Stone Carving Art in the Mosque Architecture of the Varendra Region

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DICLARATION

It is hereby declared that this dissertation entitled ‘**‘Stone Carving Art in the Mosque Architecture of the Varendra Region’’** has been compiled for submission for the degree of Master of Philosophy in Islamic History and Culture, University of Dhaka by myself under the supervision of Professor Dr. Md. Mosharraf Hossain Bhuiyan.

All information in this document has been obtained and presented in accordance with academic rule and ethical conducts.

It is my original work and has not been submitted earlier for the fulfillment of other course of study. I also declare that no chapter that no chapter of this manuscript in whole or in part is lifted and incorporated to the report from any earlier works.

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Supervisor's Certificate

It is hereby being certified that this dissertation entitled "**Stone Carving Art in the Mosque Architecture of the Varendra Region",** submitted by Md. Abu Toha Biswas for the degree of Master of Philosophy in Islamic History and Culture, was carried out under my supervision. It is further certified that the work presented by the researcher is entirely original and it has not been submitted to any other University of organization for any other degree of diploma.
It is hereby being recommended to be forwarded to the examinations.

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Glossary

Adhan : Five time call to prayer.

Chauchala: Four sides curved roof of the Bamboo hut of Bengal Village.

Chaitya: a Buddhist shrine or prayer hall with a stupa at one end.

Dikka: A raised platform, which is used for given *khutbah* (sermon) of Friday prayer.

Dighi: A large water tank.

Do-chala : two sides curved roof of the Bamboo hut of Bengal Village.

Ghat: a platform of steps of brick, wood, or bamboo that lead to the pond or tank.

Imam : a religious leader in mosque who lead the prayer.

Jali : a net, a lattice or perforated pattern in openwork.

Jami masjid: a mosque where the Friday congregational prayer takes place.

qaaba: The Kaaba, also referred to as *al-Kaʿbah al-Musharrafah*, is a building at the center of Islam's most important mosque, Great Mosque of Mecca, Saudi Arabia. It is the most sacred site in Islam.

Khutba: A Friday sermon, from *Jami masjid:* what the imam delivers to audience or devotes.

Mahavarata: A Hindu religious scripture, is often cited a mythological story.

Minar/Mineret: a tower typically built into adjacent to mosque, from where a *mu'addin* call the devotes at prayer time.

Mihrab : a niche in the wall of mosque that indicates the *qiblah* as well as direction of *qaaba* in Mecca.

Minber: a step platform, which is used for, delivered sermon in Friday prayer

Mu'addin: a Muslim appointee who summons the faithful to prayer from a minaret five times a day.

qiblah : the direction of the qaaba (the sacred building at Mecca), to which Muslims turn at prayer.

Ramayana: A Hindu religious scripture, is often cited a mythological story.

Ratna : a style of *temple* architecture that arose in Bengal.

riwaq : is an arcade or portico open.

Sahn : an open courtyard of mosque

Shikhira: a pyramidical shaped tower of the Hindu temple, commonly founf in stone made temple structure.

Stupa : It is a mound-like or hemispherical structure containing relics that is used as a place of meditation in Budha religions.

Sufi : a man having knowledge of Islamic mysticism

Vihara : a Buddhist temple or monastery

Zennana : A place for woman

Zullah : Prayer hall or chamber alias Sanctuary of mosque.

Pilaster: a rectangle column, especially one projecting from a will.

Transept : the wide central aisles of mosque which r of the two parts forming the arms of the cross shape, projecting at right angles from the nave

Corbel: Dargha : A shirin of a *pir*,

Niche: a semi-circular alcove.

Trabeated : a type of post-and-lintel system, is often referred to trabeated.

Turret: a small tower adjacent or engaged to building

Tympanum : a vertical recessed triangular space forming the centre of blind arch.

Vault: a roof in the form of an arch or a series of arche to cover up the large section

Spandrel: the almost triangular space between one side of the outer curve of an arch framework.

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Introduction

'I looked in temples, churches and mosques. But I found the Divine within my heart.' ……Rumi

'The true work of art is but a shadow of the divine perfection.' ……..

Michelangelo

Architecture and buildings are considered as a power. Skillfully constructed and excessive ornamentation in terms of their size and artistic development respectively, could make an appellation of affection to human mind. But, the architecture along with art may have many divergent feature, form and formation, which get manifested in accordance to the different regions, culture and religion. Among all type of architecture for different purpose, the history of religious architecture is probably oldest and very common edition to human civilization. The Muslim were not exceptional in this case. Rather, they are one step forward, because, architecture and architectural ornamentation is the most prominent form of art they had patronized. Among the building types, they repeatedly emphasized on Mosque. Moreover, besides carrying out a mosque architecture with an impressive look, commissioners another prime object was to embellish the mosque surface, in most cases, with various features of ornamentation for surface decoration. The mosque embellishment is carried out in such a perfection that it would reflect a divine peace and heavenly look.

The mosque, meaning *masjid* in Arabic, is the Muslim gathering place for prayer. The word '*Masjid*' simply means "place of prostration. The architecture of a mosque is shaped most strongly by the regional traditions

of the time and place where it is constructed. Even the decoration what has been employed in mosque embellishment, are mostly varied and contain a distinctive feature depending different place, region and culture. As a result, style, layout, and decoration can largely vary.

The medieval mosque of the Varendra region contains a special type rather than the traditional orthodox style of Arab and Persia. These mosques carried very distinctive features, which were quite different from, even the mosque type of Delhi. Furthermore, a number of Mosque in this region had very distinctive type, having brick core building but camouflaged with stone veneer. Stone facing were carved with intricate design. The design what were used either originated from the Indian cultural continuation with reformed design or the Persian Muslim art. Both the cultural outputs in art were blending together in term of mosque surface decoration along with architectural art.

The region of the Varendra was once an important populous area in the history of medieval Bengal, from which the Muslim political momentum had been carried out throughout the whole period of Bengal Sultanate. As an important center of Muslim rule, the region overwhelmingly played a dominant part in cultural development, because of social change and economic prosperity as well as political stability. The Muslim repeatedly emphasized on constructing mosque architecture. Besides, hundreds of brick made mosques, there are several stone made mosques in the land of the Varendra region that contains exquisite stone carving art. A number of monographs that contains a detail written study of those mosque architecture of land of the Varendra. In these works, there is hardly possible to have a detail description of the art of stone carving in mosque architecture. The description of art of those mosques, until now, is been confined to a single para when monograph on mosques has been carried

out. From a point of view of this, there is a necessity having a study on stone carving art of the mosque architecture of the Varendra region. In this dissertation, an attempt has been made to focus on the fascinating points of stone carving art design of those mosque which are of stone veneer. All the mosques of stone veneer were constructed in the time frame of Sultanate Bengal. Here the time span of Sultanate Bengal can tentatively be counted from the proclaiming independent rule from Delhi yoke at the second quarter of 14th to the 3rd quarter of 16th century of the Christian era.

The land of Varendra

A geographical unit, is supposed to be the region of Bangladesh. But it actually refers to an ancient '*Janapada*' community roughly corresponding to vast land of norther western region of modern Bangladesh and western part of West Bengal. But the independence of Bangladesh, this name only has been implied to northern Bangladesh.

The name of 'Varendra' derived from mythological concept having two Sanskrit words viz. *'bar'* and '*Indra*' meaning respectively blessing of *Indra* (head of gods in Hinduism). Many believes that this land is the blessing from the god *Indra*. But we do not get reference having this name in ancient literary source. As a matter of fact, it can be cited that the name was not prevail in ancient time. The land and its surrounding area what we are discussing about, was known by the name of Pundra. The name can be found even in the mythological reference, such as *Mahavarata and Ramayana*. In the *Mahavarata*, we have found five brothers, namely Anga, Vanga, Kalinga, Pundra and Suhma.[1] Five *janapada* were named after the five brothers.

[1] Panchanana Tarkaratna ed., *The Mahabharata, Calcutta, Saka 1826, Adi parva, Ch.104, pp-113-14, vv.9-55, also mentioned in History of Varendra Region (Barendra Oncholer Itihasa)*,p-7, published from Office of the Divisional Commissioner, Rajshahi

'Varendra' or 'varendri' was the metropolitan district of the Pundravardana territory, as the city of Pundravardana.[2] Its inclusion within Pundrabardhana is proved by the Silimprur, Tarpandighi and Madhainagar inscriptions. But, it is not yet traceable to discover the fact of naming the 'Varendra'. The name was first appeared during the time of Pala dynasty. The first literary source of the word 'Varendra' which has been mentioned in *'Ramcharitam*' written by poet S*andhyakar Nandi* of 10th century A.C. In Ramacharita, Varendri was mentioned as the ancestral home of Palas.[3]

Furthermore, Minaj-i-Siraj in his book '*Tabakat- Nasiri'* mentioned the Barind as the wing of the territory Lakhnatwati on the eastern side of the Ganga. R.C Majumdar, identified four modern cities, Dinajpur, Bogra, Natore and Rajshhi that to be the part of Varendra region. Two other citie were left undiscovered.[4] So other two citie might be located at the surrounding area of four city. Cunningham divided the ancient Bengal into four separate regions, Varendra is one of them.[5] On the other hand, H. Blochmann, defined the territory of the Varendra, a region between two rivers, Karotoya and Mahananda and just to the north of the river Gangas.[6] So, it can be concluded that the territory of the Varendra was imply beyond the region of northern Bangladesh. The territorial jurisdiction of Varendra region was expanded beyond the Bangladesh border, included the vast area of modern West Bengal, India.

A Brief History of the Independent Sultanate: After first Muslim attack on the last Hindu king, Lakshamansena in 1204A.C., Bakhtyar Khaji took

[2] R.C. Majumdar, ed., *History of Bengal*, Vol-I,p-20
[3] Mentioned in R.C. Majumdar, ed., *History of Bengal*, Vol-I, p-13
[4] R.C. Majumdar, ed., *History of Bengal*, Vol-I, p-20
[5] A. Cunningham, p-145
[6] H. Brlochmann, Contributions to the Geography and History of Bengal, Culcutta, Baptist Mission Press, 1878, p-3

control a small part of Bengal, a region of the Varendra and suburb area. He established a kingdom of Lakhnawati, under the Delhi Sultanate. But his successors under the name of Khalji Rule (1204-1227A.C.) established their rule over the land, continued their administration as independent governors until 1227 when it became a province under the protection of Delhi Sultanate and lasted upto 1287 A.C. After the death of Delhi Sultan Ghiyath al-Din Balban of Delhi in 1287, Bengal went under control of Independent governors. And Bengal expanded to Bihar on the West and different governors started to rule indifferent part of Bengal and started to mint their own coin.

A nominal governor of Fakhar-al-Din Mubarak Shah who ruled Sonargaon and declared independence and assumed himself the Sultan. Within short period, Shamsuddin ud-Din Ilyas Shahi, founder of Ilyas Shahi Dynasty took control over whole Bengal and assumed the first independent Sultan of united Bengal. Medieval Historian Shams-Shiraz Afif gave him three titles, King of Bangla *(Shahi-i Bangala*), King of Bengal Nation *(Shah-i-Bangalian),* and Independent Ruler of Bengal *(Sultan i- bangal.)*[7] With the exception of brief period from 1413-33A.C (when Hindu King Raja Ganesh and and his son Jalaluddin Mahmud Shah rules during this period), Ilyas Shahi rulers ruled this land with their sovereign power and authority.

A short lived dynasty (Abyssinians Dynasty 1486-93A.C.) started their rule over the downfall of Ilyas Shahi dynasty and lasted till 1493 A.C. when ruler of Husain Shahi Dynasty (1493-1538 A.C.) started to rule from capital Gaur, with sovereign authority of Sultanate. Founder of the dynasty, Ala-ud-din Husain (1493-1519 A.C.) and his son Nusrat Shah (1519-32 A.C.) were the notable ruler and under their enlightened rule, the creative

[7] mention in A. Karim, *Banglar Itihasa*, (Sultani Amal)Dhaka,2007, p-184

genius of the Bengali people reached its zenith.[8] The military eligible ruler pushed/extended their western frontier to Bihar upto Saran in Jaunpur and reduced the kingdom of Orissa in the southwest.[9] Their military conquer and subjugation brought in more and more affluence.[10] Their proficiency in administration and rule could bring peace and prosperity in this land. The peace and prosperity along with affluence all encouraged architectural activity throughout the Bengal. While the ilyas shahi reached the height of excellence in Bengali Muslim architecture, during Husain Shahi period it prospered and appeared every nook and corner of Bengal.[11] The actual history of independent Sultanate of Bengal came to end in 1538 A.C. with the downfall of Huasin Shahi dynasty, Gaur fell to the Afghan ruler and Sultan of Delhi, Sher Shah Sur alias Farid. Then, Bengal became dependency of Delhi sultanate under Afghan sultanate until the final annexation by the Mughals in 1575A.C.

Mosques of the the Varendra Region in Sultani Period:

With the rapid growth of the Muslim society in the Varendra region, a large number of mosques started to be built during the independent sultanate of Bengal. Most of the mosques were commissioned under royal patronage and quite a few mosques under the supervision of either royal officers or the local influential person of society. Most notable surviving mosque structures that we can find today in this region, were built during the Independent Sultanate between the timeframe of 1450-1550A.C.[12] Of the total number of mosques constructed in the entire Muslim rule in

[8] J. N. Sarker, ed. History of Bengal, Vol-II, p-143
[9] P. Hasan, Sultan and Mosque, p-16
[10] A.H. Dani, Muslim Architecture in Bengal, p-117
[11] A.H. Dani Muslim Architecture in Bengal, p-117
[12] P. Hasan, '*Sultanate Mosques and Continuity in Bengal Architecture' in Muqarnas* Vol. 6 (1989), p-58

Bengal(1203-ca.188A.C.), almost three-quarter were built during the time frame of Independent Sultanate.[13]

Throughout, medieval ages building of mosque was seen as a form of proclaiming might by ruler. A ruler or invader would often build a mosque in the newly conquered territory or after victory in a battle to display his valor. The Adina Mosque, Maldah district, West Bengal, India was such as example, by which Sultan Sikander Shah wanted show his victory.[14] Furthermore, the main object of ruler and their successors of each dynasty was to be firmly established their rule over the land besides, conquering new land. Their first act was to promote a Muslim society in their new conquered region and gave patronage in conversion, by creating positive environment, including religion of social liberation', conveying social message of equality even after low caste groups. It was also a way of socially legitimizing the sovereignty of a new ruler. The mosque supposed to be constructed to accommodate the new Muslim community for their place for prostration. Many of times, courtier or high official and local influential men commissioned the impressive mosque architecture to display their valor and considerable influence, only when they became very influential in absence the sultan's control over rule and possessed considerable wealth at time of state anarchy and turbulence. The Kusumba Mosque at Manda, Naogoan District, Bangladesh, is such an example, which was built by a local influential man named Sulayman.[15] It is important to note that there are six mosques which were built during the Independent Sultanate period, contains very distinctive type on architectural perspective having built with brick core and stone block

[13] mentioned in P Hasan, '*Sultanate Mosques and Continuity in Bengal Architecture' in Muqarnas* Vol. 6 (1989), p-58

[14] see on mosque inscription, tran. by A. Karim, *Corpus of Inscription*, p-89

[15] see on mosque inscription, trans by A. Karim, *Corpus of Inscription*, p-394

veneer. These mosques are very unusual from tradition brick built mosque architectures of Bengal. For embellishment on mosque surface of those brick core with stone veneer mosque architecture contains very exquisite stone carving art as a part of surface decoration. All the six mosques of this type are undoubtedly situated in the land of the Varendra region.

There were two important seats, situated in this land of Veranda region, once played an important role in political context during sultanate rule in Bengal and the cities were the ideal example of new manifested Muslim society and mosque development as well.

City of Gaur alias Lakhnati: often cited as Gauda, a city and a vast region or a country, reference can be found in literary work of ancient time. The city is better known under its anglicized name, Gaur. Its first recorded reference is by the grammarian Panini (5th century BCE) and the author of *Kamasutra*, Vatsyayana mentioned the name 'Gauda' in his book.[16] Its location may be inferred to have been in eastern India. In 7th century A.D. When the first important king of ancient Bengal, Shashanka, was known to be king of Gauda, his seat of administration or capital was undoubtly at Karnasuvarna, some 12 miles to the south of Murshidabad.[17] But, with the death of the King, his capital passed into oblivion by the end of that very century. But, Gauda was still flourishing. In the early Muslim period, the name Gauda came to be applied to the city of Lakshmanavati or **Lakhnati**, in modren Maldah district and was getting flourished during last century of rule of Independent Sultanate period.

The seat of central government of Independent Sultanate of Bengal was transferred from Pandua to City of Gaur, in 1437 A.D and acted as until the beginning of Mughal rule in Bengal. Now it is situated mostly in the

[16] Mentioned by RC Majumder, *History of Bengal*(Vol-I), –p12
[17] Mentioned by RC Majumder, *History of Bengal* (Vol-I), p-13

region of Modern Maldah district, West Bengal. The city was well fortified by river and a high wall of citadel at landward. According to the opinion of A.A. Khan, the area Gaur and its surrounding area is estimated to be approximately 57 to 77sq. km.[18] The Sothern part of this fortified wall along with gate of the city and its suburb area are now in the modern city of Chapai-Nawabganj, Bangladesh. There are two distinguishing mosques remain in this city, Bara Sona Mosque, and Chota Sona Mosque, two contain enormous architecture with special ornamentation by chisel work in stone.

Pandua or Hazrat Pandua: Pandua was a town is about 32.18km. north from the old city of Gauda or Gaur. It is now located about 19 km north from modern administrative center of Maldah district, West Bengal. A Cunningham opines about the name of Pandua that,[19]

'*The original is said to have been Panduvyia, which was gradually shortened to Panduya, and eventually to Pandua. The Hindus, of course. Say that it was so named after the ubiquitous Pandus; but I should think the Pandubis, or 'waterfowl,' with which the place abounts, have much better calm to the honour Hanspur and Mayurpur, or Goose tow' and Peacock town'', are well known names, and in Buddhist times there were monasteries called after the goose and pigeon, and the cock's foot Pandubiya would therefore be a most natural appellation for any place in a marshy country.'*

Shamsuddin Firoz Shah, who ruled western part of Bengal between 1300 to 1322 A.C. from the seat of Firozabad. Alauddin Ali Shah (*reign:* 1339–

[18] also mentioned by, ASM. Ahmed, *The Choto Sona Mosque in Gaur*, p-17
[19] A. Cunningham, p-80

1342, originally known as Ali Mubarak**)** was an independent ruler of Lakhnauti, who mentioned the name of Firuzabad in coin. The Firuzabad is known as the Pandua. [Cunningham, A. Reports of A tour in Bihar and Bengal, p-80] Sultan Shamsuddin Iliyas Shah (1342-1358 A.C.), the man who founded Bengal's Ilyas Shahi Dynasty, first established his mint in the neighboring city of Firuzabad and then his capital was transferred from Gaur to the city of Pandua in 1339 A.C. The city is supposed to be the first capital of united independent Bengal and came to be known Hazrat Pandua. The city served as the capital of Bengal from time frame from 1338 to 1437 A.C. mainly under the Ilyas Shahi dynasty (1342 to 1487A.C.) All of the Ilyas Shahi sovereigns, nine sultans run their state over the period of a century from this seat of capital. The political importance of the city came to decline when the capital of Bengal sultanate was transferred from Pandua to the old city of Gaur. Actual glory and influence of the city was existing till the end of Husain Shahi dynasty, because it was continued to serve as the mint town until the time of Sher Shah Suri.

