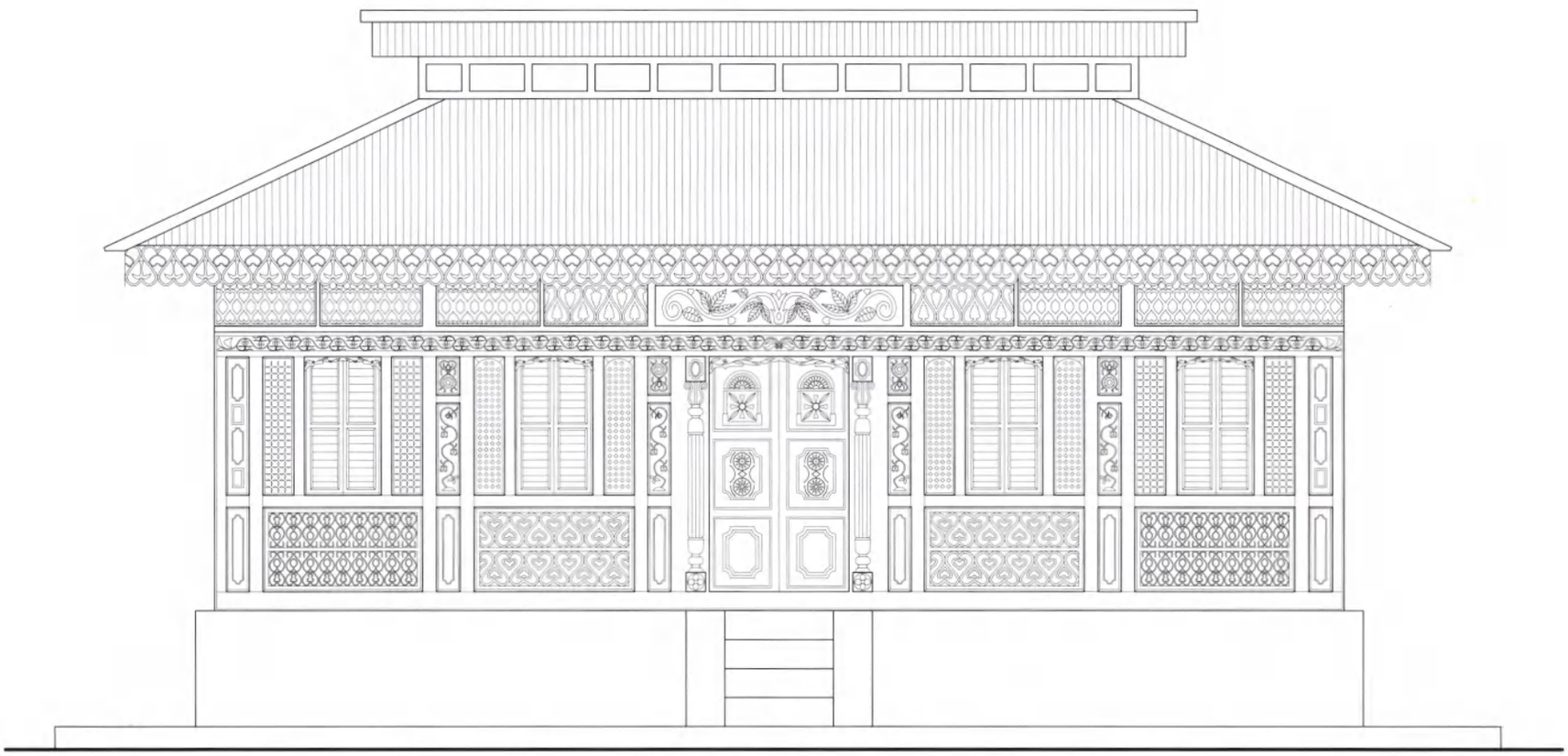
Both of them are operated from inside. There are four swing windows in the longer side and two swing windows in the shorter side each. The intermediate space between the windows has a fixed panel from outside and pivoted panel from within.

All structural posts, purlins and rafters are made of *Loha Kath* or Iron wood and Burma teak are used for paneling work on which all kinds of ornamentation was done. The wooden surface was painted to protect it from moisture and the diving rain, but presently timber is exposed to weather. This noteworthy carpentry, chiseling and carving work were conducted by 22 trained and experienced craftsmen from Sharupkathi Upazilla. Although this mosque is famous for its fine wood-curving work, but architectural semiotics resemblance more with a rural outhouse rather a typical mosque comprising *shan, minber, minar* or *iwan*.