The prefix *Hazrat* of city of Pandua, was added to distinguish the town from other cities bearing same name *Pandua* of Hughly District. Cunningham remarks Hazrat Pandua as Royal Residence, Pandua[20] Or the prefix might have been added to Pandua, in respect and reverence of the great saints (Hazrat Nur Qutubul Alam) who once lived in this area.[21]

Under this circumstance, a monographs or dissertation is needed to be to demonstrated on the stone carving art on the mosque architecture of the Varendra region as well as Bengal. The approach of the study of this dissertation is based on the comparative study and descriptive in method

[20] A. Cunningham, p-80
[21] ASM Ahmed, *The Choto Sona Mosque in Gaur*, p-17

rather than deductive in method. The dissertation comprises of six chapters. The chapter I deals with the general introduction of classical stone-carving tradition in India. The chapter II describes some motifs, what were overwhelmingly used in mosque embellishment, with their form and formation and comparative study to pre-Islamic stone carving tradition of India and land of Persia. The chapter III deals with architecture elements and techniques, which can also be defined as ornamental appendages. Both the chapter II&III, contains an information of aesthetic development of mosque through the surface embellishment by intricate carving and architectural technique of rock cut in chisel work. The chapter IV explores the artistic beauty of stone carving on the mosque surface and aesthetics in architecture of Choto Sona Mosque as climax of stone carving design in stone mosque architecture in the Varendra region. The Chapter V describes the Adina Mosque which can be cited the lost glory in field of artistic design. The Chapter VI contains an observation of artistic design of Kusumba Mosque.

Research Background

The medieval Mosque architecture and heritage of monuments in Bengal were jewels and expressed as a distinguishing symbol for national identity. It was result of legacy of Bengal national heritage what they belonged. The mosque with distinguishing features, adornment and aesthetic treatment could draw the attention from the time of medieval period. The advent of British colonial rule in Bengal widen the opportunity of further conventional study on the existing monuments and archaeological spots., The conventional scientific study on the heritage and monuments was stared to run by different person under British administrative supervision or individuals endeavor or assiduty**.** As a part of conventional scientific

study, different documents and records and monologues started to developed in course of time. There are documents and records are supposed to be the earlier works which contain in some information of the mosques which would be the frameworks of subject of this study. Among these, notable works which are related to the stone made mosque architecture of the Varendra region, are to be needed to mention in brief in this following para. The cartographer James Rennellin's work the 1770s mark the beginning of a colonial enquiry into Gaur, is supposed to be the earliest example of visual record. Another contemporary work done by Henry Creighton. Drawings of H. Creighton, (1764-1807), a scotch adventurer and a private trader during company rule in India. Creighton was an excellent amateur painter who adopted the ruins of monuments of Gaur city as the subject of painting. His antiquarian interest on old monument led him to took sketches of them. He enclosed different 13 monuments in his sketches including five mosques, viz. *Boro Sona, Chota Sona, Tantipara, Lattan and Chamkatti*. These drawing is very useful for knowing the original form and design of those mosque. Because, the original form gradually getting changed and faded away with renovation works, undertook in different time. J.H. Ravenshaw, a Collector of Malda, surveyed the ruins and published a book entitled '*Gaur, Its Ruins and Inscriptions'* which contains a lot of well-illustrated photographs. It is cited another reliable source of study for this medieval mosque architecture. A part from whole structural drawing, Major William Francklin (1763-1839), of East India Company's Bengal Native Infantry and a keen amateur painter and archaeologist, who made a journey from Rajmahal to Gaur in 1810 A.C. During his visit he prepared several architectural drawings of the details of the monuments of Gaur and Pandua and made sets of

facsimiles from them. He used thirteen drawings to illustrate his Journal.[22] Though he presented fifteen drawings to the India Office Library through General Gastin on 16 January 1816. Thirteen of these belong to the Adina mosque in Pandua and its architectural designs, etc.[23] Among the thirteen facsimiles of about Adina Mosque, seven of these drawings on Adina mosque's stone carving design. All above mentioned facsimiles either on monumental design or a partial ink drawings were carried out.

Another contemporary documentation of about the Gaur city (a city of Varendra region) was a cartograph. Coloured aquatint by Thomas Fisher dating to 1811 entitled *'The Ruins of Gour'* now preserved in The British Library, is another source for the monumental sites. The modern report and monograph of Major General Sir Alexander Cunningham (1814 –1893A.C.) which was published in 1882 A.C after he surveying the archaeological sites of Bengal in 1879-80A.C. is supposed to be the most scientific survey on monuments of Bengal. As the Director of the dept. of Archaeological Survey of India, most of the archaeological sites including the remnants of Gaur were measured with their proper plans. The monograph was published in form of book of series entitled '*Archaeological Survey of India*' having volumes, among the volumes, Vol-XV contains a monumental description which is relevant to the Muslim mosque architecture of the Varendra, is entitled '*Report on The Tour in Bihar and Bengal'* the There are some limitation and error observation in description of Choto Sona Mosque, where he did not mentioned the wide central nave and roofed with three *chouchala* vault and mistakenly narrates the octagonal turrets on the four corners.[24]

[22] William Francklin*, Journal of a Route from Rajemahal to Gour, AD. 1810-11*, Shillong, 1910, p. 4; The British Library, London, MSS

[23] Pratip K. Mitra, *Rediscovering Gaur: Source Material in the Public Collections of the United Kingdom, Journal of Bengal Art*, Vol. 15, 2010, pp-9-48

[24] A. Cunningham, p-76

About a half century years after Cunningham, Abid Ali Khan, an employee working in the Public Works department under the British Government, carried out a special rapier to dilapidated monuments as a part of Civil works of the Department. In recognition of his services, Government was pleased to confer upon me the title of 'Khan Sahib' in the year 1917.[25] The monograph of his works on monuments was published in the form of a book entitled '*Memoirs of Gaur and Pandua'*, which is very important for the architectural description of medieval monuments.

Historian P. Brown completed a description of Bengal mosque and other building of the Bengal and confined in a special chapter of his book entitled '*Indian Architecture (Islamic Period)'published in 1942 A.C.* but contains different illustrations of different monuments, including the illustration of Choto Sona Mosque.[26] The book contains very exquisite illustration of 3D view of several monuments, which was an effort to innovate idea in study. But, the illustration of Choto Sona Mosque contains a number of errors at the turrets head and the roof of the central nave where author depicted only one *chuchala* vault and other two hemispheric dome on the central nave.[27]

The first attempt of complete monograph on the all type Muslim architecture of medieval Bengal up to the advent of British rule, is the Book entitled "*Muslim Architecture in Bengal'* published in 1961 A.C. from Asiatic Society of Pakistan, Dacca by A.H Dani. Dani classified the monuments and architectures into different style depending upon the form and formation.[28] Following the work, there is another authentic Ph.D dissertation and as well as the book of prof. Perween Hasan, entitled '*Sultan and Mosques*: *The Early Muslim Architecture of Bangladesh'*

[25] H.E. Stapleton ed. (1930), 'Introduction', Khan Sahib M. Abid Ali, Memoirs of Gaur and Pandua, p-xiii.
[26] P. Brown*, Indian Architecture (Islamic Period)* Bombey, Pp- 36-42
[27] P. Brown*, Indian Architecture (Islamic Period)* Bombey, Plate-XXIX
[28] A.H. Dani, *Muslim Architecture of Bengal*, p-25-28

published in 2007A.C from IB Tauris, London,. which is another source of authentic description of Medieval mosque architectures of Bangladesh. In this book, she discussed only those mosques which are situated in Bangladesh. She emphasizes on the architectural description rather than decorative description. In all cases of mosque description, the decorative description is confined either in small para or limited design description. The most outstanding information about mosque of Bengal and authentic dissertation is '*the Choto Sona Mosque in Gaur'* by Architect Abu Sayeed M. Ahmed. It is very authentic for measurement of all the features what the Choto Sona Mosque contains. The dissertation has been made based on architectural approach rather than decorative appendage. The dissertation is also very fruitful for short descriptions of other mediaeval mosque architectures of Bengal. From all above analyzations on the previous record and monographs, is obviously be cited that no such a work of monograph could not be carried out on the stone carving art of mosque architecture of Bengal.

Aim:

The dissertation inevitably will include the convenient study of art, existing in structural beauty and art of decoration of mosque of Bengal. The dissertation would even earthen fact and description of ornamentation and their beauty. This study would make an attempt to collate all the existing motif and design that has been undertaken in field ornamentation. To make a details description of mosque architecture and their hidden fact of exquisite art of stone carving, an analyze would be presented. A comparative study would be presented on the context motif of decorative elements, originated from temple architecture and the motifs what were borrowed from the Persian land. Information about indigenous element,

originated from culture and nature, would be discussed in the dissertation. Furthermore, the research would be a comparative study of those the aesthetic fact of mosque in form of stone carving and their relevance in past temple decoration.

Objectives: The main focus of the thesis is centered around the following topics:

1. An introduction of stone carving ornamentation motif of mosque, their development both from Indian tradition and idea borrowed from Persia or Central Asia.
2. Understanding the basic concept and formation of brick core stone veneer mosque structure of Bengal.
3. A study of art in structural design, applied in Mosque
4. Synthesize the art of carving and structural design in mosque.
5. A full description of art design of notable Stone mosques of Varendra.
6. Method and technique of carving on stone.

Methodology:

The dissertation is mainly based on field survey and its empirical analysis. However, many literary works, archival research and the theoretical investigations has been used extensively. Some modern research works on medieval mosque architecture has helped also understanding the constructional framework of mosque as well and has supplied me the actual measurement of those ornamentation and design as well.

This dissertation brings out the differences in the form and scale of design what the mosque contains on their wall surface both exterior and interior.

A number of motifs would be explained on perspective of spiritual meaning. The author would carry out a detail description of mosque architecture and their hidden fact of exquisite art both from chisel work on stone and stone architectural formation from field survey.

Moreover, Studies have been conducted from information available in the books, journals and websites and from the drawings. The motif used in stone carving art and their classification into various categories are scope of work. So, the research applied description approach, for which goals were set to collect data on surviving pattern with the aid of extensive photography. This research is based on descriptive approaches, for which our goals were to collect data on pattern of surviving stone carving design. Such approaches provide dialectic answers to a wide range of art and their visual effect.

Chapter- 01

Introduction to Stone-Carving Tradition of Indian Sub-continent

Carving on stone is a distinct form of art. The earliest sculptures ever produced from stone carving, was *'venus willendorf'* that began appearing across Europe from c.25,000-20,000 BCE.[29] The art is regarded as the oldest mobiliary art in the history of civilization. The stone carving can be traced back to ancient civilizations. Selecting rough natural stones and shaping them to a predetermined design is an art mastered and practiced by many ancient societies, and the durability of the material made it possible to take a peek into their unique cultures and artistic practices. The practice has been started to adopt in living place or in place for worship or cave as a medium either for exquisite artistic expression or to worship. India has such rich history of stone carving from time of ancient period.

The history of stone carving art in Indian Subcontinent is quite old as the Indus valley civilization itself, (2500 to 1800 BCE), during which time small stone figurines were produced. We have observed a number of stone seals, that has been carved during this period. The seal 'Unicorn before an Incense Burner' collected from Harappa, now in Pakistan (measuring 4.5 x 4.5 cm.) preserved in National Museum, New Delhi, one such example of carving that they once had. **[Figure no.- A01]** Then, we have to wait until Mauryan Period (3rd century BCE) when we knew about flourishing

[29] H.W. Janson and F. Antnony Janson, *History of Art,* 6th Edition, 2001 p- 54

mature Indian figurative art of sculpture. The ‘Pillars of Ashoka’ by the Mauryan Emperor Ashoka during his reign from c. 268 to 232 BC., a free-standing pillar with polished Lionhead motif, carved out from sandstone, was one of surviving example of such type of Indian mature art of carving of contemporary period. **[Figure no.- A02]**

Then we have found a wide range of art and architecture, originated from chisel works on stone monolithic, flourishing in different part of India, over the succeeding centuries. That could be cited as the culmination of Indian stone carving Art. The first notable example of this type of carving art must be the Ajanta Caves, located at Aurangabad, Maharashtra, which has 30 rock-cut Buddhist cave monuments, created between the first century BCE and 5th century A.C., containing very special paintings and sculptures considered masterpieces of Buddhist religious art. The artisans did not just hack the hole in the rock cliff, but they carried out the excavation and carved out the all-architectural features including columns, arch, flat ceiling and even the sculpture and ornamentation motifs. In all cases, artisan adopted penetration approaches to creating space in rock surface, concluding the whole project.

The Art that existing in the Ellora cave, contains a distinctive character on the aspect of stone carving art. The Ellora, located at Aurangabad, Maharashtra, dating from the Seventh to the Eleventh Century A.C., the largest known rock-cut monastery-temple cave complexes in India, was a sacred place for three religions, Buddhist, Hindu and Jain. Total 34 caves, were used as temples or monasteries known collectively known as the Ellora Caves. It is one of World Heritage Site. It represents the epitome of

Indian rock-cut architecture and classic form of sculpture. In the context development of chisel work on stone and sculpture art, the Ellora play a very significant role in culminating form of sculpture and ornamentation. Artist successfully employed two approaches, viz, the penetrative and the deductive, in creation such exquisite work. So, the development and innovations came together in form of art in stone cutting.

The whole project contains an exquisite carving of demi-Gods and their ornate bearings. Some more carvings of Gods and celestial being are taken as motif to depict to cover up the walls surface. Apart from these carvings, there are episode of carvings which depict the stories from the Hindu epics *Ramayana* and *Maha-bharata*. It is considered as one of the most remarkable cave temples in India because of its size, architecture and sculptural treatment.

Among the notable caves, the Cave no. 10 is of Buddhist, comprising a hall commonly known a *chaitya* worship hall "Carpenter's Cave", because the rock has been given an imitation of the appearance of wooden beams hall. In first look, anyone mistakenly recognize as replica of the cave no.26 of Ajanta. This supplies us more contemporary features such as frame of ogee type arched window and the main hall of the cave 10 is apsidal in plan and is divided into a central nave and side aisles by 28 octagonal columns with plain bracket capitals along with a vaulted roof. **[Figure no.- A03]**

The Cave no.16**,** temples and monasteries of Ellora, known as the Kailash or Kailasanatha temple, a part of Ellora cave art premise, is one of the largest rock-cut ancient Hindu temples, megalith carved out from one single rock. Its construction is generally attributed to Rashtrakuta kings the 8th century A.C. The temple features another exquisite and aesthetic aspects of example of stone carving art beside multiple distinct architectural style, carries specimen of proves of proficiency and high skill

of artisan that they had. **[Figure no.- A04]** It contains very multiple distinct architectural and sculptural styles. It is interesting very to note that artisan created the temple shape, starting from the top and reached to down. Although all of the caves at Ellora are stunning for sculpture and architectural feats, the Hindu Kailasa Temple is supposed to be the jewel in the crown for extravagant design. It is considered as the most remarkable example for sculptural treatment.

Stone temple:

In Parallel to the manifestation of rock cut temples, a large variety of Hindu temples were started to construct throughout India with distinction in scale, techniques of building. In each case, carving design in figurative and nonfigurative expression was the basic component of those temples. Mainly the royal patrons, association of wealthy merchants and groups played an important in contraction the temple. There are some surviving example of exquisite carving design, enormous look and gigantic temples that can astound an onlooker even today. The Adi Kumbeswarar Temple, situated Tamil Nadu was built in the 7^{th} century A.C. by the Chola dynasty, (spread over an area of 30,181 square feet, 128 feet high (11 stories high). **[Figure no.- A05]**

In erection of these type of Enormous temples, project at large scale was commissioned under direct royal patron and supervision. The expenditure was carried from royal treasure. The different Kings of different dynasty tried to show their valor by either erecting stunning temple to visualize their affluence and victory over the rivals. The construction of temple in stone is the most distinctive expression of Hindu architecture. The highly evolved techniques of excavating and cutting blocks of stone was employed in such grandiose project. The deities particularly were varied,

which were the result of the differences in political, cultural prospects. All deities were carved out from stone with exquisite manner.

We have such an example of surviving stone temple architecture in the neighboring province of Medieval Bengal, Temple of Bhubenwasr, Orrisa. Among the many stone temples, the most extensive temple would be the Konark Sun Temple, built in the 13th century by the Kings of the Eastern Ganga dynasty. The gigantic structure, now in shambles, stands without the main sanctum, which was 229 feet tall. The most interesting to note that, the temple was in the shape of a chariot—with 12 pairs of wheels and seven horses. Made with Khondalite rocks, it was a specimen of the Kalinga architecture. **[Figure no.- A06]** The Temple contains wonderful stone carvings and symmetry of design. The many stone sculptures of Konark display scenes, which can be, classified into religious motive including deities and mythological series mainly, associated with decorative, social, and in some cases the erotic depiction. The carving art of this temple is regarded as one of the best examples of human proficiency in this art.

Meanwhile, this extensive art and skill were flourished at that period when Muslims already appeared in this subcontinent and were gradually expanding suzerainty over different region including medieval Bengal. The art of Kornark temple would make a considerable influence over the art of the Muslims**.**

Meanwhile, it may be cited that there was no tradition of cultivation of stone carving art before the Muslim conquest in Bengal. Having collected from different part of Varendra region, the Varendra Research Museum of Rajshahi University preserves many exquisite stone sculptures of deities, which were carved out before advent of the Muslims in this land. All the stone sculptures with delicate look give testimony that Bengal in general

had an old tradition in the cultivation of art. The stone chisel work of pre-Muslim Bengal might have been confined in enormous blocks of stones with sculptural representations. But the enormous stone surviving building of the debris of that period could not be found yet. Moreover, the archeological remain like Bihar architecture of Paharpur, Mainamati, or even Mahasthan testifies that there was no tradition of stone architecture but brick setting building structure. The tradition which originated in this land in the pre-Muslim period also continued in the Muslim period. So, we have extensive example of brick setting mosque structures throughout the Muslim rule in Bengal. But, in few cases, the tradition of architecture was got refined with new technique and formulas, which would be called brick core stone veneer architecture. **[Figure no.- A07 - A11].**

Stone Carving art in Mosque Architecture.

Bengal region of different geographical unit and having distinctive culture, is located at eastern part of Indian subcontinent. After taking control Suzerainty of Bengal by the Muslim invader**,** they built many Muslim religious buildings including Mosque**.**[30] The earlier mosque structures could be fashioned from less durable materials like non-backed bricks or timbers or bamboo. For that reason, the early examples of Muslim architecture have mostly disappeared due to using short lived materials. So, we have specimen of early mosque architecture, the Jafar Khan Ghazi Mosque and mausoleum (b.1298A.C.) which was erected long after the establishment of Muslim rule in Bengal. Contemporary architect and patrons could discover the new form of architecture, having brick core wall

[30] J. N. Sarker, ed., *History of Bengal*, Vol-II, p-14

but stone veneer when they were doubtful about the durability of brick-built structure. This new formation in composite stone brick masonry in mosque architecture is supposed to be the most distinctive expression of Bengal mosque architecture. Because, there was easy availability of clay brick and but availability of suitable stone was limited (collected from Rajmahal Hill of Munghyr).[31] So, the materials play an important role in the overall appearance and construction. This type of religious buildings was profusely adorned with the carving art. In most cases, stone carving came to exist absolutely in non-figurative art expression by different motifs. A good number of motifs, originated from Indian temple and other brought from fatherland of Muslim invaders what were profusely been used in embellishment, in this way, there are number of medieval mosques, having distinctive expression of Bengal mosque architecture, carry the legacy of the art of Indian rich stone carving.

[31] P. Hasan, '*Sultan and Mosques*, p-34

Chapter-02

Aesthetic Development (through motif and decoration) in Mosque Architecture of the Varendra

A mosque as the prime symbol of Islam and most sacred place for worship of the Muslims. This place of prostration for the Muslims is often cited as reflecting the superiority of God (*Allah*), the Almighty. The first mosque was constructed under direct supervision of Prophet (Sm) himself. In the construction of the mosque of prophet, the form was very simple as long as it can serve the function of prostration to the Muslim people where the decoration is not allowed, at that time.

With course of time, Muslim empire expanded to engulf not only the region of Arabian Peninsula and vast region around the Persian Gulf, but also large areas from the region of North Africa to the Sindh and Multan (Indian sub-continent). They struggled to achieve for improving their lifestyle of fellow citizens by constructing building including grandeur mosque besides, to demonstrate power and influence. They desired to impress by bigness with highly embellishment led to magnificent works of engineering and aesthetic value. Aesthetic value in Islamic art and architecture was normally portrayed by the highest degree of motifs and ornamentation as well.

From the earlier period of the mosque architecture, the Prayer hall alias sanctuary(*zullah*) of mosque have been considered very sacred place, although the entire mosque architecture is considered as a place of high dignity. The *qiblah* wall (prayer direction) and façade of a mosque are given the first priority, on the question of mosque decoration and embellishment. The basic instinct of mosque embellishment is to create an

aesthetic decoration either inside or outside of mosque for feeling touch of God and spiritual peace as well.

There are no barrier having obligation of types of motif and ornamentation for place of prostration, but only prohibition has been imposed towards icons and figurative art. So, the common elements of decoration found in the embellishment of the mosque are the ornamentation motifs represent mainly by floral, geometric design and calligraphy. In all respect, the artisan consciously in most cases creates aesthetic and beauty in mosque embellishment both on exterior and interior wall that might have been fulfil the psychological needs of human beings whatever the mosque of brick or brick core, stone veneer.

But in Indian subcontinent, more specifically in Bengal, newcomers and patron of mosque got challenge when they started to commission new work of aesthetic and decoration in mosque architecture with native artists. Because the lands newly conquered by the Muslims, had their own preexisting and indigenous artistic traditions and, initially at least. Bengal Muslim art arose in hostility to the earlier iconic art of the Buddhists and the Hindus, but in many respects, the transition one to compromise.[32] Because, the artisans, generation after generation, had been following an indigenous techniques and trends. But the artists faced a challenge who had worked under patronage of Hindu rulers, continued to work in their own indigenous styles but for mosque of Muslims. Under the impact of Muslim faith, and prohibition of pictorial depiction and sculptures, led a manifestation of new art and decoration in most cases. The emerging techniques, styles, and forms reflecting blending demonstrated amalgamation of native and foreign motif and decoration. Apart from this, there were some indigenous motif, excessively used in temple which were

[32] M. Hafizullah Khan, *Terracotta Ornamentation in Muslim architecture in Bengal*, p-76

not agonistic with the Muslim faith, were simultaneously adopted in mosque decoration. Muslim new comers who firmly established their rule in this land, bought new motifs and decorative ideas from the land of their forefather or comparatively rich neighboring civilization and foreign influence[33] including Ilkhanid, Taimurid. and Afghani rule. The last type of decorative motif, might have been adopted from inspiration of natural element. That characterizes the art and architecture of intrinsic quality and unique identity everywhere, historically produced in the lands ruled by Muslims, produced for Muslim patrons and created by native artisan. For the convenience of study, the motif and decoration as art and aesthetic value, may be divided into four prime sections – **i) Motif from Hindu religion but refined**

ii) nonfigurative motif were been adopted without changing form

iii) Motif travel to this land from Persia

iv) Motif adopted from natural elements.

Under the patron of Muslim rulers of this land, among all the motif and decorative ornaments of distinct culture, some went through either purification or remodeling and other were deliberately used artisans. Islam fostered all the development of a distinctive culture with its own unique artistic language that is reflected in art and architecture throughout the region of Varendra as well as Bengal.

Continued development of the surface application for ornamentation in addition to ensures that the physical and experiential quality of art continued to symbolize the universal, spiritual beauty. Because, the mosques used to portray with artistic features of motif apart from symbolic

[33] A.H. Dani, *Muslim Architecture in Bengal*, p-10

touch of paradise. The motifs what were being emerging techniques, styles, and forms reflecting blending, demonstrated amalgamation of native and foreign motifs and decoration as well. We shall take a look on significant motifs which were lavishly used in stone wall surface treatment of stone mosque.

It is interesting to note that the motifs carved out on stone surface were the same that were be profusely used in terracotta ornamentation of contemporary brick setting mosque architecture. In this respect, it can be assumed that the stone carving art of ornamentation was actually a replica of the terracotta design of brick setting mosque architecture. In the following chapter, we shall try to find out the originality of some motifs, their process of refinement and a common discussion about motifs what were excessively used in term of ornamentation of stone carving art but profusely found in terracotta. Furthermore, the motifs which are the mostly important elements of spiritual and meaningful concepts, would be taken into consideration on discussion. The following investigation would be helpful to realize principals and rules of art in Mosque in form of stone chisel as well as terracotta ornamentation in the realm of Islam thoughts and beliefs.

Hanging Motifs: Hanging motif, is the most common element was used in treatment of surface decoration both on brick and stone. There are theories that it is adopted from temple architecture. However, there is very little material evidence to support the theory. The different varities of the motif has different meanings. There are analyzed below.

Spiritual meaning of Hanging Bell from Chain: Bell and Chain decoration has been widely used in carving design on stone and terracotta decoration in Sultanate Architecture of Bengal. It had been found in re-used stone pillar of pre-Islamic period.

In Hinduism, bells are generally hung at the temple opening just in front of the g*arbhagriha* (a pivot where the deities are placed). There is no single specimen of Hindu temple which bear a hanging bell at its portal. Generally, devotees ring the bell while entering into the sanctum and chanting the verse '*mantra'* in Sanskrit language meaning, "*ring this bell indicating the invocation of divinity, so that virtuous and noble forces enter; and the demonic and evil forces, from within and without, depart."*

But we did not trace out the fact of origin of this culture. A mythological event, is cited as the source of using bell in hindu sacred place. Lord Krishna saved the inhabitants of Gokul from the anger of Indra, during the time of worship of *Govardhana*, by lifting the *Govardhana* Mountain. After this incident, the bell which was tied to the neck of *Oiravata*, elephant of Indra, was gifted by Him to Krishna. The same is mentioned in the following verse, ***Athopavahyadaya ghantam airavatad gajat*** **(**Brahma P. 188.36 ab). This might be considered as the beginning of the use of a bell in deity worship

Devotees ring them as an invocation to the deity to listen to their demand and be blessed. Moreover, in Hinduism, music is considered a way of worship. They create positive vibrations as well. The Bell which we see in present time mostly are seen in Siva temples. Furthermore, another basic reason is cited to be spiritual quoted in a collection of scriptures of several Hindu devotional schools, the ***'Agama Sastra'***. According to the Agama Sastra "The bell is used to give sound for keeping evil forces away and the ring of the bell is pleasant to God." (*"uthsatanam pisasatheh preenanam sahareh paramsannithana mamarthyanam ghantaayachalanath baveth"*). It is popularly believed that Bell's ring clears devotees mind and helps us

stay sharp and keep our full concentration on devotional purpose while devote are entering the inner sanctum.

Bell as Decorative Motif: As the bell was started to be considered as so auspicious, anti-evil sign and symbol of divinity that this motif was received in form of decoration either in carving on stone as fact of mural or very rarely in form of architecture besides real hanging bell at temple. The norm of adornment with bell motif had been used long before the Muslim appearance in this land. In some cases, the theme hanging bell from chain had been used as prime embossed deign on stone surface as a fact of center of attraction. The hanging bell motif might have been went through in term of evolution and took new form of Margent**,** got changed in the carving art as well. The hanging bell motif is very ideal for decoration in vertical facet. Such type of monolithic columns, tomb premise of Niamutullah Wali (Tah Khanna), Chapai-Nawabgonj, now poses in dilapidated condition, are cited to be the pre-Islamic age, contains such carving design on its facet.

But, most other cases, the hanging motif had been used as the supportive motif to other component of decoration. Even the motif was incorporated to other types of decorative scheme. We have an example of hanging motif from pre-Islamic age, hanging bell that synthesis with the typical garland decoration in embossed of high relief. The earliest known surviving example of this class, edified in stone carving must be on the columns of ruined Ghantai Temple, 350m south-east of the Brahma Temple in the southern part of Khajuraho village, Madhya Pradesh, India on the road towards the cluster of Jain temples that Dated to around 995 A.C. On this

column, the hanging chain suspended by bell, is flanked by another hanging motif on the either side from the same source. **[Figure no.- B01]**

Furthermore, the bell (*ghanta*) symbolize the auspicious, made considerable influence over the pre-Muslim, Hindu society. A distinctive stone temple architecture was getting developed and manifested in shaped of bell composition throughout the Indian subcontinent. The best specimen of this style is formed at neighboring province of **Orissa,** the Bell (ghanta) type temple at Bhubaneshwar. **[Figure no.- B02]**

Bell Motif in Mosque: From the above discussion, it can be assumed the Bell motif. It was a common feature of the decorative system of the temple, along with the figurative arts, most common being the scenes depicting mythological stories from the *Ramayana* and the *Mahabharata*. When the Muslim rulers commissioned mosque construction from recycling stone from temple debris, All Hindu icons including figure sculpture had been disfigured except the motif hanging bell, considering it not to be antagonist to Muslim faith. Same technique had been commissioned in the earliest mosque of India, Quatul Islam Mosque.[34]

There are many Hindu origin motifs that have disfigured before using it in Mosque architecture by the Muslim builder in Adina Mosque, located at Pandua but hanging bell motif one of the surviving motifs of clear Hindu not been disfigured. Moreover, there are extravagant example of Bell type decoration on facet of temple architecture. This will unearthing the view that how much the motif of chain and bell could make an influence over the considerable period before appearance of Muslim and after in Bengal.

The bell, hanging from chain became a dominant element of embellishment of outer façade of Bengal sultanate mosque of both brick

[34] R. Nath, *History of Sultanate architecture*, p-11

and brick-stone architecture. In brick mosque the motif was often depicted on terracotta or the carved out on the brick wall surface. One of the earliest examples is the Eklakhi mausoleum where the motif has been depicted in form terracotta panel. The motif dominated the mural decoration of public building of Ilyas Shahi period. After the age, the motif has been got change and run through the evaluation and correspondingly changing its form and fashion.

Because the art of hanging bell started to lost it traditional form and gracefulness, at the decline period of Ilyas Shahi rule. The imperial treasury was almost empty and state under national anarchy when the skilled artisans lost their attention and affection in their works. The actual form of bell no longer existed and was also started developed under succeeding rule of Husain Shahi period.

Emerging a New Formation of Bell Motif: The actual form of bell no longer exist in mosque and the form was getting started to change with course time. This process of changing was already started in decline period of Ilyas Shahi period. The Salami Darwaza, a gate of old Gaur city, constructed by Sultan Barbak Shah (r.1459-74 A.C.) contains a hanging trident motif, which carved out from brick surface. **[Figure no- B03]** We can observe such type of motif on facet of Firuza Minar, located at Malda, a brick tower constructed by Saifuddin Firuz Shah (1488-90 AD) of Habshi Sultan.

The artisans probably tried to avoid the boredom and to generate new form, more likely to be trident shaped motif. The best reformed form was firstly carved out from stone surface of Small Golden Mosque, when this typical motif, hanging from chain, occupied the place of traditional bell motif. The form and formation of hanging motif, whatever it actually is, must be the classic formation of hanging motif. **[Figure no.- B04]**

Trident Motif: All multi cusped arches and all the replica of cusped arch in panel design of Choto Sona Mosque, contains a crowning with trident head shaped motif. The trident motif on each cusped point arch is embossed on stone surface, while other replica of arch of panel, and carry a shallow relief of trident shaped. The shaped actually was borrowed from trident shaped decoration, which was engraved on basalt stone wall surface on west wall, just above the main mihrab, of Adina Mosque**. [Figure no.-B05]**.

Hanging Lamp (*dyia*) motif. Apart from the hanging bell motif, another hanging elements of sacred ritual can easily see in home and temple of Hindu community, lamp (dyia) hang from chain as well. This theme was adopted in decorative mostly found in embossed form of relief. It is cited that the motif might be developed from the Hindu motif of chain and bell.[35]

Oil lamps for fire are commonly used in Hindu temples. The presence of an oil lamp is an important aspect of ritual worship offered to a deity. The lamp (deep) probably became essential component in spiritual manner. It is cited the symbol of the journey from darkness to light and the knowledge. Fire enables human beings to cultivate strong conviction and belief in God. Erecting a lamp in front of a temple is still a general practice in western and southern India.

In Vedic rituals all involve fire. The fire-altar took center stage of all type of religious rituals in Vedic times. But we have no information but assumption about fire lamp(*dyia*) that slip into the Hindu ritual. Fire lamps might have been slip into the Hindu ritual landscape subtly as Hinduism

[35] A.H. Dani, *Muslim Architecture in Bengal,* P-64

changes from invoking Vedic gods to venerating Puranic deities, In Hindu scripture, we have found hardly a verse relating to the fire. On verse that is considering a verse of fire that '*Krishna says he accepts from his devotee a fruit, a flower, a leaf and even water (though he does not refer to lamps)*.[36] Furthermore, the references to metal lamps of can be found in the epics of the *Mahabharata* as well. Whatever it is, beside the temple ritual, the fire lamp of clay or brass, became a basic component of worship at private.

However, such an example in pre-Islamic temple ornamentation could not be traced out yet. So, there is another source from where the motif could be derived from. Some indication may be traced out, if we light upon a number of examples of the Ilkhanid art.

So, the motif of hanging lamp would be more appropriate when we take consideration of the spiritual meaning of it. Because, the Muslim artisan were ignorant and oblivion of pre-Islamic temple decoration and the origin of hanging lamp as well. The Muslims artisans or architects might have been adopted the motif to symbolize the spiritual fact of direction of *qiblah*. Because God cited itself a light.

The hanging lamp as decorative scheme were well-known in Muslim Persia well, before they invade the Indian Sub-continent. Ilkhanid (1256–1353) of Iran already developed a norm of mihrab niche decoration with hanging lamp**.** One of the examples of the hanging lamp motif in ceramic decoration, dated in 1265 A.C., now preserved in *Doris Duke Foundation for Islamic Art* (*DDFIA*), Honolulu, Hawaii, the U.S., was used to decorate Mihrab during Ilkhanid period**.** Moreover, another example of a carved stone mihrab niche panel design with hanging lamp motif (of Ilkhanid,

[36] *The Bhagavad Gita*, verse 9.26

preserved in Asian Art Museum) reveals the facts that the motif did not derived from the pre-Islamic tradition of India only. **[Figure no.- B06] and [Figure no.- B07]**.

So, a tradition had already been developed to decorate at mihrab niche with arch and hanging light, apart from Indian subcontinent and Bengal as well. But the composition and shape of the wick lamp depicted on stone carving, profusely found in Medieval Bengal mosque architecture was somewhat different from the type of hanging motif of the Ilkhanid.

The new look and formation were getting emerged with its new attractive look, when a wick lamp container, carried by two curvilinear harps hanging from a single containing chain loop, starting from engriled arch with a rosette at the spandrel. The best-known specimen of the motif that was employed in the mosque, must be the carving ornamentation of Adina Mosque. But the motif might get revived by the Muslim, in more or less altered forms remained in use to all medieval mosque architecture of Bengal. It was only possible when the native skilled stone artisan very intricately carved out the motif with bold representation on stone block. In this case, the motif carried the legacy of the art of Indian rich stone carving.

Perceiving the importance of lamp, the hanging lamp model was the first choice to be carved out in mihrab niche as a part of spiritual fact than embellishment. The “mihrab” a niche indicating the direction of Mecca, which Muslims should face when they pray to god. The motif was probably been used spiritual symbol of Allah.

Because, In Quran, ‘God is the light of the heavens and the earth. God guides to His light whom He will. His light is like a niche within which is a lamp.’ **[trans. Al Quran, Surah al-Nur 24:35].** God cited itself

recognize as light. Another spiritual meaning of lamp that it could leads anyone from darkness towards light.

The model of wick lamp container, carried by two curvilinear harps hanging from containing chain loop, predominantly was used in mihrab niche in each mosque throughout the independent sultanate. It helps to develop a meaningful faith and deep devotion to support a dedicated mind towards God.

Motif with similar composition of Garland, Festoon and Margent:

Garland **(**meaning a band, or chain, of flowers, foliage or leaves) hung on something as a decoration. It loosely hangs from two pointed loops. Garlands had been adopted a part of religious ritual and old tradition from ancient times. The Egyptian might have been the first who use the garlands spiritual fact. They placed garlands of flowers on their mummies as a sign of celebration in entering the afterlife. Under the geek supervision, it got more elaborate form**,** instead of garland of flowers, leaves and fruits, a garland of special types draped and hanging were employed in place and in architecture typically a carved ornament depicting conventional arrangement of flowers and foliage bound together and suspended by ribbons. The roman could gave an exotic form and new look to the garland in name of festoon, when Garland of fruits, leaves, and flowers, tied with ribbons and usually draped between two rosettes or post to form a downward curve. The typical whole arrangement replica in depicting fabric or lilen, that would be called a swag.[37]

The form and dimension were started to change when it entered the Indus valley. In the ancient temple decoration, we have observed a considerable

[37] J. Fleming, H. Honour and N. Pevsner. *A Penguin Dictionary of Architecture* (3 ed.). Penguin Books Ltd. (1986) p. 114 {Sturgis, pp. 22-23}

design with same composition but carrying itself draped string of bead. The design became supportive element embellishment of deity depiction and sculpture. Variations on the exact design are plentiful. We have found the design of draped string of bead with downward curve and deity in it. In each curve, there was a Bishnu deity. Typically, a carved ornament depicting conventional arrangement of deity at center, while half circle of string around it. The earliest example of this composition must be The Engravings on Pillar of Kailasa Cave, Ellora. **[Figure no.- B08]** With course of time, the motif adopted many other decorative components beside it, getting enriched in form and composition. Such type of exotic look could be found in decorative layer of repetitions of typical festoon and crocodile motif alternatively, used to decorate the rectilinear formation outside facet of Hoysaleswara Temple (11th and 12th Centuries,) Hassan District, Karnataka, India. The same composition can be found at Zafar Khan Ghazi mausoleum. **[Figure no.- B09]**

Margent: To fill the vertical space, the motif of different species, is called Margent. "Margent may be a vertical arrangement of flowers, leaves or hanging vines, used as a decorative ornament in architecture and furniture design. This motif was developed as a complement to other decorative ornaments, hanging as "drops" at the ends of a festoon or swag. But, in India and Bengal, it was unconventionally developed as a decorative technique. Hanging bell of hanging lamp motif could be considered the example of this form. The ideal specimen of festoon and margent can be observed in the elephant platform of Kailasa Temple, Ellora. **[Figure no.- B10] &[Figure no.- B11].**

Hanging *Jhumka* Motif: The new form of hanging motif came to exist in decorative manner both in terracotta and stone carving at the ending period of Independent Sultanate of Bengal. So, we have hardly found two

structure which contain such decoration. The new form hanging scheme was a result of the process of development and evolution of traditional hanging motif. Artisan presented a new composition of hanging element either in the carving project and terracotta panel. Basically, first transformation came to exist at the façade decoration of Qadam Rasul Mosque, Gaur, (b.1530A.C). The traditional form of both hanging bell and the lamp were gently put aside and adopted the new form of hanging scheme. The motif might have been conveying meaningless formation, at first sight. A minute of observation can earthen an intricate meaning of indigenous element inspired from nature or culture.

Originated from the chain and bell theme, the motif developed into fantastic concept of fruits bunches and other of kind. This new hanging scheme can be called as Hanging *Jhumka* Motif in considerable manner. The artisan might have been inspired from natural element like a motif of Bellflower or campanula (*jumka phool)*, The motif was been employed in an elaborate form instead of hanging chain and bell motif. A minute observation, this motif would be more resemblance to *Jhumka* jewelry of woman ear in modern times. Hanging *jhumka* from another *jhumka* and from other motif, thus crate a tree composition of an intricate design like *jhar* (beaded chandelier/ঝাড়বাতি).