205: Front elevation, Momin mosque

CONCLUSION

Mosque, being the centre of Islamic spirit and activities, becomes an edifice of special significance in the Muslim settlement all over the world. Starting from a simple one in Medina, in course of modification through time and regions, it has attained a significant degree of architectural magnificence and established itself as a distinguished building type. The Muslims came in 601A.H./1204A.D. to Bangladesh, the land of the Buddhists and the Hindus, where a well developed tradition of architecture had already existed. Wherever the Muslims went, they erected mosques to meet the fundamental religious requirements, that is, the congregational prayers five times a day. With the help of indigenous building materials, craftsmen and local building techniques where necessary, they laid the foundation of the Islamic architecture in this country. The nature of the soil and incessant rainfall made a tremendous impact on the formation of an enclosed type mosque in Bangladesh, whereas the typical Arabian courtyard-type mosque surrounded by a covered cloister (riwaq) was discarded here. As a result the mosque architecture of Bangladesh got a new expression of regional character of religious architecture; which was widely followed and practiced from the early Islamic to Mughal period.

Early Islamic period (1204-1575A.D.): The Muslim builders during the early Islamic period developed their own architectural form and character, which can be easily identified from other regional architecture. Bangladesh as a province of Delhi empire (1204-1338A.D. and 1535-1575A.D.) and as an independent kingdom (1338-1535A.D.), continued its separate identity till the advent of the Mughals in 1575A.D. During this period, there began an era of great creativity based primarily on the existing culture and architectural tradition of Bengal. It was truly the emergence of Bengal as a nation with a distinctive language, architecture and literature. Architecturally; the important aspect of the Sultanate period is the synthesis of regional forms, techniques and traditions with the idea and concepts of the foreigners. Although, new building types, such as the mosque was introduced, they eventually found expression through regional forms and features. "Of the

206: Dhaniachak mosque at Chapainawabganj, Arch and dome

total number of dated mosques constructed in Bengal during the entire Muslim period (601-1173A.H. /1204-1757A.D.); almost three-quarters were built between the mid-fifteenth and the mid-sixteenth century"(Hasan 1989:58). The major mosques of that period were built around the capital city of Gaur, Bagerhat and Sonargaon.

In terms of organization of the inner space, the mosques constructed in Bengal from the thirteenth to the sixteenth century can be classified broadly into two major groups: rectangular and square type. Most of the mosques in and around Gaur belong to the rectangular group and in Bagerhat belong to the square type; they are mainly for small community. The interior of the rectangular type or large square type mosques is divided into several equal bays covered by several equal multi-domes, which is unusual in other region of India as well as Islamic world.

One of the characteristics of the Mosque architecture in Bangladesh was to place several *mihrab* niches in the *kibl*a wall. The number of *mihrab* niche depends on the number of entrance openings in the eastern or front wall, and the location of the *mihrab* niches correspond to the central axis of these openings. The idea of placing a niche directly opposite to the entry, reminds the preceding Buddhist temple architecture. A raised platform in the north-west corner of the prayer hall had been introduced in some of the Jami or Friday mosques. This gallery could be a place for the rulers or dignitaries.

Minaret or tower, the essential feature of a conventional mosque in the Islamic world, was discarded in Bengal. Instead of a *minaret* a distinctive type of turret covered by cupola, one at each outside corner is seen in early Islamic architecture of Bengal. These turrets invariably form a part of the buildings, and were built either as corner strengthening or merely as ornamental appendages. The other specific features of this period are the richness of surface decoration, use of traditional brick and terracotta, occasional stone-carving, etc. Early Islamic building art is pre-eminently a brick-built style, stone facing being very rare.

In the early Islamic architecture of Bangladesh, the transition from the square supporting area to the circular base of the dome had been simply effected either by spanning them with arch and vault (which makes a squinch), or by a gradually overhanging surface, which can be continued until a perfectly round base for the dome is achieved (which is a pendentive). The prayer hall of the ancient mosques in Bangladesh is covered either by a big single dome or by several small domes. In Bangladesh, squinch as a transition form is used only in the single-domed square mosques and the pendentives have been used in the comparatively smaller domes in the multi-unit mosques. The development of squinch in Bangladesh varies from the squinches in other regions. An identical type of squinch appears in all the single-domed mosques of Bangladesh. The domes in the multi-unit mosques in Bangladesh are relatively smaller than the single domed mosques. Each of the square unit has four supporting pillars connected by four arches to make the square supporting area for the dome. The transition from the square into a circular base for the dome is achieved by a specially developed brick pendentive at each corner. This new pendentive is a combination of alternately using the traditional corbelling of the Hindu architecture and the diagonal placing of bricks. This newly developed pendentive is widely used in almost all multi-unit mosques in Bangladesh.