It is the main inspiration from hanging bell or lamp art, which, however, shows great originality in its treatment of borrowed themes. The theme firstly was commissioned in depiction on terracotta plaque, of Qadam Rasul, Gaur. Shortly after that the artisans of the Kusumba Mosque successfully commissioned the new theme in panel decoration of façade and even adopted the new treatment in mihrab niche, avoiding the cannon law of embellishment with hanging lamp. Prof. Yakub Ali considers it as

hanging lantern *jhar*[38]

Curly Braces Motif: This motif always uses as the supporting component to hanging. The curly braces camouflaged its original look bi special type of vegetal design, can be notice in panel frame decoration of Choto Sona Mosque with camouflaged look. In the panel decoration of Kusumba Mosque, original curly braces form was been in conglomeration on *jhumka* motif in the treatment intricate *jhar*. **[Figure no.- B12].**

Nakshi Sika and Tassel: Nakshi Sika, a hanging theme that developed from cultural output of people of Bengal itself which is an old indigenous culture, found in almost every house of the rural areas of Bengal. This shikha is fastened with the beam or ceiling of the house and different lucrative things of the family, are kept hanging there. It reticulates bag made of jute strings featuring household component rather than folk art motifs. It is usually made of jute. Sikas were found in almost every house of the rural areas of Bengal. This sika is fastened with the beam or ceiling of the house and different things of the family, including food stuff, are kept hanging there. This theme more likely to the hanging lamp model.

One of the universal ornaments that is seen in varying versions in many cultures around the world, is tassel. The Tassel consists of a tuft of threads or cords or jute, hanging straight down from sika. A tassel is a finishing feature of Naskshi Sika. In native culture, it is the termination of the lower end of the Naskshi Sika to add extra of sense of beauty. In some cases, the hanging tassel might have been adopted instead of hanging bell. The shaft

[38] A K M Yaqub Ali, *Terracotta, Stone-Carving and Calligraphic Art of Medieval Bengal: An Aesthetic Treatment*. P-6, *www.bmri.org.uk › articles › MedievalArtofBengal,*

of pillars in mihrab of Kusumba Mosque contains such hanging design of tassel. This may throw light on the folk art of that period.

Merlon Design: Merlon, a common motif for band decoration, basically used as the supportive element of other carving design. The basic theme might be imported from architectural feature of crenellated parapet. The replica of the crenellated parapet came to exist as the series for decorative purpose. The motif took itself a dominant part on building decoration, even in the earlier Muslim building.

Spear Head Motif

The chiseled motif of the Spear Head of fringes on doorways with pointed arches of Alai Darwaza, is amongst the most perfect and earliest specimens of the architectural history of Muslim India.[39] This *spearhead* is most often identified as lotus buds. With time being, the motif got it new form might be for regional influence and local artistic development. When The façade is elaborately ornamented in sensuous carving and patterns, in case of adornment, the spear head motif was always adopted as the supportive decorative component beside prime motif or stringcourse of band.

Another motif may have been developed from contemporary popular metal weapon, spear or arrow head. The name indicates the motif derived from a spear, especially from a pole with a sharp ending the motif always is used in continuous repetition of spear head motif. But, with course of time the artisan produces new form and formation, taking new motif of spear head, merging it into essence of crenellated design. This new type was firstly commissioned to work as a supportive band of major moulding band in the architecture of Firuza Minar (b1489a.c.) Gaur, West Bengal,

[39] Sheila S. Blair and Jonathan M. Bloom, *The Art and Architecture of Islam, 1250–1800*, Yale University Press, 1995, p. 151

India(b.1489a.c.). The artists successfully presented the new formation typical merlon with graceful presentation at skirting level, adjacent to string course of mid wall and even at facet of corner turret. But, two type of merlons design used in Kusumba mosque. The traditional merlon with cursive form both inverse and reverse, were carved out as a supportive band on frieze of outer wall. Other form of merlon of Kusumba, might be call spear design, quite dissimilar to the merlon of Choto Sona Mosque. **[Figure no.- B13]**.

The *Kalasha* Motif

a typical water pot of "pitcher, mainly made of clay, with a large base and small mouth, component of primarily temple rituals of Hindu. At the decline period of independent sultanate of Bengal, this *kalasha* motif was carved out as decorative motif at the Kusumba Mosque Architecture.

The *Purna-Kalash* (with leave and coconut) is considered as a symbol of abundance and "source of life" and is preeminently a Vedic motif, known from the time of Rigveda.[40]

Even in medieval period, the *Kalasha* is believed to contain immortality, the elixir of life, and thus is viewed as a symbol of abundance, wisdom, and immortality. The *Kalasha* is often seen in Hindu iconography as an attribute, in the hands of Hindu deities.[41] Moreover the clay kalasha a very common household component in rural Bengal.

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[40] Madhu Jain*, The Abode of Mahashiva: Cults and Symbology in Jaunsar-Bawar in the Mid Himalayas*, Indus Publishing, 1995. p- 199

[41] Eva Rudy Jansen, *The Book of Hindu Imagery: Gods, Manifestations and Their Meaning*, 1993, p-102

The *Kalasha* was started to use as a ceremonial object as well as a decorative motif in Indian art and architecture. The *Kalasha* motif was adopted in decorating bases and capitals of pillars from the 5th century**.**[42] The style of decoration with pot was been continued up to the Muslim rule in India. A stone engraving containing kalasa motif is a majestic example of art work at the 8th century A.C. Temple of Baitala, located at Bhuvenashar, Orissa. **[Figure no.- B14].**

But earliest known example of this model, containing a vase full vegetal flower over flowing and hanging at four corners, can be excessively found in the most of the pillar's decoration at the cave of Ellora. Same type of vase design can be even observed in the baseman decoration of the pillars at main mihrab of Adina mosque. Carvings of Ellora were quite rough but the carvings on stone of mosque of Varendra were subtle, delicate and minute which reflected artistic refinement under Muslim supervision. **[Figure no.- B15].**

The Pineapple motif

The pineapple motif has a resemblance to *kalasa* motif in true sense. We have already known that the *kalasa* motif that was used as the decorative almost all structure in Bengali mosque architecture. The pineapple motif must be employed to make a moderate form and a step of development in decorative motif when the crown of scale leaves and ovaries were finely carved on the pineapple. The motif excessively was used in the embellishment of Kusumba Mosque. The spandrel of arch façade and framework around and out of mihrab niche of prayer hall were adorned with carving design of pineapple motif.

Moulding Band Design

[42] Dale Hoiberg, *Students' Britannica India*, Published 2000, p. 183

The band of molding is quite common in the pre-Muslim temple architecture throughout this area and may be old as the Indian stone carving art itself. To differentiate one layer to other of depiction god and goddess affairs, horizontal band of molding by stone carving often been used in pre-Islamic period. We have found this band moulding by stone carving on the contemporary temple structure. Especially the band were used to hide the pensive form at the area of wall facet and the *shikhara* segment.

This type of band layer can be noticed at Konark Sun Temple, Orissa and the Chennakesava temple, Somanathapura, Karnataka, India of the same age of constructed in 13th century BC. Moreover, the architectural style of Begunia Temple Complex at Barakar, at the city of Asansol, Pashim Bardawan, West Bengal, closely resembles to that of the temples of Orissa (now Odisha) and is very different from usual the *"ratna"* style that Bengalis are familiar with. The temples follow *Sapta-ratha* style with elaborately carved curvilinear *Shikhara*. The temple complex consists of 4 temples dating between 10th to 12th Century AD. So it can easily be said that inspiration from the stone design of band travel to mosque of this area through, Bengal temple architecture located suburb of Bengal. But the band design of mosque comparatively unornamented. The other stone temple which is called Kalyaneshwari Temple, Bardhhaman, West Bengal, is relevant for its exquisite band design along with mouldings. **[Figure no.- B16] & [Figure no.- B17].**

Band Design on Mosque Turret

In each case, of Bengal Muslim architecture of pre-Mughal period, contains four octagonal turrets to its four outer corners. Thus, the corner towers are one of the necessary features of all sort of structure in Bengal.[43]

[43] A.H. Dani, *Muslim Architecture in Bengal*, p-82

Each turret contains a number of courses of band moulding running around horizontally. This type of projected band mouldings is obviously for decorative purpose. The norm of several band moulding of tower is a point of view of adornment of tower, which firmly established through the architecture of the Eklakhi Mausoleum (d.1425A.C) and continued to practice in all type of structure. The towers of structure including mosque architecture of the Sultani period, show a quadruple horizontal mouldings at base and top, while the shaft has a single or triple mouldings after certain intervals. The interspace of quadruple bands of base often depicted plant and creepers or rhombus and rosette or spiral band design.

The tower shaft with horizontal band moulding running round after regular intervals is quite similar to the node of bamboo. Artist might have employed the idea of bamboo node for aesthetic treatment by using moulding bands on turret shaft to enhance the entire beauty of appearance. It would not be impossible, when four turrets are added in four corners of structure, signifying the spirit of resistance of bamboo at four corners of village hut.[44] The moulding of shaft of turret provides an impression like internodal spacing of bamboo. In this prospect, the design might have been manifested from the indigenous element. **[Figure no.- B18].**

Furthermore, the quadruple horizontal mouldings at base which is commonly observed in artistic treatment on turret of contemporary structure, might have been derived from the moulding band formation of pre-Islamic temple architecture. The stone architecture of Begunia Temple Complex at Barakar, (13 th century A.C.) West Bengal, show quadruple horizontal at its base, which is quite resemble to the quadruple horizontal mouldings of turret of Bengal Muslim architecture. The Mundeshwari Devi Temple, Bihar which constructed in 2nd century A.C. **(108 A.C),** contains

[44] A.H. Dani, *Muslim Architecture in Bengal*, p-75

such type of grandiose moulding at its base of rectangle bastions. **[Figure no.- B19]**

The Modernized of the Bead Moulding

"Bead and Reel" motif, usually can be found in sculptures, moldings and numismatics as well. It consists in a thin line where beadlike elements alternate with cylindrical ones. It is cited that the motif and their formation in chisel work on stone was entirely manifested in Greece civilization probably during 6th century BCE. The motif then was spread surround area like Egypt and followed by ancient Persians. Then, the indian might have inspired from Hellenistic world of art.[45] In the long journey of walk, the motif somewhat was got altered it shape and formation. Bead and reel motif were no longer been existed and took very simple form. **[Figure no.- B20]**

But in Bengal, bead considered to be one of the earliest ornamental elements, used by men and women. The culture of using of bead is very old custom of this land itself. The earliest beads in the subcontinent are reported from upper Palaeolithic culture, while we find the earliest beads in Bengal at the Pandu Rajar Dhibi site of *Purba Bardhaman* district (king *Pandu* of *Mahabharata*) **[Bead, *Banglapedia*]** This relic has excessively been found in most early historic and early medieval archaeological sites such as *Mahasthan*, *Wari-bateswar*, *Paharpur* and *Mainamati* in Bangladesh.

The motif of bead in carving on stone might have been come from the ornamentation element. A string of bead was carved out from the stone surface and employed in architecture as a supportive motif to enhance the beauty. **Furthermore, in mosque architecture of sultanate Bengal, skilled engravers tried their best to form a majestic look of the mihrab.**

[45] John Boardman "*The Origins of Indian Stone Architecture*", p.16

To enrich another decorative motif, there moulding of bead were used just above the rectangle framework of mihrabs. The main cause of using for moldings, which used to create added detail or cover up gaps. Above the rectangle framework of mihrab in Kusumba Mosque, the string course of bead moulding is very impressive that the bead decoration of other contemporary stone mosques. The string of Kusumba Mosque very unusual type of bead, more like to be the pineapple shape, which is very delicate. **[Figure no.- B21]**

Geometric Designs

The Aniconism, a basic belief in Islamic, caused artists to explore non-figural art for their decoration of religious architecture. This basic instinct, led the artist to think a new type of decoration which would not be antagonistic to Islamic belief. The artist turned their attention in general aesthetic shaft towards mathematically based decoration. Geometric patterns occur in a variety of forms and widely used in Islamic art and architecture.

The Geometric design reached its culmination in Islamic art through the hand of Muslim patrons, though the origin was not purely Muslim, but inspired from other non-Muslim culture like, Greek, Sassanid. Using key geometric form, artist produced intricate, elaborate and complicated composition to form a new design. The new formation may have reached a pinnacle during the Seljuk when significant mathematical development assisted the artisan develop in new art making. The overwhelming using of geometric design in contemporary Muslim architecture, it was going to be known as symbol of Muslim art design. It was very usual ***that t***he art of Persian would made a considerable influence over the art of Muslim Bengal. A common feature of art in Persian mosque is the covering of

surfaces with geometric patterns in tiles work, while in Bengal mosque architecture, the geometric design only can be found in the most sacred place like Mihrab niche or Mihrab framework in form of either in terracotta or stone carving decoration. Thus, a common feature of this art in mosque is a certain area of surfaces covered with geometric patterns.

8-Pointed Star: A recurring motif is the 8-pointed star, often seen in Islamic lattice, grille, tilework, wall facet. The 8-pointed star is often cited as an innovation of the Muslims, the design is commonly found in Islamic Art as part of the tradition of geometric patterns. The motif is often seen in Islamic tilework; it is made of two squares, one rotated 45 degrees with respect to the other. It's also found as markings in the Quran to separate groups of text. The constructing an 8 geometric pattern is very simple. This pattern if formed by dividing a circle into eight equal parts to form an 8-pointed star at its center. This pattern is used to create designs by connecting various intersections, which can be observed in many Islamic decoration. The symbolic significance beyond this not found yet. But it often cited that the octagon symbolizes the eight angels who are bearers of the throne of God.[46] This type of recurring motif of 8-pointed star enhance the beauty of the *mihrab* niche of Adina Mosque decoration. This recurring motif was profusely depicted on stone surface of *mihrab* niche of different mosque architecture in Bengal.

[46] M. Hejazi and, F. M. Saradj*, 'Persian Architectural Heritage: Architecture, Structure and Conservation*' 2015 p-40

Network Design

The systems of subsidiary lines required in geometrical patterns whereever it is used to combine a form of net (*jali*) or other type of decoration. They may be of very various kinds. The most frequent are quadrangular and triangular reticulations, combined of single squares or equilateral triangles. In the stone carving of frame work of central mihrab in prayer hall of Kusumba Mosque, a thin quadrangle pattern network design can be found. Moreover, in architecture and other decorative arts, diaper is applied as a decorative treatment of a surface with a repeat pattern of squares, rectangles. A stone wall may be decorated with such a pattern sculpted in relief. The designs may be used in most of time as associate decorative theme without further enrichment besides major art. The decorative component only happened when the junctions of straight line compose a theme of arcs and all these regularly-placed points are joined by mixed lines. In Bengali carving design, they were been employed in treatment of framework of mihrab of mosque of the around the panel decoration. They are at the same time available as construction-lines for the further development of richer patterns for mural. shown by the examples of application appended to the simple motives.

Tessellation

When a geometric shape is repeated over and over again, covering a plane surface without any gaps or overlaps**,** it results in a tessellation. It is another clear set of rules of mathematical measurement and calculation. Different geometric shaped are lined with each other and one after another without any gaps or overlaps. Furthermore, as a byproduct of the tessellation, a different shape and design of geometric can be carried out for surface decoration that mesmerize visual effect. Because of their decorative

aesthetic tessellations were used in art and architecture alike, providing an art design, covering for wall surface. There are two types of tessellation, firstly, Regular tessellations which made up of only one single shape placed in this kind of pattern. There are three types of regular tessellations: triangles, squares and hexagons. Lastly, Semi-Regular Tessellations that contains two or three types of polygons share a common vertex, a semi-regular tessellation is forms. The history of the tessellation in point of view of decoration on Islamic art is quite old as the Muslim civilization itself. The Muslim might have been coming to contract with this technique in term of embellishment during the Umayyad rule (661-750 AC) in Arabian Peninsula. The mosaic floor decoration with tessellated design at Qusayr Amra, Khirbat al-Minya and Khirbat al-Mafjar reveals the fact. The bath hall of Khirbat al –Mafjar was entirely covering with exquisite mosaic design of thirty-one different abstract design which were created from technique of tessellated pattern.[47]

But, the history of the Tessellation pattern is far back from the early Muslim civilization. Origin of tessellation can be traced back to 4,000 years BC, when the Sumerians used tiles to compose decorative features in their homes and temples. From there, tessellation found its place in the art of different civilizations including Egyptians, Persians, Romans and Greeks and even the Byzantines who cultivated the technique in art and embellishment. **[Figure no.-B22]**

The Interlace Band: This can simply be called the woven pattern. It is one of pattern of representation of geometric design. The interlace pattern includes all those patterns which are formed of a number of broad lines interlaced together. It can be produced from the all types of geometric

[47] Ettinghausen, R. and Oleg Graber, The Art and Architecture of Islam (650-1250), pp-54-55

design including square, rectangle, octagonal. It means, braided, and knotted in complex geometric patterns, often to fill a space. The basic difference is in representation, when the interlacing broad lines shall pass under and over one another alternately to provide an impressive look of 2D. Interlacing pattern can be either repeating or self-contained pattern. The Interlacement Band includes all those bands which are formed of a number of" lines interlaced or plaited together. They are usually symmetrical to the longitudinal axis; and may be produced indefinitely to creating a superb polychrome effect in stone surface. It is quite similar to the rope pattern. The technique can even be found in formation of a particular type of arabesque. In formation of interlacement design, artisan was needed to be proficient and highly skilled in this art making. Interlacement patterns were excessively used in all styles of geometric pattern.

The exquisite mosaic design in bath hall of Khirbat al-Mafjar can also be termed as the first example of delicate interlacing design in Islamic world.[48] Decoration of Qutub minar such as floor mosaics, carvings and wall and decorative metal work of the 8th to 10th centuries are followed by the intricate interlacing common in later medieval Islamic art. Interlaced elaborations can also be observed in Kufic calligraphic design in Qutub Minar. In Bengal, the above the central *mihrab* of Adina mosque, there is a pyramidal composition of interlaced engravings.

Spiral Band design is more likely to be the wave of the sea and therefore, can be cited as wave design. But, its origin is purely geometrical measurement. It is ideal decorative motif for intersperse of narrow span.

[48] see picture, R. Ettinghausen, and Oleg Graber, The Art and Architecture of Islam (650-1250), p-54

The interstices between the lines are sometimes decorated with leaves and flower- buds. This pattern can be satisfactorily adapted on vessels, friezes, cornices, and any strait place in architecture; and also, as borders, for mural-paintings. A round design is often placed at the volute-centers to enhance the beauty.

Rosette of Lotus Flower (round Medallion): A round flower design for visual art decoration is cited as a rosette in general. So, there are thousands of rosette patterns that was been developed and manifested in different place and culture with different shapes. In India, the rosette shape was developed in form of lotus flower.

The indigenous plant, lotus grows in shallow and murky waters, found at everywhere in Bengal. The devotees of both two religions, Buddhism and Hinduism, are infatuated with lotus flowers. The full bloomed flower is symbolized as eternity, purity and divinity, and sores of many deities. It is widely used in performing Hindu rituals perceiving it as symbol of life, fertility, ever-renewing youth. The earlies reference can be found in oldest Hindu scripture, the Rg Veda, where pink lotus Padma) has been mentioned. Furthermore, the citation of Lotus flower can even be found in the 5th chapter of the Bhagavad Gita, where Lord Krishna says: 'o*ne who does all work as an offering to the Lord, abandoning attachment to the results, is as untouched by sin (or Karmic reaction) as a lotus leaf is untouched by water.*[49] Thus, the Lotus has been referred as symbol of purity and enlightenment.

The lotus is one of Buddhism's most recognizable symbols of enlightenment. According to legend, everywhere the baby Buddha stepped,

[49] Bhagavad Gita 5.10

a lotus flower bloomed. Its spiritual meaning is regarded that a closed bud symbolizes the time before enlightenment, while a fully bloomed lotus represents full enlightenment. The flower motif was excessively used in painting of the Ajanta cave art. In some cases, the motif was carved out from stone surface of Ellora cave **[Figure no.- B23].** The motif of art in form of stone was a legacy for future generations especially when the period of aniconism existed in Bengal under muslim rule and the pictorial art was forbidden in religious place. **[Figure no.- B24].**

The shape and formation of lotus flower, embossed in Bengal mosque wall surface, is quite complex in composition than that of Ellora. The distinguishing form and formation already manifested in pre-Muslim era of Bengal. A lotus design was often carved out on stone sculpture when the essence of deities was represented. The Varendra Research Museum of Rajshahi contains such type of stone sculpture along with lotus flower design. So, this aesthetic art was not unknown in ancient Bengal.