The Muslim rulers not only introduced to the Bengali architecture specifically Islamic features such as the dome and the pointed arch, but also crystallized certain

local tendencies in a new tradition that was as much Bengali as Islamic. The foremost of these were the curved cornices and *Chouchala* dome, which was reproduced from the traditional roof of rural bamboo hut to throw off the rain water quickly. The curved cornice and the Bengali *Chala* vault have been used abundantly in the Mughal architecture during the time of the fifth Mughal emperpor Shahjahan and onwards. These features of Bengal that were accepted by Mughals, were passed further in the eighteenth century and used in palaces, gardens and pavillions of other provinces in India.

The Mughal period (1576 A.D. - 1757 A.D.): In 1576 Bengal was conquered by Mughal rulers. The specific feature of the Mughal period is the idea of political centralization, when all imperial ideas and ideals flowed down from Delhi. Architecturally this meant the imposition of forms from Delhi by the Governors of Bengal. This was a break with the continuity of the architectural tradition of the region.

In the early phase of Mughal period they synthesised the Sultanate and as well as the Mughal features. There exist a few examples of mosques belonging to the transitional phase or early phase, where few of the pre-Mughal innovations were continued or developed to suit Mughal intentions, for instance the curved cornice, terracotta ornamentation, corner turret, prayer hall with a frontal verandah of Sultanate architecture. The Mughal structures in Bengal were more modest in scale and less articulated in execution. Beside mosques, Mughal structures include forts, *idgahs*, mausoleums, *karawan sarais* or *katras*, etc.

Rectangular type three-bayed or domed mosque was developed in central India by the Mughal builders, which was followed and copied in Bangladesh through the governors of Mughal Empire. The three-domed prayer hall was adopted in a Mughal structure as against the variety of multi-domed mosque of pre-Mughal times. Among the three bulvious domes, the central dome is bigger than the flanking one and rested on high shoulder ornamented with typical blind Marlon

Corner turrets used by the mughal ruler enhance the verticality of the structure itself on the contrary of the horizontality of early Islamic mosques. Proportion is more slender, extended above the roof level, has a *kalasa* type base. Besides the four octagonal corner turrets, there is corner turret of smaller in size placed at each corner of all projected panel for the entrance opening. The corner turret is typically crowned by blind kiosk terminated by ribbed cupola having a *kalasa* finial at the top, which is extended high above the roof level.

The traditional terracotta ornamentation was replaced by plastering of the walls which show decorative panels, rectangular type or arched type; the arches being of various kinds, such as flat arch, multi-cusped arch, four-centered arch, horse shoe arch etc. The interior of the dome and entrance came to be decorated with net and foliage pattern in plaster. The older curved battlement and cornice became straight under the Mughals and the horizontal parapet was ornamented with blind merlons in plaster. Powdered brick with lime was introduced as mortar and plaster material. After mixing the powdered brick with wet lime, a new reddish yellow or pink colour occurs automatically, which resemblance with the red sand stone buildings of central Mughal.

The Colonial period (1757A.D.-1947A.D): Imperialist cultural imposition, initiated mildly by the Mughals, was total in the case of the British. The British cultural domination was so thorough and overwhelming that it completely severed the continuity of Bengali socio-

cultural and economic life, including the development of regional Mosque architecture.

The British ruler put up their first buildings as exact facsimiles of buildings in England, as well as Europe. Climate was the first factor, which forced a change in the imported European buildings. Locally used architectural elements, such as, overhanging eaves, wooden lattice, the verandah, etc., began to be incorporated and gave rise to a new set of buildings with a strange mixture of British, Islamic and regional elements.

There is no denying the fact that the British rulers concentrated mainly on secular buildings, religious buildings for the Muslims were discarded. At the later phase of the British rule, a minority group of Muslims came into close contact with the rulers and got the *khan-bahadurship* or *Zamindership* for a small locality. Large numbers of mughal mosques were renovated and only a few were newly built under the direct patronage of those wealthy Muslim *zaminders*, marchents or elites. Instead of developing a style, surface treatment was the main focus of the builders. *Chini-tikri* or the broken ceramics, an imported building material from china, were used as surface cladding material in spite of Bengali terracotta or *Chun-surki* plaster.