In case of making complex setting of lotus of rosette, a central round, is encircled by a layer of multi petals and followed by another layers of petals after one another. The total composition was occurred in the geometric pattern where different polygon was assimilated to figure out delicate art. We find two type of composition on rosette of lotus, 8-fold-rosette of three layer of petals are dominating the carving design on the wall at Choto Sona Mosque. On the other hand, on the wall surface of Kusumba Mosque, the rosette is more complex that of Choto Sona Mosque. The rosette of Kusumba Mosque is the combination of petals of pentagram (Five-pointed star), Hen decagram (eleven-pointed star polygon) and hexagonal. There is a misconception taking the issue that this would be rosette of the lotus flower. So, it would be proper calling the motif as round medallion. **[Figure no.- B25]**

Rhombus and Rosette

Rhombus or "Lozenge" is the name usually given to shape with four equal straight sides. A rhombus looks like a diamond. Opposite sides are parallel and equal, and opposite angles are equal. Moreover, round shaped imaginary flower (having same diameter of flower and rhombus height) can be observed in stone carving scheme of the mosque architecture medieval Bengal. The two motifs interchange their positions alternatively, takes a graceful look in carving design especially at the mihrab frameworks. we have found the decorative combination, containing separate layer around and out of the prime decoration like vegetal design of calligraphy. The earlier can be found in the embellishment of mihrab frame in both Small Golden Mosque and Kusumba Mosque. The later style of the rhombus and round flower frame around and out the calligraphy frame could be found in mihrab decoration of Adina Mosque. [Figure no.-B26**]**

In the period of ancient Indian rock cut architecture and carving, this motif was manifested. The earlies known example of rhombus and round flower, must be the engravings on Pillar of Kailasa Cave, Ellora. [**Figure no- B27].** Under the Muslim supervision, the scheme was adopted by native artisans in the mosque architectures. The motif became very delicate with expressive and minute carvings. The best specimen of this design, can be noticed from a dilapidated slab of the Qutub Shahi Mosque (1582 A.C.), where a scheme, a rhombus interlacing with another rhombus, takes a found flower between the two, has been intricately carved out from a slab.

Motif from Nature: The Indian temple or stupa complex is a place where the cosmos is replicated and explained to the devotee, by depiction of religious fact in form of sculpture and painting as well, is more simple and easiest way to reach devotee. The representation of the friezes of scenes narrating legends from the religious text is even consider the true holy things and eternal to the multitude of forms of the world. When the devotees come to the temple (or to the railings around the stupa), they circumambulate, or goes around it. Here, on the temple walls or stupa railings, men and women, animals and birds are the multiplicity of the forms of the world around them: In such condition, to avoid the pensive mood in depiction viz, fridge after fridge of deities, and religious figurative art, a thin miniature of scroll of vine were often been carved out. So, the vegetal design was not unknown to this land before the advent of Islam. But, under the Muslim patron, there were three designs inspired from nature (scroll, vine and arabesque) that were employed in the art of embellishment both in terracotta ornamentation and art of stone carving.

Scroll: The inspiration of scroll design was adopted from nature. The immediate effect of geometry was on the stem scrolling which developed an exquisite look and formation. But, Scroll is cited as Artificial Foliage.[50] Many types are plant-scrolls were manifested throughout the world. In India, which loosely represent plant forms such as vines, with leaves or flowers attached. The Scrollwork is a term for some forms of decoration dominated by spiraling scrolls or volutes, (a volutes followed by another reverse spiraling scrolls or volutes alternates their position), manner of vertically or horizontally growing trees. Flowers and calices, such as

[50] Franz Sales Meyer, 'A Hand note of Ornament' p- 39

frequently occur in artificial foliage, are usually developed with serrated edges, and composed to recall natural models.[51]

When the Muslim firmly establishment themselves as rulers of Bengal in the fourteenth and fifteenth centuries, numerous scrolls from Indian temple were adopted, though sometimes in markedly revised form. In this case no innovative design cannot be produced by the artisan. The scroll of Choto Sona Mosque is likely to be the scroll design on the wheel of Kornark Sun Temple. In the composition no, further change was not carried out. The only variation can be observed in each central of spiraling or volute/swirl, where figurative art of deity has been replaced by lotus bud design and has been carved out with delicacy. This non-figurative theme was already developed in form of terracotta art before the construction of Choto Sona Mosque. The scroll design of Choto Sona Mosque has a much resemblance to the scroll design of terracotta of Darsbari Mosque, Gaur (now in Chapai-Nawabganj District, Bangladesh).

Only Choto Sona Mosque, the scroll carving design takes a dominant role for the façade decoration of Small Golden Mosque. Moreover, the scroll decoration has been employed as part of ornamentation of the flanking pilasters or architrave of doorways. The scroll design even is deliberately used as the border design of each panel frame. The greatest luxuriance and the highest elegance were attained by the artisan under the patron of Husain Shahi ruler and their courtiers or nobles. **[Figure no.- B28] & [Figure no.- B 29].**

Vine: Another motif largely was employed in point of view of decoration, would be Vine. The difference between scroll and vine is very

[51] Franz Sales Meyer, *'A Hand note of Ornament'* 1917 p- 39

distinguishable and gross. The difference could be found in their shape and move. A vine of creative abundance is often depicted, running up the door jambs and across the architraves. A vine is any plant with a growth habit of trailing or climbing stems or running any manners. This design was been used as common term for wall decoration and suitable for any type surface are, while the scroll could be depicted on the straight vertical or horizontal surface are. On the other hand, the vine design can be satisfactorily applied any place whatever the area is, cusped hunch frame of multi cusped mihrab arch or spandrels area. The vine occurred frequently in term of decoration of Bengal mosque architecture both in terracotta and stone carving art design. Because this element of artistic decoration could easily cover up any surface area with delicacy and rhythmic pattern. The ideal example of vine design can be observed in rectangle framework of terracotta decoration around and out of central *mihrab* of Tantipara Mosque (c.1475A.C), Gaur, West Bengal, India. The replica of vine design was carved out on stone surface in the mosque premise of Kusumba mosque.

But in most cases, the vine refers grape vine figures frequently as a symbol from far distant times. The Greeks were the first who employed the motif for adornment. Because, In the Greek mythology, Dionysius (and with the Romans Bacchus) was god of the grape-harvest, winemaking and wine, of fertility, religious ecstasy, and theatre in ancient Greek myth. Therefore, a grape vine with bunches of the fruit are among their attributes. Their attendants on the Bacchanalian festivals —hence had the vine as an attribute, together with the thyrsus, the latter often entwined with vine branches. From that tradition, the Greek wine-cup is commonly decorated with the vine and grapes, Thus, wine, of course, is being drunk as a libation to the god.

It got popularized mostly after the appearance of Christianity. As the result of direct effect of iconography in Christian religion, the vine also frequently takes as element of adornment. It is several times mentioned in the New Testament. The vine is used as symbol of Christ based on his own statement, "I am the vine''. The vine is often cited as symbol of temporal blessing. For this reason, Vine were adopted as sacred motif in term of religious adornment. Thus, a vine is placed as sole symbol of Christ as well as adornment on the tomb of the sister of Constantine, the Empress Constantia, and elsewhere. In Byzantine art, the vine and grapes figure became a common theme in early mosaics decoration. Such type of decoration could be found on the throne of Maximien at Ravenna. With time being, theme of vine laden with grapes is found in all most ecclesiastical decorations but the form of vine started to change.

But actually, any serpentine climbing plant cab be referred as the vine. etc. Its supple branches, the beauty of the leaf and the artistic formation of the bunch of fruit, all tend to make the plant for prolifically used in the decorative arts.

There is no direct evidence of this fact of earliest form of vine in India. The vine into Indian base reliefs used to be considered itself copying from Hellenistic models. But, it cannot be justified. Sir George Watt believes that the plant is indigenous on the Lower Himalyan rangs and is even inclined to think that its cultivation may have been diffused into Europe from that region. However, it is certain that Indian artists had ample opportunities of studying the forms of Vine-growth at first hand, and were under no to seek the foreign models.[52] The cause of confusion on this

[52] quoted in the book*, A History of Fine Art in India and Ceylon* by Vincent A. Smith, p- 386, Cornell University Library

because, in certain cases, native artisan of India chose to treat this vine motive after the Europeans**.**[53]

Arabesque: As substitution of the Vine design, arabesque take the position of it. In Bengal, the stylistic difference between Vine design and arabesque is often so marginal that it is often difficult for the uninitiated to distinguish them. Basically, the difference could only be found in the shape of twining stem. The vine has deliberately twining, while arabesque consists of numberless tendrils and floriated stems, essentially running rhythmic linear patterns with complex foliated design that moves in free manner. The underlying formulae governing arabesque designs are based on the same mathematical proportion.[54] The best example of arabesque design in mosque architecture can be observe in stone carving at the central *mihrab* of Adina Mosque. In this design, the leaves growing out of the stems which produce a delicate look of overall adornment. The development of the arabesque might have been furnished from the classic vine tendril. Artificial foliage is often combined with forms from that plants. By the 14th century A.C. maturity of arabesque had emerged and was used on large scale to provide overall monumental decoration.[55]

The Dome of the Rock and Great Mosque of Damascus contains such an exquisite design of vine tendrils and scroll on mosaic. Development started to run in form and formation with course of time and space. Sometimes it was assimilated with the idea and formation of other culture. Arabesque designs are symbols of cosmic discipline which create illusion and image

[53] V.A. Smith *Journal of Asiatic Society of Bengal*.A.S.B, Part-1, Vol-vii p-160
[54] M. Hafizullah Khan*, Terracotta Ornamentation in Muslim Architecture of Bengal*, p-11
[55] M. Hafizullah Khan*, Terracotta Ornamentation in Muslim Architecture of Bengal*, p-11

in the mind of the devotees or onlookers.[56] They reveal abstraction and supernatural order beyond the real world.

Panel Frame Design: A Panel Frame of temple contains an exquisite carving of demi-Gods and their ornate bearings. Some more carvings of Gods and celestial beings are taken as motif to depict to cover up the walls surface of temple. Most cases, a rectangle frame was created where stones with sculptural representations of various deities and different scenes narrating legends were presented. A sculptural representation within a replica of rectangle frame, flanked by columns, was a popular technique to cover up the walls surface of temple, before advent of Islam in this land. It can be assumed from the This technique was profusely found in the pre-Islamic temple of Orrisa. The Kornark Sun temple, Baitāḷa deuḷa or Vaitāḷa deuḷ and Chitrakarini Temple all are located at Bhubaneswar, contain such example of rectangle panel frames. **[Figure no.- B30], [Figure no.- B31] & [Figure no.-B32]**.

After advent of Islam in this land, the rectangle panel frame was continued to

practice in art of structural surface embellishment but with refined formation and representation. The Alai Darwaza (b.1311Ac by which is one of the first buildings in India to be *built* using an *Islamic* architectural style, contains such rectangle frame design at its façade surface.[57] But, in the land of Bengal where the panel bears different look and formation in comparison to the frame of Alia Darwaza. The first ever known surviving example of panel design in Muslim Architecture, must be panel design in form of terracotta plaque of the Eklakhahi Mausoleum which was built in

[56] TT. Burckhardt, *Principles of Islamic art (collection of articles)*. Trans & Edit by Amir Nasri. Tehran: Haghighat Publisher, 2007, P. 111, 112

[57] R. Nath. *History of Sultanate Architecture*, p-47

the 1425 A.C.[58] The panel often constitutes with harmonization of essence of different existing motif in a single panel with extra care. Each panel composed of multilayer cusped pointed arch springing from round column. The spandrel of this arch is adorned with two round medallions and climbing plants on. The arch niche is embellished with a gradually slender chain hanging motif. The whole setting contains a design of scroll around and out. The whole frame is broader with a moulding projection, fixed exactly at top and at bottom. Next to moulding profile of upper, a dominant chisel work of vertical repetition of supplementary series of design like merlon or another motif are added. But at bottom, following the moulding, there is another rectangle of the festoon and swag motif. This basic principle of surface decoration that were subsequently followed in almost all the sultani building in Bengal even in the stone structure as well as the art of stone carving. In respect of ornamental motifs of frame, which comprises of the skillful combination of pre-Muslim indigenous and foreign elements. The hanging motif, round column as well as the frame might had been originated from Hindu or pre-Islamic tradition, while the spandrel decoration with round medallions and scroll of vegetal design was continued to practice, inspired from Arab and Persian tradition. The delicate mosaic decoration with vegetal design of the arch of Dome of the Rock (c.691A.C) is the first example of spandrel decoration of Muslim architecture.[59] On the contrary**,** the Nayin mosque, located at medieval town city of Damghan, Iran, constructed probably in tenth century A.C. which contains ever known first example of round medallion in stucco decoration at its arch spandrel.[60] Thus the panel represents the spirit of pre-Islamic tradition and the ideas what the Muslim borrowed from their land

[58] P. Brown*, Indian Architecture (The Islamic Period*), p-39
[59] R. Ettinghausen and Oleg Graber, *The Art and Architecture of Islam (650-1250*), pp-30-32
[60] R. Ettinghausen and Oleg Graber, *The Art and Architecture of Islam (650-1250*), pp-212-213

of Muslim predecessors. This mode of surface ornamentation, initiated by the artisan of this land, under supervision of Muslim patron continued to practice till the time of Mughal rule in Bengal.

Calligraphy Design: Calligraphy constitutes a major element of ornamentation in Muslim architecture. The term calligraphy is originated from the Greek word, '*kalligraphia'*, meaning beautiful handwriting. In Islamic civilization, the calligrapgy generally indicates Arabic writing with decorative composition. Calligraphy is closely linked with geometry. Because, it's letters and curved stroke are governed by mathematical measurements.[61] It was hardly possible for the early Islamic architecture having no inscription of calligraphy with it. Without it, the building would be unfinished or 'naked'.[62] The Calligraphic inscription was a basic norm and element of architecture wherever the architectural project was carried out in Islamic world. Most of the building contained calligraphy decoration alongside the geometric and other non-figurative art design. All Mosques either of brick or brick stone, of the medieval Bengal contain at least one inscription. In is interesting to note that inscriptions of the Muslim ruler of Bengal which are related to mosque erection record, have been discovered in large number from different parts of that region. A number of them are preserved in Varendra Research Museum, Rajshahi and National Museum of Bangladesh while other are attached to different mosque architecture.

Almost all inscriptions are in Arabic language with some exception. In the sultanate period, the religious teachers like Ulama, Shaeikh who had sufficient proficiency in Arabic, had a considerable influence over the

[61] M. Hafizullah Khan, *Terracotta ornamentation in Muslim Architecture of Bengal*, p-10
[62] M. Yusuf Siddik*, Historical and cultural Aspects of the Islamic Inscriptions of Bengal: A Reflective Study of Some New Epigraphic Discoveries*, The International Centre of Study of Bengal Art, p-23

Sultan and had profound influence on people.[63] they were given upper position after Sultan himself. Many of them came from land of Arabia. This is why most of the inscriptions of sultanate Bengal were in Arabic language. Besides the inscription, the Arabic calligraphy art in stone carving were not excessively used in mosque ornamentations. Only exception in Adina mosque where the Arabic calligraphy excessively used in the decoration of *mihrab*. Probable cause of using the Arabic calligraphy in decorative purpose was political. Because Sultan Sikander Shah builder of the Adina Mosque assumed himself as khalifa(caliph)**.**[64] He might have been wanted to elevate his mosque with excessive calligraphic design as per design of the mosques of Arab land.

Apart from this, the decoration through intricate carving of calligraphy was confined in only inscription of each mosque architecture in the land of Bengal. So, we do not observe further design of calligraphy on stone surface of mosque except the inscription plate. Most of time the stone inscription plate was fixed above the level of the central archway of mosque architecture, which contains mainly a historical information. In other cases, the plate, is found above the central mihrab niche of mosque interior. Other type of epigraph which was fix above the main mihrab of mosque interior, convey both historical importance with graceful artistic form of carving on stone.

Though there was a scarcity of monolithic resource, black basalt slabs were profusely used to ascribe the calligraphy of mosque architecture, whether it was, of brick build or brick-stone. In point of view of ornamentation through arabic calligraphy, three script, were excessively used in medieval times on mosque decorations of Bengal, were developed in its own way,

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[63] M. Abdur Rahim*, Social and cultural History of Bengal*, p-255
[64] Abdul Karim, *Corpus of Inscriptions of Bengal*, p-92

with different style like *kufic, Thulth, Tughra* etc. In addition to this style, a few other styles of inscriptions such as, *Naskh, talik, tawqi, muhaqqaq, ghubar, and nasthalic* styles are also found in stone inscriptions, which are under collection of Varendara Research Museum.

The *thulth*, Arabic meaning "one-third" which conveys its literal meaning when it is ascribes in calligraphy. The basic inspiration was borrowed from the straight angular forms of *Kufic*, in manifestation of this script by curving and making oblique lines. Artisans of Bengal who were proficiency in calligraphy, long vertical strokes were carved out. This style more or less dominated the system of calligraphy throughout the Bengal. In the early period of Muslim Bengal, an exquisite calligraphy of *thulth* might have been flourished in this land and its suburb area. The inscription of Bari Dargah of Bihar Sharif contains a *thulth* stylized writing on stone block with the slanting vertical strokes were stylized with foliated design to enhance the artistic form of calligraphy.[65] This inscription unearthed another fact that the stylized *thulth* had already been manifested even in the early period of Muslim rule in Bengal. Furthermore, the mosque inscription of Darsbari Mosque (1479A.C) of Gaur (Chapai-Nawabgonj District, Bangladesh) (now preserved in Bangladesh National Museum) contained such a calligraphy of exquisite example *thutlh*. The *thulth* stylized calligraphy can even be found at the end of the Independent sultanate, during the period of Afghan rule in Bengal. An Arabic stone inscription (preserved in Varendra Research Museum, Rajshahi) of the reign Ghiyas Ud - Din-Bahadur Shah contains such example of simple but exquisite *thulth* calligraphy. **[Figure no- B33]**

[65] see the plate, Enamul Haque, ed., Historical and cultural Aspects of the Islamic Inscriptions of Bengal: A Reflective Study of Some New Epigraphic Discoveries, The International Centre of Study of Bengal Art, p-88

On the other hand, the history of the *Naskh* calligraphy is as old as the Muslim rule in India itself. The arch screen of Quwwatul-Islam Mosque, commissioned by Sultan Iltutmish, have been decorated with carved inscriptional designs in *kufic* and *naskh*.[66] . The two scripts *naskh* and *thulth*, comprise of two-third carved line and two-third straight stroke. In Bengal, however, the stylistic difference between *naskh* and *thulth* is often so marginal that it is often difficult for the uninitiated to distinguish them. Basically, the difference could only be found in the shape of stroke. While *thuth* has very prominent slanting, *naskh* is essentially devoid of slanting.[67] A stone inscription of Saifud-Din Firuz Shah 1484A.C. (preserved in Varendra Research Museum, Rajshahi) which conveys a historical information of mosque construction, contain delicate design of carving on stone of Naskh script. **[Figure no.- B34] & [Figure no.- B35.]**

The *Tughra: Tughra*, a style was started to practice from the very beginning of the Muslim rule in Bengal. Shamsuddin Ahmed explains *Tughra* very elaborately in following manner, which has been mentioned by Abdul Karim**.**[68]

'*It is purely a decorative art in which the artist has endeavored to display his ingenuity in arranging the words and letters of the text not in order of sequence of in terms of conventions, but according to his own fantastic conception, underlying motif of the artist in inventing this style, appear to be two folds: firstly to decorate the epigraph by a highly conventionalized and capricious design of setting up the letters and words in the field, and secondly to accommodate a lengthy text within a comparatively narrow*

[66] R. Nath, *History of Sultanate Architecture*, P-10
[67] Enamul Haque, ed., Historical and cultural Aspects of the Islamic Inscriptions of Bengal: A Reflective Study of Some New Epigraphic Discoveries, The International Centre of Study of Bengal Art, p-85
[68] Abdul Karim, Corpus of Arabic and Persian Inscriptions of Bengal, p-14

space available in the tablet by twisting of expanding the letters or words where convenient and arranging them irregularly one above the other. In carrying these designs into practice, the artist often fails to maintain the order of precedence. In some instances, the letters are intertwined and twisted and order of sequence is complicated to such an extent as to render decipherment of the text most difficult.''