Conclusion

Thousands of mosques are serving the Muslim community of Bangladesh. Mosques were built under the patronage of rulers and distinguished rich Muslims. Since last centuries the common people started to build mosques gradually in their own initiative. These mosques develop gradually and reflect the desire and demand of the community. Through this short survey of Mosque architecture in Bangladesh, the rich Islamic heritage of this deltaic country can only be partially expressed. One feature which makes architecture of this region unique is its own forms with its special qualities. Whatever came to Bengal ultimately was absorbed in the local culture adding a fresh and new dimension to the existing form.

The Mosque architecture of Bangladesh is not a style of impressive kind or large scale architecture as in North India, Iran, Iraq, Eygipt, Turkey, Syria etc., even though it was to some extent sympathetic to its local climate and tradition and self-expression. What they achieved may not have been a great style, but its construction principles were sound, its appearances were inventive and original, its close relationship with the Bengali hut can hardly go unnoticed and it was peculiarly suitable to the climate and the purpose for which it was intended. It is obvious that technologically and culturally nobody can live in isolation. But then there is the question of pride in one's own work. And that work can be the product of one's own creative activity. Without passionate respect and deep roots in one's own culture and the heritage of the people it is not probably possible to sustain a creative life.

207: Khan M. Mridha mosque, Blind kiosk on corner turret

Glossary

Azan	call to prayer.
Chouchala	the four-sided curved roof of the Bengali hut.
Chabutra	a raised platform for the *muazzin* to chant *azan* before the *khutba* is delivered by the *Imam*.
Chini-tikri	broken ceramics used for surface ornamentation.
Corbel	a block of masonry or material such as brick or stone, which projects from a wall or pier.
Dargah	(Persian word) in India refers to a Muslim shrine of a *pir*, often the center of pilgrimage.
Dikka	a raised platform, which is used as a seat for the *muazzin* in a mosque, to which a staircase leads up.
Dighi	a large rectangular shaped water reservoir or tank.
Dochala	two sided sloped roof of Bengali rural hut.
Ghat	platform or steps of masonry at the edge of a pond, tank or river.
Gambuj	literally a dome.
Idgah	Persian word which refers to the open field designated for the two chief Muslim festivals or *id* prayers.
Imam	the spiritual leader of the Islamic community. It also refers to the appointed leader of prayers in a mosque.
Iwan	vaulted or domed space or hall with one side opening on the court.
Jali	literally „net", any lattice or perforated pattern.
Jami	term applies to a mosque where the Friday prayer is conducted.
Khutba	the Friday service delivered in a *Jami* mosque.
Mahabharata	mythological story book of Hindu religion,
Maksura	an enclosure which protects the ruler in a mosque.
Mazar	this Bengali word refers to a Muslim shrine of a *pir* or saint. It is also a centre of pilgrimage.
Mihman Khana	guest quarter.
Mihrab	niche in the *kibla* wall of a mosque, indicating the direction of *Mecca*.
Minbar	a pulpit from which the friday sermon is delivered.
Muazzin	the person who gives the call to the prayer or *azan* in a mosque.
Pilaster	a column or a pillar, projecting only slightly from a wall.
Kibla	the direction of prayer towards *Mecca*, which in Bengal is to the west.
Ramayana	mythological story book of Hindu religion.
Riwaq	arcaded cloisters surrounding the courtyard of a mosque.
Sahn	courtyard of a mosque.
Shikkara	conical or piramydical shaped tower of the Hindu temple, a common feature in the early temples of the Indian province Orissa.
Shofar	a horn.
Stupa	it is an object of veneration and worship in Buddhist sacred sites, but originally *stupa* was raised over the relics of the body of the Buddha.
Subah	term refers to a Mughal administrative zone.
Surki	powdered brick.
Trabiated	term applies to architecture based on the principle of post and lintel construction.
Transept	the wider and higher central aisle of a mosque.
Turret	small tower without internal stair.
Tympanum	the space enclosed by the arch and lintel above a doorway or opening.
Uppazilla	the lowest administrative zone in Bangladesh.
Vihara	Buddhist monastery or convent.
Zennana	woman's room.

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