The style was of tughra further developed by the Sultan of Ilyas Shahi and reached its climax at the period of Husain Shahi.[69] The calligraphy design *Tughra* is very unique and got stylized when the *naskh*, in some case, being combined with but most often described as *tughra*.[70] Architect Abu Sayeed M.Ahmed mentioned description of *tughra* in his book, narrated by Mustafizur Rahman. 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*.[71] **[Figure no.- B36] & [Figure no.- B37].**

Conclusion: As Mosque is always considered as the sacred place in order to maintain its sanctity and serenity the mosque is kept free from sculptural and pictorial representations on the wall surface for the purpose of embellishment. The artists employed their skill under their Muslim masters to evolve new design for the purpose of embellishment to the non-pictorial representation. This period saw many transformations in the decorative language of Islamic art that would endure for centuries. There were some motif and scheme of embellishment which were unknown before the

[69] Abdul Karim, *Corpus of Inscriptions of Bengal*, p-14
[70] P. Hasan, *Sultan and Mosque*, p-61
[71] A.S. M. Ahmed*, Mosque Architecture in Bangladesh*, p-58

advent of Islam in this land. But under Muslim patron, the native artisan became acquainted with new form and technique of embellishment. In the details, Islamic motif like the interlaced, geometric design and other technique of embellishment like repeated pattern based on cross square and the circle that were completely unknown to this land. The advent of Islam in this land, concluded a tangible change in term of embellishment. On the other hand, the art of this land had a substantial impact over the art of Muslim. The indigenous motif went through refinement and get revived with new form and formation under new Muslim patron. Thus, manifestation of new design has been developed. Thus, the greatest luxuriance and the highest elegance were attained by the artisan under the supervision of Muslim Sultan.

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Chapter- 03

Architecture Element in Chisel Art

Muslim Art of mosque did not only confine in surface treatment with decorative ornamentation but to architectural formation, manifestation and development. This architectural formation, manifestation and development could be termed as the structural features in artistic perspective while structural elements in architectural definition. We look upon the medieval period, when art of mosque architecture, with its geographic spread and long history, was inevitably a subject to a wide range of regional styles and influences as well as changes within the various periods of its development.

Bengali mosque architecture of sultanate period contains a distinctive feature rather than other part of Indian subcontinent as well as the contemporary Islamic civilization. This distinctive feature is enclosed type of mosque architecture, which was a basic rule in mosque architecture until the advent of Mughal rule in Bengal. A single mosque with an exceptional feature having an open courtyard within, could only be found during the timeframe of sultanate Bengal, which is closer to orthodox mosque architecture of Arab and Persian land and even the contemporary mosque architecture of Delhi, India. All the mosques in greater Bengal had only one enclosed prayer hall without an internal courtyard.[72] The nature of the soil and incessant rainfall had a tangible influence on the development of the enclosed type mosque architecture in this land of Bengal.[73] After observing distinguishing feature in formation, Persy Brown assumes the

[72] A.S.M. Ahmed, *Mosque Architecture in Bangledesh*, p-24
[73] A.S.M. Ahmed, *Mosque Architecture in Bangledesh,* UNESCO, p-25

mosque of Bengal as the provincial style of the architecture of India and registers of mosque description of Bengal in special chapter.[74]

Hundreds of mosques were built during this period. In all cases the brick played a dominant part in construction as a basic component. Ideal clay was readily available in this land which was used for making backed brick. This brick as building material was not the new idea what was cultivated in mosque by Muslim patron but a technique of pre-Muslim building tradition. In course of time, the technique brick made building could reach its height degree of pinnacle in architectural formation, manifestation and development under Muslim patron and nursing. The architecture during the timeframe of the Ilyas Shahi period, the art of Bengal reached its classic phase.[75] The highest excellence was achieved both in design and decoration which were entirely made of brick.[76]

As this study is about stone carving art of mosque architecture, we would like to turn the attention to only the mosque with stone as their element of construction or ornamentation. A number of mosque architecture of the Sultani period are mistakenly treated as stone mosque architecture. In reality, there is no such an example of mosque architecture which is entirely made of stone can be traced in Bengal. In all case of stone made mosque, brick played a prime role in founding skeleton as building materials for structural necessity and readily available in this region while stone were employed for specific purpose like coating and enhancing strength which gives better durability and appearance. **Dani** treated this technique as brick stone style.[77] The first mosque building of this kind is Zafar Khan Ghazi, Tribeni (located at Hoogley District, 70 k.m from

[74] P. Brown*, Indian Architecture (Islamic period*) pp-36-39
[75] A.H. Dani, *Muslim Architecture in Bengal*, p-87
[76] A.H. Dani, *Muslim Architecture in Bengal*, p-88
[77] A.H. Dani, *Muslim Architecture in Bengal,* p-40

Calcutta, West Bengal) which is considered to be among the earliest surviving Muslim monuments in Bengal.[78] Here, it needs to be discussed a brief architectural feature of Zafar Khan Mosque to understand further fact of art of mosque of this kind.

The Zafar Khan Ghazi mosque (dated in 1298 A.C.) is oblong plan, measures 23.36 meter by 10.36 meter externally, having a thick wall of about 2.90 m span. The walls are of brick masonry at core but stone facing up to certain level, while remaining above are completely of brick. But, the western wall is entirely of stone facing. It is cited that the stones used in the mosque were originally materials from other Hindu temples.[79] Some stone slab with disfigured deities by hammering and some intact abstract decorative motif testify the fact. Same technique was applied before, especially at the time of erection of Quwwatul Islam mosque (1191-92A.C) in old Delhi, which is considered the first Muslim congressional prayer house after advent of Muslim rule in India.[80]

The structure has gone through a number of reconstructions of different times and now at dilapidated condition so the actual form could not be easily traced out. The payer chamber is divided into 2 bays by four unusually thick stone pillars running longitudinal across the middle. There are 5 arched bays at the front, and these 5 aisles and 2 bays create 10 equal square cells, each of which is roofed with a dome. The prayer chamber can be reached from the east through five pointed arch openings while other openings four from northern and southern side. Thus. the structure illustrates a type of multi-dome in which the domes over the roof equal to the number of front doors

[78] M. Hafizullah Khan, *Terracotta Ornamentation in Muslim Architecture of Bengal,* pp-83-84
[79] P. Brown, *Indian Architecture (Islamic period),* 1976 p-36
[80] R. Nath, *History of Sultanate Architecture*, p-9-10

multiplied by the door on the sides.[81] There were five *mihrabs* on the Western wall, exactly opposite to the five arch openings of east wall. Among the five, three *mihrabs* (the central and flanking two other) of them are almost in *situ*. The *mihrab* are semi-circular, conclude a niche in western wall, and is composed of multi cusped arch spring from wall imposts and decorative spandrel. Each *mihrab* has a boarder frame of stone around and outside. This boarder frame is more likely to be the outcome of post and lintel system. The traditional Hindu style of laying rectangular cut stones one upon another without mortar have been cited as a possible source of this mosque erection.

After the mosque of Jafar Khan Ghazi, no such example of architecture, constructed with brick-stone style, could be found for about a century. Only exception could be found in erection of The Adina Mosque, which has a stone veneer on certain level. During this time frame the brick style was unchangeable and basic. The tenure of Husain Shahi rule, the style once again revived and continued to practice until the Mughal rule. There are six mosque structure in total by which brick-stone style was cultivated in land of Bengal.

In this following chapter, we would discuss a numerous structural features of brick-stone mosque architecture which might have be seemed to be the architectural element at first look. But, a critical scrutiny of these basic feature can unveil fact of aesthetics of the structure and bring light on a distinctive manner of expression and technique of art in architectural setting. Besides, main structural elements like arches, pillars, pilasters, domes, and even the material of construction, we will try to find out those

[81] M. Hafizullah Khan, *Terracotta Ornamentation in Muslim Architecture of Bengal*, p-85

hidden architectural techniques what were applied either to holding structural demand or merely as ornamental appendages.

Even the brick core stone veneer architecture of Bengal contains quite distinctive characteristic from the contemporary stone architecture of Delhi. We have observed the excessive use of stone block, both rubbles and ashlar and entirely of stone slabs, in contemporary architecture under Delhi sultanate especially during Khalji and Tughluq. The core part stone wall was made of unfinished or irregular block of stone and mortar while outer surface rendered in smooth slabs**. [Figure no.- C01]**

On the contrary, the main technique of construction of brick-stone style architecture, was quite different from the contemporary architecture of Delhi. In brick-stone style, core brick wall is almost in asymmetric composition, has been camouflaged into veneer of smooth stone slabs. The damaged part at western wall the Boro Sona Mosque gives out another aspect of stone masonry. Large stone blocks were joined to one another with iron clamps or connectors and to the inner core wall with mortar**.**[82] The falling stone slabs. A number of falling/remaining stone slabs beside Kusumba Mosque premise, each bearing various embossed motif and hooks at sides, can reveal another fact of stone masonry. Stone blocks might have been joined to one another with this side hooks as well**. [Figure no.- C02**]

Apart from traditional motif for embellishment, there is another technique of rock cut art, stone veneer style. Stone veneer might have been described as only wall masonry technique for durability.[83] The second real function

[82] A.S.M. Ahmed, A.M.S, Mosque Architecture in Bangledesh, UNESCO, p-41
[83] Dani, A.H. Muslim Architecture in Bengal, p-80

of stone veneer must be decorative component of a structure. It is supposed to be used for embellishment.

Stone coating: All the brick core and stone veneer mosque architecture, a first glance immediately gives a false impression of a building which was in fact a result of careful execution of professionalism. The exterior wall of all brick-stone building was entirely camouflaged in such way that onlookers would mistakenly recognize this structure of completely stone building from outside and upto arch springing level inside. The skilled craftsman jointed different shaped and design of stone slabs sidewise together and layer above layer with the opus pseudoisodomum technique to conclude a complete form. A minute observation that makes us clear that a stone firstly was resized for the veneer according to size where it would be put in. The indigenous artisans were comfortable in stone work of the opus pseudoisodomum, rather than Opus isodomum (construction with ashlars). The opus pseudoisodomum is of stone masonry in which the rows of courses do not match but run unequally, referring to the height and length of the blocks.

The opus pseudoisodomum technique was most preferable because artisan used stone what they got at first hand. Due to scarcity of monolithic source somewhere in this region, the stone slabs what have been used in mosques, had been either imported from neighboring provinces or collected from the depot of old pre-Muslim religious architecture, like old temple. The Jafar khan Ghazi mosque, the surviving early mosque of Bengal at Tribeni contains such types of stones, recycled from old temple structure, beside.

It was very necessary to have very good joint between each pair of stone slabs and smooth face as well. Otherwise, the stone veneer would not be durable and weight could not be sheer. Furthermore, the artisans were very

much conscious in masonry formation in such way that the outer surface of wall rendered in stone slabs smooth on the outer face, and rough and irregular on the inner face. Thus the artisan created a polychrome effect with glazed stone inside the mosque upto to the pendentive while whole building outside. From the polychrome effect with glazed stone face gilding employed both at exterior and interior ornamentation that might have been given in most case the building its appellation, Boro Sona Mosque and Choto Sona Mosque. **[Figure no.- C03]**

String course on mid wall: For the protection of either in brick or brick-stone mosque architecture, a layer of stone is used at foundation to safeguard the brick wall masonry from earth moisture (salt damp and rising damp). Another course of stone layer is set upon the above the door level/lintel. The *Eklakhi* Mausoleum is the earliest example, which contains such feature. A simple layer of stones above the lintel level, horizontally running around the four *façades*. which splits entire structure into upper and lower segment. This course became the basic rule either pure brick or brick core, stone veneer structure. This course is often cited as the string course on mid wall. An extra layer of stone at the lintel or at the springing level of arches to strengthening the masonry wall**.**[84]

Furthermore, the Horizontal String course produced of double story illusion from outside, originally single-story building inside. The Alai *Darwaza*, Old Delhi **(b.1311A.C.)** was the first ever known Indo-Muslim architecture providing false story by bifurcating the into two horizontal zones having double layers of panels**.**[85] The false impression of Alai

[84] A.M.S. Ahmed*, Mosque Architecture in Bangladesh*, UNESCO, p-41
[85] R. Nath*, History of Sultanate Architecture*, p-49

Darwaza, what architect provided in an intricate way, Bengali artisan could successfully conduct same illusion by adding a horizontal layer only.

With the course of time, the string course had changed its form and functions in architectural history of Bengal. The string was no longer used as an architectural element, but as a decorative element. The stone string course with projection moulding was been evolved and added to architecture, as decorative element.

The Multi *Mihrab* Niches: *Mihrab* is supposed to be the most sacred place of a mosque and at least, a single *mihrab* is a basic component of each mosque. In this region, there are several mihrab niches in the *qibla* wall, which was a distinctive feature of all the Mosque architecture of Sultanate period. In each case, each *mihrab* was installed in *qibla* wall, the exactly opposite to entrances of eastern side. In this region, the number of *mihrab* niches depends on the number of entrance openings in the eastern facade**.**[86] The location of the *mihrab* niches corresponds to the central axis of these openings.[87] Architect Ahmed has provided a conclusive proof of the influence of the indigenous Buddhist architecture on certain type of *mihrabs* of mosque architecture.[88]

Considering it as most sacred place, each *mihrab* was always emphasized with extensive decoration which is a powerful way to get the viewer's attention. Each *mihrab* niche of one mosque contains extensive decoration, whether it is of terracotta or stone carving. In all the brick stone style mosques, emphasizing its importance, the central *mihrab* niche is kept

[86] M. Hafizullah Khan*, Terracotta Ornamentation in Muslim Architecture of Bengal*, p-85
[87] A.M.S. Ahmed*, Mosque Architecture in Bangladesh*, p-29
[88] A.M.S. Ahmed, *Mosque Architecture in Bangladesh*, p-31

bigger followed by central doorway and contains slightly different pattern in decoration and aesthetic than the flanking other *mihrabs*.

In architectural composition, each *mihrab* comprises of three basic parts, viz. an engrailed/multi-cusped arch, rested upon two columns and semi-circle alcove or niche between pair of columns. The spandrel always contains very exquisite ornamentation of carving or terracotta decoration of abstract art. This is more of a false arch and a decorative element than structural when it is carved from several blocks of stone slabs.[89] Another center of attraction of *mihrab* components, is pair of columns adorning with exquisite design, which is supposed to be outcome of Hindu and Buddhist temple elements and often carved out from single piece of stone block. The center composition of a *mihrab* is semi-circle alcove or niche, covered with half dome and is considered as the most sacred and holy place to devotees.

Rectilinear Formation from Recessed Angle: Rectilinear formation was ideal composition for stone architectural plan of *sikhara* temple. A popular temple architecture, was already evolved in pre-Muslim age throughout the Indian subcontinent. This prototype can be found in brick build temple architecture before the Muslim appearance in Bengal. This type of formation graduated the creating the cruciform temple also.

According to layout, square plan was been manifested into rectilinear formation having several rhythmic recesses at each four angles.[90] The exterior was usually decorated with sculptures or terracotta of mythological and semi-divine figures, with the main images of the deities placed in each recessed angle, carved on the main projections. Such

[89] A.M.S. Ahmed, *Mosque Architecture in Bangladesh*, p-31
[90] R. Nath. *History of Sultanate Architecture,* p-26

impression rectilinear formation was carved out at the base of pillars of *mihrab* niche arch of Kusumba Mosque.

Aesthetics of Post and Lintel Setting: The post-and-lintel system is a simple method of construction involving the use of vertical posts and horizontal lintel. It is the easiest and oldest known building techniques. The famous earliest known example of a stone post and lintel structure is Stonehenge. The beams or lintels are horizontal and lay on top of the vertical supports or posts. Indigenous architecture has been widely employed the technique of post and beams/lintels from ancient time, in order to span openings that can support a large amount of building weight. The biggest disadvantage to a post and lintel construction is the limited weight that can be held up, and the small distances required between the posts.

A deceptive impression by duplicity of post or pilasters and lintel technique was been commissioned to produce an art of embellishment even brick core stone veneer building of mediaeval Bengal. In these building, vertical pilaster post with shallow projection from surface level reached upto lintel level holding arch recesses or opening in it. In each case, pair of pilasters were created by perforated stone slabs upto the lintel level. A long single slab was used as lintel beam.

Thus, the architect produces a rectangle frame of Architrave with shallow projection, around each opening. This technique could be cited as the invariably form, a part of the buildings of sultanate Bengal, and are built either to holding excessive weight or merely as ornamental appendages. Furthermore, facet was often adorned with intricate shallow relief of

carving or embossed. Apart from this, Post and lintel composition, which was employed to constitute the each *mihrab* niche at the Qutub Shahi Mosque, located at Hazrat Pandua, (built in 1583 A.C.) can be identified in naked eyes. Same technique of post and lintel was followed in each case of *mihrab* formation of other brick-stone mosque. The post and lintel were hidden out by delicate chisel work which mesmerize the visual effect.

Stone Pillars and Pilasters: Irrespective hypostyle mosque both of entire brick or brick-stone, Support is one of the essential components for load bearing of roof of dome. The technique of load bearing Stone support is quite old as the Indian civilization itself. The artisan of pre-Muslim, of Indian subcontinent quite comfortable in using both pillar and column in their architecture as well. That stone support was been used widely even immediate before the Muslim appearance either in post and lintel along or trabeate with corbelled as well. Column with having square profile was the first choice in post and lintel architecture. To make it attractive and artistic beauty to the devotee, the dress stone column was edified with carving design of figurative and non-figurative art as well.

Architects and builders of pre-Muslim Bengal were not familiar with the loading distribution of domes, vaults and arches which were introduced soon after the foundation Muslim rule in Bengal in 12th century A.D. Hence, in order to support huge spans of dome, they started to use thick columns to carry the weight of the structural of grand level. But, Prohibition toward the figurative adornment in Islam, Muslim commissioner directed his artisan to provide the pillar, design with different geometric angles, projection band moulding. Only in a few early mosque architectures, where columns would have been re-used from debris of Hindu and Jain temples.

Apart from this, another style could even get more popularize in masonry work in the land of Varendra. The stout(black) stone pillars and pilasters of the mosque was dressed from monolithic and imported from neighboring province. Most of the scholars conclude that the stones in the early Islamic period of Bangladesh were spoils, but the preceding discussion and the varying size of pillars in different regions leave no doubt that the stones were not spoils but procured specifically for the pillars.[91] But, in some cases, pillar are made up of many parts and all are interlocked by mortise and tenon joints. All part dressed from small parts of block of rubble, bearing same features. Monolithic was cut into small blocks to facilitate importation.[92]

The pillar whatever it is from monolithic of small pieces, they can be divided into 5 segments, consists of two parts of the base one part as the shaft and other as the capital of the column. The segment of capital and base are alike in both pillars and pilasters composition of mosque architecture in Bengal, having square capital with usual band design, then slightly lead to small regular square segment, and a regular square then to the square with band at the base respectively. Variation could be found in shaft segment where hexagon side were widely used. Most cases in mosque architecture, the pillars and pilaster bear the hexagon sides at shaft. But in a few cases, a very uncommon and a very rear shaft can be notice at first look. The pillars of Kusumba Mosque contain such rear shaft of decagon sides. If we find the hexagonal shaft we may find the old indigenous style, followed in our native grandiose architecture.

No doubt that the Indian craftsman were very familiar to the hexagonal column by carving out from monolithic, as well as long before the Muslim

[91] A. S, M. Ahmed*, Mosque Architecture in Bangladesh*, p-41
[92] A.S.M Ahmed, *Mosque Architecture in Bangladesh*, p-41

appearance. The hexagonal profile on column, could easily be found in the no. 34 cave temples monasteries collectively called the Ellora Caves, Maharastro. Its construction is generally attributed to the 8th century A.C. by **Rashtrakuta** king **Krishna I** (r. c. 756 – 773). **[Figure no.- C04]**

Furthermore, the craftsman, shortly after age, could even successfully make an elaborate form having square profile at capital and basement, while hexagon at shaft. The whole profile was been carved out from a single solid natural rock, Column in the cave No. 26 of Ajanta, Maharastra, sheds some light upon the origin of column profile, widely used in this region. It reveals the fact of no further foreign influence in profile composition of pillar, but result of proficiency of native artisan. **[Figure no.- C05]**

But, this shape and dimensions of such stone columns is very common in both form of brick and stone mosque architecture throughout sultani period, only proportional variation viz. slender or fat and longer or stumpy along with squat were pivoted on demand of structural size, place and architects. But, In the Adina Mosque, Pandua, architect used very uncommon support, eight fluted and glazed pillars have been found in the royal gallery, besides using traditional pillars. This type of pillar is used first time in Bengal,[93] The Gumti gate (1482A.C.) contain same type brick made formation of fluted engaged turrets.

It is very disappointing having no survival example of column of pre-Muslim Bengal exist today, from which we can realize type of column immediate before the Muslim sovereignty in Bengal. However, the shape and dimensions of each segment of the traditional stone column is dissimilar to certain broken columns of pre- Islamic buildings, found at

[93] A.H. Dani, *Muslim Architecture in Bengal*, P-66

Chika Mosque in Gaur, Bari Mosque in Hooghly, etc. A certain dilapidated or broken column with simple design of hexagon shaft with hanging bell of pre-Islamic buildings, found at Bari Mosque in Choto Pandua, Hooghley. Another type round column with hanging bell carving, of pre-Muslim age now on the disposal position are found at Darasbari Mosque (b. 1479A.C) along with tomb premise of Shah Niamatullah Walli, Gaur, situated at short distance from Golden Mosque, Chapai Nawabganj district. **[Fig no.- C06]**

Chief Artisans of that age relied their trust upon the stone of Basalt column other than of Marble or sandstone. The Basalt were chosen for being even harder than the granite. It can easily be carried from Jharkhand Hill, Bihar, India through the water way.[94] This stone takes on a beautiful black appearance when polished. For this way, it was their first choice for the architectural development in Muslim Bengal. It is the most durable stones, being even harder than the granite are less frequently carved.[95] So it is correspondingly, an extremely difficult stone to work.

This shape and dimensions of each segment of the stone column could make an appeal to the architect of next generation in a large scale that rehabilitees at of the brick Terracotta columns of temple architecture with refine form wherever in colonial Bengal. In the refine form, nonuniform brick sizes and variation has been taken place stone work.

The Hypostyle Mosque and Enclosed Structure: As a place prostration of Muslim community, congregational mosque architecture

[94] A.H. Dani, *Muslim Architecture in Bengal*, p-10

[95] Milt Liebson, *Direct Stone Sculpture: A Guide to Technique and Creativity*. Schiffer Publishing, 1991. Page 20

always demands a large prayer hall so that it would be able to hold the entire population of certain area or town. To that end a large prayer hall is conducted from series of supports on which the entire hall is roofed. With rapid development of new faith and formation of new Muslim society, the size of prayer hall can be multiplied indefinitely. The mosque of Madina or great mosque of Damascus could be cited as the hypostyle mosque, but actual form and formation of hypostyle mosque architecture was started to develop in the land of Persia under supervision of Samanid rule (819-1005 A.C.)[96] and reached its pinnacle in application at the Jami mosque of Ispahan, Iran. The great Jami mosque of Ispahan where each dome rested upon two longitudinal and transverse arches of giant looks, which are springing from four either pillars or pilasters. This considerable effect of this technique could not be overran even in land of Bengal when most of the mosque architecture of Bengal at large scale, whether they were of only brick or brick-stone, architecture followed the technique in formation of big and impressive prayer hall. The charming domes crowning its hypostyle interior can simultaneously delight the viewer at every turn by its mesmerizing visual effect of divine beauty. The Jafar Khan Ghazi Mosque is earlies example of this type, which has been discussed earlier in this chapter. All the mosques of brick core and stone veneer types which are subject to our dissertation, contain such elevation in construction. **[Figure no.-C07]**

Apart from hypostyle setting, there is a distinctive feature of mosque architecture of Bengal which is completely individual rest of mosque architecture around the world. The distinctive feature is mosque of completely enclosed structure without a courtyard within**.** The Diverse in plan is result of geographic region. The nature of the soil and its muddy

[96] R. Ettinghausen, and Oleg Graber*, The Art and Architecture of Islam (650-1250*), pp-209-211

nature and incessant rainfall had a tangible influence on the development of the enclosed type mosque.[97] All the mosques which correspondingly are related to our dissertation, can be classified in this type and oblong as well, while only the Adina Mosque, Hazrat Pandua, contains very unusual feature on perspective of Bengali style, having an open courtyard and *liwan* (prayer hall) and *riwak* (arcade portico) around it. To analysis the mosques from architectural perspective, Architect A.M.S Ahmed have classified the oblong or rectangular mosque architecture in four subgroups.[98] [99] Among the four subgroups, the three subgroups namely **A)** The rectangular multi-unit type, **B)** The rectangular type with wider central aisle and **C)** The rectangular type with fore-room, all three types are relevant to this thesis. Because, the five mosque which are assumed to be brick core stone veneer mosque architecture are of these three subgroups. The mosque of Jafar khan Ghazi(1298A.C.) Kusumba Mosque(1558-59A.C.) and Qutub Shahi Mosque (1582-83A.C) are rectangular multi-unit type while the Choto Sona Mosque (1519A.C) is of subsection of rectangular type with wider central aisle. The last one, the Baro Sona Mosque (1525-1526A.C.) is the classification of rectangular type with fore-room.

Roofed with Domes and Vaults: Although, stone was used in the wall veneer of six mosques, the domes of all the mosques were built entirely of bricks. The total four mosques of the brick-stone style, which are classified in two subgroups of rectangle type namely 'the rectangular multi-unit type' and 'the rectangular type with fore-room' (mosques are discussed above) are covered with hemispheric domes. The mosque of rectangular type with wider central aisle type contains *Chouchala* vault on each cell of central nave while other flanking cells of aisles are covered

[97] A.S.M. Ahmed*, Mosque Architecture in Bangladesh*, p-25
[98] A.S. M. Ahmed*, Mosque Architecture in Bangladesh*, pp-25-26
[99] A.S. M. Ahmed, *The Choto Sona Mosque in Gaur*, pp 84-103

with hemispheric domes. The Shait Gambuj Mosque at Bagerhat and the Choto Sona Mosque at Gaur illustrate the use of *Chouchala* vaults.[100] In the courtyard type of Adina Mosque where central nave was roofed with single giant longitudinal vault known as tunnel or barrel vault, while the flanking halves covered with numberless semicircle domes.

Aesthetics of Curved Cornice: The curved cornice is one of the basic components of the Sultani Bengal architecture. It was an old fashioned having curved cornice, an imitation of the traditional rural bamboo hut. The local craftsman could succeed in application of the curved cornice in baked brick building far years back to the time of the stone structure by the Muslim in this region. The technique was firstly emerged in architecture of the Eklakhi mausoleum at Hazrat Pandia. But, the technique of curved cornice was implemented successfully even in the stone coating structure with great proficiency and skill by the local craftsman as well. According to curved plan, the maximum height is emerged at the center of all fourside cornice of mosque while the height gradually decreasing at the both corners. Moreover, the roof of inverted tumbler shaped or hemispheric domes and vault of *chouchala* correspondingly, gives same curved appearance as well. Application of curved cornice to drain out rain water from the roofs quickly which is an old fashion of village bamboo and hut style.[101] The whole composition can be classified either pyramidal or a triangle shape. This pyramidal shape provides a pointed center of focus, so that anywhere the eyes of onlookers goes in the composition, it again reaches to those points. Curved roofs are a newer roof design where the

[100] A.S.M. Ahmed*, Mosque Architecture of Bangladesh*. P-47
[101] A.H. Dani, *Muslim Architecture in Bengal,* p-75

intention is to create a unique aesthetic rather than improve the function or durability of the roof.

Thick Wall and Double Arch Technique: All the brick stone architectures remain that survives in this area, have a massive and thick wall as well. This can be cited one of basic characteristic of the Muslim Bengal architecture where the wall is made of brick masonry core and stone veneer. So, the entire thickness of this type wall was growing thicker, more or less 2.5m in average. In the earliest specimen of this type of mosque, Jafar khan Ghazi Mosque contains enclosed wall of about 3m in depth. Architect of that age may be trying to avoid boredom of this type heavy thick wall by concluding a tunnel covering with vault. Devotees or onlookers can make their entry in prayer chamber through the tunnel. In many the tunnel vault was concealed by installing up two arches at its two ends. So, the immediate result of this technique of the actual excessive height of tunnel may be hidden out by exquisite arches. So that, the onlooker of devotees may be hypnotized with the impressive appearance of fake arches but actual tunnel are carried out in plan of impressive architecture. This double arch technique might have been manifested during classic architecture of the brick made structure of Bengal. The two mosque of brick stone type, the Choto Sona Mosque and the Kusumba Mosque, where the technique was successfully installed to get delicate look and appearance. The tunnel vault with their extensive span and height in these mosques, which poses as load bearing component of the extensive massive structure, could have ruined the enchantment of total appearance. But, a false impression of double arch on each tunnel portal these two mosques what they installed in planning and execution together making the façade with splendid appearance.

The Two Centered Pointed Arch: The two centered with deeper depth at crown than spring simply can be called as two centered pointed arch. The two centered pointed arches were excessively used all type Muslim architecture in this subcontinent whatever it was of brick or stone made architecture. The temple structure by corbelled system to cover the roof and access, resulting pointed arch and high building in pre-Muslim architecture have been cited the possible source of manifestation of this type of arch. There is no surviving pre-Muslim specimens of the pointed arch in Bengal, but they were used in Budhagaya and Nalanda in the nearby state of Bihar in India.[102] The arch screen of Quwwatul-Islam Mosque, is the first example of this kind of arch, which was fabricated with corbelling method of the trabeate order.[103] There is no need to say that the Muslims of Arab land were get acquainted with the two centered arch long before the arch screen.

Multi Cusped or Multifoiled Pointed Arch: The arch is an amalgamation of two types, pointed arch and multifoiled arch. A pointed arch is composed of ogee meeting at the top or the pointed apex, While the later one is resulted from a number of foils or leaves. The use of pointed arch was supposed to be the first use in arch opening of the Al Aqsa (705AD). Because the mosque goes through a number of renovations in different time. Following the pattern, the Muslim artisan commissioned this type of arch in their architecture such as Jaussac Al Khakani palace(836AD). On the other hand, the Andalusian arch in name the multifoil arch has been set in the composition of pointed/ cusped arch and resulted in the multifoil pointed arch.

[102] mentioned by P. Hasan, *Sultan and Mosque*, p-57
[103] R. Nath, *History of Sultanate Architecture*, p-10

On the contrary, the true arch was something that was totally unknown to the native artisan of India. But, if we want to find out the possible source of this type of in the land of Indian subcontinent. A few examples of arch-like openings in rock cut architecture of ancient India can unveil another aspect of formation of arch like opening which was existed even in ancient India. These type of arch is very simple in composition, employed as sun windows that were 'cut out' from a single mass of rock in the shape of an arch. The Barabar Caves in Bihar (3rd century BC) can be termed the earliest specimens of such 'arches' opening cutting from rock. But, t**he Cave no. 09 and 19, Ajanta** rock cut architecture contain arches type opening with engrailed composition at soffit which could be cited as prototype of the multi cusped arch. First example of multi cusped arch in India which was built under Muslim supervision, must be the engrailed arches screen with pointed or ogee composition of Ardhai-Din-Ka-Jhonpra Mosque, Ajmir. **[Figure no.- C07],**

[Figure no.- C08] & [Figure no.- C09]

This technique of art of decoration was originated completely in Sultani architecture, contains an exuberant engrailed and floreate arch both of brick and brick-stone mosque building. The mosque related to my dissertation contain both stone arch of engrailed and floreate arch along with the simple pointed or ogee design. Each arch is composed of several blocks of sized stone slabs, placed horizontally of layer according to plan. The arch of these brick stone style mosque can be termed as '**the Corbel arches over the Trabeate' allies 'false' arch as well.** This is more of a false arch and a decorative element than structural.[104] There was brick-stone mosque architecture in Bengal by whom the trabeate technique of stone started to flourish. And it was just a matter of time when trabeate

[104] A.S.M. Ahmed, *Mosque Architecture of Bangladesh*. P-31

style came back with a vengeance at the height of Mughal empire, when some of the most beautiful stone arches were created from this technique.

Besides, these types of arch, another type of trefoil arch is a direct imitation of the niches of the Buddhist temples at Pagan. Architect Ahmed successfully traced out the fact behind this. The Buddhist features in Islamic architecture of Bengal provide a conclusive proof of the influence of the indigenous Buddhist architecture on the Muslim builders.[105]

Minaret to Bastion and Turret: A Minaret is a type of tower, typically built adjacent to a mosque which are generally used for the Muslims calling to prayer. The earliest example of mosque with minarets is supposed to be the mosque of Damascus, Syria[106] Following the tradition, the minaret became one of essential feature of mosque architecture and was continued to practice throughout the Islamic civilization. On the other hand, Bastion is an exterior support projecting from a wall, angular or circular in shape that is used to resist the sideways force/ thrust or carry the extra load. It has been used in all form of architecture especially at the building of grand elevation. With rapid expansion of Muslim Empire and expanded improvement of the life of their fellow citizens, magnificent works of engineering and building were started to build by installing technique of the bastions in their architecture. The great mosque Samarra (in Iraq), completed in 851 which was built under the patron of Abbasid caliph Al-Mutawakkil (r.847-861 A.C.) is ideal example both for semi-circular bastions adjunct to enclosure wall[107] and a free standing minaret of spiral composition*(Manaret al-Malways)*[108] With course of time, the minar with

[105] A.S.M. Ahmed, *Mosque Architecture of Bangladesh*. P-31
[106] Cresswell, *A Short Account of Early Muslim Architecture,* Penguin Book, p-58
[107] Cresswell, *A Short Account of Early Muslim Architecture*, Penguin Book, p-278
[108] Cresswell, *A Short Account of Early Muslim Architecture*, Penguin Book, p-278

its function was no longer confined in only religious purpose, calling for prayer. Under the rule of Seljuk sultan during the timeframe of eleventh to first half of thirteen century, under patron of different local princes, many free standing towers of different shaped and formation (star Shaped, cylindrical tube and etc.) were manifested throughout the land of Persia.[109] So there may have a considerable effect over the architecture of India, when most of Muslim invaders were from that land.

But the typical medieval bastion in face of tower and its elaborate form is supposed to be built by the muslim invaders, a new idea brought from the Persia, The Adhai Din Ka Jhonpra, Ajmir, completed in 1199 A.C. by Qutb-ud-Din-Aibak is such an example of earliest Indo-Islamic mosque having bastions[110] roof with chhatri (dome-shaped pavilion) on its four side. One may assume that tower was pre-Islamic element of indigenous style of india, as it was converted from Hindu and Jain temple into a mosque. But, If there were a pre Islamic tradition of having bastion, there would have been the bastion in another contemporary mosque structure, converted to Quwwatul Islam mosque, Old Delhi(1193 AD). But in Real, it has no buttress or tower by any means. We find the tradition of not using bastion in northern Indian region in pre Islamic architectural history. Due to the excessive supply/ abundance of monolithic source and old tradition of entire stone made structure, old Hindu architect did not rely upon bastion or exterior support projection technique but on high plinth of stone blocks on which entire structure settled up with recessed angles of structure repeatedly and elevation with pyramidal composition (stupa). So, it can be said that new inclusion of bastion, found in Adhai Din Ka Jhonpra**,** most of the building was constructed by Hindu masons, under the supervision of Afghan supervisor. The bastion composition was firstly commissioned

[109] R. Ettinghausen, and Oleg Graber*, The Art and Architecture of Isalm* (650-1250), p-273
[110] R. Nath, *History of Sultani architecture*, p-15

even in tomb complex of Sulltan Ghari (1231A.C.). With time being, bastion composition gradually became a fundamental/ basic technique of superstructure of pre-Mughal Muslim architecture in northern India. During the rule of Tughluq Sultanate (1320-1413 A.C), all form of fortress -tomb with a spreading bastion at each angle of slops of outer wall became a popular architectural component.[111]

Now we talk to Bengal, we can get a short conjecture of Pre-Muslim architecture in Bengal by illustrating the excavated materials and archaeological remains. An ample evidence of backed brick could easily be found from the excavated materials of that period throughout this region. Moreover, a popular technique of having extra structure projecting outward from the curtain wall of a fortification were employed at construction, when magnificent works of engineering were been demonstrated at a grand scale. This technique even could be introduced as the bastion, an indigenous form in all prospect. This extra structure projecting outward or strong corner can be found at superstructures of the ancient architectural remains at Paharpur, Mainamati, and Mahasthan[112] , where architect impressively could hide the typical bastion in functional architecture. **[Figure no.- C10]**

But, if we would like talk about the immediate stone architecture of pre-Islamic Bengal, we can only get very rare and debride of temple structure. In most cases, the pivotal room (*gharba – graha*) surmounted by tapering wall, each wall gradually recessed after recessed and corner projection at its stupa structure to resist the sideways force/ thrust or carry the extra load. Moreover, recessed angles provide deep flutes and gives pleasant shadows

[111] P. Brown, *Indian Architecture* (The Islamic Period),p-21
[112] A.H. Dani, *Muslim Architecture of Bengal*, p- 16

and contribute substantially to the overall aesthetic impression.[113] . In other word, the pivotal structure is distinguished by its cruciform shape with angles of projection between the arms. From above discussion, it can be assumed that the idea of bastion was not originated from this land. After Muslim invaders who firmly maintained their rule in land of Bengal, may have brought the idea of bastion from land of their forefather.

Now, we will discuss about the mosque *minar* of Bengal, Where *Minar* had no longer in service of its traditional form and function and had changed its function, from free-standing and taller to the decorative element and associated for supporting structure. We have already mentioned the changing point of view in function of turrets, from basic architectural elements to decorative component. The turrets no longer were used for architectural obligatory but for enhancement in embellishment and aesthetics. The functional turrets are only for relief of complete bareness at corner. The engage turrets components at each angle of Mughal structure is often cited as the major feature of Mughal architecture. The turrets, in a point of view, the Bengali architects could successfully lay/provide the foundation of norm of having decorative turrets in their grandiose structure. All corner towers/turrets are stumpy in feature, starting with heavy and gradually slender at the top. The octagonal corner tower/turret was basic feature, which can excessively be found in all contemporary.

[113] R. Nath, *History of Sultani Architecture*, p-15

The *Eklakhi* Mausoleum, located at Hazrat Pandua (1425A.C.) is ever known earliest example and surviving architecture pre-Mughal Muslim Bengal having four engaged octagon towers at four corners. The composition of octagon has being been used from earliest remaining monument of Muslim, the Dome of the rock which was erected during Umayyad caliph Abdul Malik bin Marwan, and followed by hundreds of monuments at land of Persia and Muslim rule in Delhi, having developed on the same plan. Sultan Ghari, the first Muslim Mausoleum of India, which was built in 1231 AD for Prince Nasiru'd-Din Mahmud, eldest son of Delhi Sultan Iltumish, is a composition of octagon plan. So, it would not require further analyses on the octagon plan. But only variation could be found in turret composition in the Choto Sona Mosque, where the very unusual and uncommon type, decagon turrets were installed at four corners.

Decagon form (10 sides):

Almost all the experts/authors[114] and other unconsciously brought up to improper conclusion when they recorded the turrets adjacent to the Choto Sona mosque payer chamber as octagonal instead of decagonal (10 sides). **Architect Ahmed** has given the actual and proper description of turrets when he narrates the turrets of decagon in form.[115] The very rare form of decagon could be found only in turrets composition Choto Sona masjid This mosque contains this type of very unusual feature among the survival Muslim archaeological remains in Bengal. It was very unfortunate having evolved with new idea in turrets appearance just after classical brick structure style at Bengal.

[114] Dani, A.H 'Mosque Architecture of Bengal',p-136][Perween Hasan, 'Sultan and Mosque', p-148
[115] A.S.M Ahmed The Choto Sona Mosque in Gaur, p-66

This types of changing in pattern and function had been materialized at the choto Sona Mosque. But, this new pattern and function has not been commissioned in Choto Sona Mosque not at all of sudden but a result of architectural development, manifested in foreign land. If we try to find the origin of such decagonal form in Muslim architectural settings, it would be hardly possible to catch out the original structure. The oldest known example of such type of intact surviving architecture, what was commissioned by the Muslim, must be tower Gonbad-e Qabus**(**1006/7A.C)). It was the grave of Ziyarid prince Qabus ibn Vashmgir (r. 978–1012), in ancient city of Jorjan in north-east Iran, an enormous decagon building with a conic roof.[116] It forms the regular decagon defining the star-shape plan that might be from Zoroastrianism and local pre-islamic tradition.*[117]* Moreover, the regular decagon or the star-shape decagon of geometric form were started to commission on tile work for wall surface decoration. The more elaborate formation of this decagon, are a pair of mausoleums, built in 1067 and 1093, in the Kharraqan region of northern Iran, on which moulding decoration of different geometric pattern including decagon were been primarily used in the blind arcade and tympanum decoration. Both decagon design and plan could be found in one architectural remains of contemporary period, some two hundred kilometers to the north of Maraghe, at the Tomb of *Mu'mina Khatun*(1186A.C.) located in Nakhchivan, Ajarbizan. The best specimen of decagonal chamber is tomb of Gunbad-i Qabud, Maraghe, Iran, constructed in 1197 A.C.[118] having decagon brick chamber with a stone base originally built with a double dome. The decagon motif had been lavishly taken into consideration at the question of surface adornment

[116] R. Ettinhausenand and Oleg Graber, The Art and Architecture of Islam(650-1250A.C.),p-113
[117] R. Ettinghausen, R. and Oleg Graber, The Art and Architecture of Islam (650-1250A.C.),p-114
[118] R. Ettinghausen, R. and Oleg Graber, The Art and Architecture of Islam (650-1250A.C.), p-150

while to produce royal elevation in architectural prospect. There are endless example of architecture remains having such type adornment throughout the reign of Seljuk of Rum at Anatolia and the Ilkhanid and Taimurid at central Asian region. But, the architectural form of decagon might have been complex to carry out in plan in comparison to octagon. The scarcity of available architectural specimen testifies the fact. Another thing which can easily be assumed that the inspiration of decagon plan might have been brought from outside of Indian subcontinent.

Do-decagon (12 sides): Another unusual type of do-decagon can be found in shaft composition of stone pillars and pilasters of Kusumba mosque. A tower located at old Gaur city is very relevant for the comparative study on the pretext both of decagon composition and chisel art on stone. The Dodecagon or Regular polygon of 12 annotated is an innovation of geometry, invented by Greeks at their time of culmination on this subject. The Dodecagon is quite complex than to the regular Octagon as well as Hexagon. In dodecagon, inner angle of 150^0 was produced from the sides of Regular polygon of 12 annotated while the outer angle between the two sides would produce 190^0**.**

The dodecagonal composition might be inspiration from Firoza Minar also known as Firuz Minar of Tower of Firoz/Firuz) that is a five-storied tower situated at Gaur, West Bengal, India. It was built by Sultan Saifuddin Firuz Shah of the Habshi Dynasty, last Ilyas shahi ruler between 1485 and 1489 and was built in the Tughlaqi style of architecture. The first three stories are dodecagonal while the next two are circular in shape at the Firoz

Minar.[119] *The architectural setting of* Firoz Minar might have been borrowed not from the Indian technique but from the *Islamic architecture of central Asia. The pre-Islamic Indian craftsman and builder were not familiar to the dodecagonal structure. The First such type of dodecagonal structure came to know to the Indian from a complex of Herat, Afghanistan, constructed about a half century year back of Firuz Minar.* The application of dodecagon quite more complex when dodecagon put in architectural layout and design as well. There is a few dodecagon or regular polygon 12 annotated structure or part of architectural setting that could be hardly found in Medieval period except single surviving structure in Timurids reign. The Gawharshad Musalla Complex, the largest historic architectural complex that survives in western Afghanistan, was completed in 1417 under the authority of Queen Gawharshad, wife of the Great Timur long's son and successor, Shah Rukh (reign: 1405-1447A.C.), who had moved the Timurid capital from Samarkand to Herat in 1405. After the sultan's death, the Queen became de facto ruler over an empire that stretched from the Tigris River to the Chinese border. **[Figure no.- C11]**

The Mosque or Musalla of Gawharshad complex, is located in the southernmost area of the complex", Originally, the mosque measured about (103 X 63 meters), with a minaret buttressing each corner and another two more minarets reportedly flanked the main entrance iwan, which did not survive the 1885 destruction. "only the stump of a single minaret remains of the original structure that exists today. The original musalla, begun in 1417, was delayed by several years due to an assassination attempt on the Sultan in Herat in 1426A.C." The inscription on a minaret identified the architect as Qavam al-Shirazi, who built Gawhar Shad's Mosque in Mashad

[119] Z. A. Desai (1970). Indo-Islamic architecture. Publications Division Ministry of Information & Broadcasting. P-20

in 1418-19. From the old photograph, taken by Robert Byron in 1933-34 A.C. an impressive minaret can be notice at a first look. Of the Mosque minaret, engaged Base are dodecagon with glazed tile panel decoration while the upper next are circular shaft in shape with glazed tile ornamentation and followed by Muqarnas balcony at top. **[Figure no.- C12]**

Slender composition of turrets: Each of the corner tower/turrets of mosque or other type of architecture of Sultanate Bengal, contains a slender composition. On the question of slender tower, it could not be traced out that when the style had been developed in the Muslim architecture of Bengal? It is true fact that the style was come under supervised and flourished in the classic muslim architecture in central Asia by the Mongol more specifically Ilkhanid and Taimurid. This was the result of outcome of extravagant knowledge on Geometric and Math by Taimurid scholars. The regular Polygon of 12 annotated were been used especially as either base of their popular circular slender minarate (tower) or independently in mosque architecture. Few architectures which had a structure viz. minarate or other, are not survived today. Such type of architecture is the façade slender minarate of sanctuary in Bibi-Khanym Mosque, Samarkand, Uzbekistan. **[Figure no.- C13]**

Conclusion: Architecture displays great variety, both structural and aesthetic, developing gradually and coherently out of earlier traditions and experience. The evolution of Muslim architecture of Bengal can be seen well obviously in the construction of the mosques. The mosque of Bengal individuality distinct from that of other Muslim countries marked feeling for form and scale. The mosques began to acquire distinctive features that have been adapted from various cultures including native tradition and existence of techniques neighboring land. Creative arrangement of bricks

core with stone veneer, various architectural technique (corbel, trabeate and post and lintel), intricate plan, and illusion from camouflaged were harmonized in manifestation of mosques at grand scale, which can simultaneously delight the viewer at every turn.

Chapter- IV

The Chota Sona Mosque

: A Culmination of Stone Carving Design in Mosque Architecture in Varendra Region.

The Choto Sona Mosque is cited the most elegant among all of the surviving architecture of Sultani-Bengal. It is synonymous with Bangladeshis' identity and example of its own heritage. It is even cited as the crowning jewel of Bengali local style of Indo-Muslim architecture. It may not be the largest mosque structure among the Sultani Muslim architecture in Bengal. But, the austere grandeur of this structure is sure to impress anyone at the first glimpse. It will transport anyone back to the time when the inhabitants of Gaud, lived in lusters, the artistic proficiency in embellishment on wall by the craftsmen of contemporary time and architectural improvement that architects developed throughout the centuries. The gilding employed in the ornamentation that has given the building its appellation Choto Sona [120]Mosque which does not exist now**.** The glossiness and lusters of design, carved out on the wall surface inside and out, might have been implied in the name of Golden Mosque (Sona Mosque). In course of time, the brightness and shining of the impressive design getting faded. Another name of the mosque *Khajah ki -Masjid*[121] as because it was built by eunuch This erecting majestic mosque is obviously cited an impressive example of Sultani architecture along with the culmination of design what they developed both from the indigenous

[120] Banglapedia- Choto Sona Mosque
[121] Abid Ali Khan, *Memories of Gaur and Pandua*, p-79

tradition and idea of their own. The mosque which is regarded as "……..the gem of Gaur''[122]. **[Figure no.- D01]**

Location: The mosque is one of the best-preserved monuments under the protection of the Department of archaeology, Bangladesh. It is at the last end of Chapai Nawabgonj, adjacent to the Indian Border Mahadipur of Maldah, West Bengal, India. It was a part of ancient Gaur, now to Bangladesh, while the rest of the city is across the Border of India. The western side embellishment of mosque decoration and position of Dhakhil Darwaza and other contemporary monuments, like Darasbari Mosque and Khaniadhighi Mosque, it is presumed that the site would be just to the eastern side of main road from eastern provincial town to capital of Gaud city.

A stone inscription fixed above the central arch way of eastern façade, clearly says that the mosque was built by unknown Wali Muhammad during the reign of Sultan Alauddin Husain Shah (899-925A.H.) (r. 1493-1519 A.C.). Mr. Porch, a late collector of Maldah stated that the mosque of built by the treasurer in charge of Royal Herem[123]. In this circumstance, Wali Muhammad might be the person what Mr. Porch said about the royal treasurer. But P brown specifically pointed out 1510 A.C. [124] as the date of the mosque erection from his assumption.

The mosque premises, surrounded by an outer brick wall (original no longer existing), covers an area of 42 m from east to west and 43m. from north to south, with a gateway in the middle of the east side. Leaving only the gateway, the entire surrounding wall has completely disappeared, but

[122] Ravenshaw, J.H. *Gaur, Its Ruins and Inscription*, London,1878, p- 38
[123] Abid Ali Khan, Memories of Gaur and Pandua, p-79
[124] Indian Architecture (Islamic Period) p-41

its trace can still be clearly detected at places but not possible to recognize the height. The premises is placed on a high mound of earth in comparison to the earth level of surrounding area. The high level was provided to the mosque to protect the sanctum from flooding**.** At little distance from the east wall surrounding, there are two tombs,' of founder and one of his kindred.' [125]

Moreover, there has been a water tank (measuring 132.30 X 91.50 m) on the southern side, might have been dug out to solve the problem of water for the ablution and demand of the villagers. Local people report that near the gateway, there was originally a stepped masonry ghat with approaches from the south. [126]

Gate way: An entrance gate-way must have been situated at the center of the eastern surrounding wall (does not exist today) and axis of the courtyard as well. The compound can be approached through a grand embellished gateway of stonework on the East. A rectangle small structure measuring (7.9 m long and 2.4 m wide) with curving parapet of roof, with a barrel vault opening and guard chambers in it, were the basic features of the part. It was just alignment to the central arch way of the mosque building. The access vault covered with two multi cusped pointed arches at its two ends. The arches are placed in rectangle recess with moulding design at top that is complete impression of side entrances the eastern façade. The vault flanked by two alcoves on its either side, might have been for the guard chambers as the true effect of the Royal elevation. The same technique and style (brick and stone facing) have been followed in the main structure and of its gateway as well. The parapet with carving design is an imitation to the main building as well. Moreover, with the same technique

[125] Creighton, p-xiv, also Mention By ASM Ahmed, *The Choto Sona Mosque in Gaur*, p-28
[126] P. Hasan, *Sultan and Mosque,* p 147

of multi cusped pointed arch, the complete set of structure in consistency of Royal Building and elevation were adorned. Comprising a simple oblong curved structure. The entire gateway was originally veneered with stone block like the main building but now it is painted in stone color after the renovation work by the Department Archaeological.

Materials: Although the main fabric of the building is of brick, the entire exterior walls, and the interior up to the arches of the pendentives have stone facing. The exterior wall was entirely camouflaged in such a way that onlookers would mistakenly recognize this structure as a completely stone building from outside and arch springing level inside. Throughout the mosque, there is extensive use of stone slab such as sand stone black basalt by which core brick building was coated. The craftsman jointed different shape and design of stone slabs sidewise together and layer above layers with the opus pseudoisodomum technique to conclude a complete form. A minute observation makes us clear that a stone firstly was resized for the veneer according to size where it would be used and then motif would be carved out according to a master design. The pillars and pilasters are also the monolithic due to carrying excessive load of the super structure. The basalt stones employed the vital part of edifying the structure.

Elevation and plan: The mosque is an oblong in plan, with outside dimension of 25.1 m from north to south and 15.9 m from east to west. Five arch opening on eastern facade and six more on side wall, slender engaged towers at four corners and two more at the western wall façade, gently curved roof of three *Chauchala* vaults on central nave and twelve inverted tumbler-shaped domes on the side bays are the basic features of the mosque. The central comparatively high corridor has been roofed with typical Bengali *'chauchala'* vaulting flanked by two domed bays to either side.

Thus, the proportions approaching the grandiose satisfy the craving size and elevation as well. The maximum height at the center of curved façade reached 7.69 m at top, while 7.16 m at each corner area.

There is abundant stone carving on the east and west façade, on turret, engraving on curved cornice, panels design and ornamental niches within rectangular panels of low relief, rosette motifs that are used repeatedly.

The elaborate and intricate carvings either both on inside and on outside walls draw a center of attraction in such a way that a beauty and elegance of the mosque is beyond words and imagination. After visiting the mosque, the onlooker would be left wondering about the advanced art, sculptural beauty and architecture back in the 15th century, made by the Muslims. The design richly ornamented with carving of different motif and vertical longitudinal projections with horizontal mouldings is not even the asunder but a true combination of architectural setting of rectangular walls with upper curved cornice and crowned with five hemisphere dome and chauchala vault, as the common front facade feature of the Mosque.

Main Details design of the Choto Sona Mosque.

To make an ostentatious show of the marvelous architecture to the onlooker and devotee, all the four sides of the mosque were embellished with the intricate carving design on stone veneer. But special attentions were given in adornment on east façades and west side as well. If an onlooker approaches at the site, he must observe its western side at first. It would be ethical starting with the description of western façade. Because, the main connecting road to the old Gaur city passes along the western side of the mosque.

Western Side: The outside of the western wall or Qibla Wall is often called as Western façade. The rectangle projection of the central mihrab niche, measuring 4.36 m wide, divided the whole western side into two parts having 10.13 m on left-hand side and 10.23 m on right-hand side, that 'break the monotony of the façade' The trend of keeping rectangle projection is nothing but the old fashion of Abbssid mosque architecture. The earthquake of 1897 severely damaged the granite stone blocks veneer especially northern side of outside of western wall. A number of conservation works have been undertaken by Archaeological survey of India and Department of Archaeology at different time but couldn't bring back to the original face and in many cases, it remained unsuccessful in restoration especially on the northern side and opposite to the outside of Qibla wall. The intact part of the stone block veneer along with decoration on southern portion of Outside of western wall remain could supply us an idea of the damaged part of that wall.

The western side has no opening at all unlike the Muslim orthodox architecture of Demascus mosque and Samarra mosque of Persia. Furthermore, traditional style of western side that remain dull, or in other word, 'the monotony of the bare wall'[127] was replaced with surface adornment.

String course with mouldings in Mid wall: When we look upon the decoration of western wall in detail, alike other sides, at the height of 3.46 m from the ground level, a horizontal string course with the width of 68 cm running in the middle of the wall. This thin stone moulding is a typical edged profile. To avoid boredom in profile, String course moulding is designed with dabber projections regular intervals. This tinny projection

[127] ASM Ahmed, *The Choto Sona Mosque in Gaur*, 1997 P- 41

motif might have been derived from eye bud on node of bamboo. Such series of moldings with the design motif was not borrowed from the Persian or the new addition made by the Muslim architect and artisan but can even be found in pre-Islamic temple structure. A band moulding co-ordinates the stone moulding of façade by which façade was given to two-storied appearance. On the string profile, there are horizontal bas relief of repetition of rhombus design. As supportive motifs in form of different relief of the moulding were taken into consideration by the artisan to endeavor the architect to grand scale. Immediate above moulding, a design motif in series, that can be called the Merlon design (having breadth of 28 cm), must be originated from the vertical repetition of spear head. In a point of view, while the spearhead motif is more complicated in this sense the real spear head is simpler in form. The artisan depicted the spear head motif in this way that when the two-spearhead motif in a form of low relief were carved out, another spearhead engraving was automatically carved out in opposite direction. Each small segment has been filled with low relief of Jasmine flower motifs with four petals. The repetition of spear head allies Merlon motif and four petals flower are completely borrowed from the contemporary architecture, immediately after the moulding on the body of Firuza Minar, Hoogley. On the other hand, below the string of moulding with dabber design, another stone shallow sunken round moulding (Straight) - Thin stone moldings runs parallelly. This shallow moulding below the thin line, another course of engraving of imaginary geometric motif, or meaningless or stilled motif. If we have a minute observation, a complete series of trident head type motif (measuring13 cm span) is placed parallelly. The projection and height of relief of these courses of moulding and engravings being arrayed in symmetrical composition, give a look for extra royal elevation to the onlooker.

The presence of the strings with courses of mouldings bands throughout the mid wall on four facades including the western side would camouflage an impression of double storied building from outside that added extra *luster* to the occasion.

The whole stone veneer by the *opus-pseudoisodomum* technique, can be recognized in each layer from outside. Below the string courses of mid wall, especially at dado area of lower rectangle area north-western outside wall is embellished with double layer of chisel works. The lower layer has a nine rectangle panels (measuring 1.34 X0.83 m each) of shallow recess from usual wall surface, not at the mid area but just below than that. These panels are said to have carved out directly on the wall after its erection[128]. With minute observation, to commission the work, each panel was done by carving the total form on stone block and jointed to one another according to design. In the recessed panel there is low relief of only multi cusped arch niche and a hanging inverted trident head in the arch that flanked two round medallions at spandrel and other two below.

Above the layer of nine panels, there is another layer of nine round medallion, each medallion is carved out/ embossed at center above the each panel of lower section, with strong texture of high relief projection of 2cm. from usual wall surface. The variation of these nine medallions adornment were being brought out when a rosette and plants alternating their position one after another. The rosette was been carved with three layers of multi petals impression while the other round medallion adorned with flammable plant in round shaped. Each of the two types of round medallion have a diameter of 27 cm

[128] ASM Ahmed, *The Choto Sona Mosque in Gaur*, 1997. p-50

Other nine upper panels, projected from usual wall surface, are placed in the same axis as the lower panels set above the string course of mid wall. It can be cited in first look that extra or additional stone was been used at time of erection. It would be very fair calling them Upper dwarf panel. More details of these would be presented at the time of description of eastern façade decoration. Because, all the panels of the four side are identical in decoration and dimension. Thus upper projected panel layer and recess panel layer could make a good impression from contrast. Moreover, to avoid the boredom at upper section, another course of 10 round rosettes (varied in dimeter 18- 22 cm) was embossed above the layer of upper panels and just below the curvature cornice. The cornices are curvilinear and have stone gutters to drain off the rain water from the roof.

East Side Decoration: The ornamentation of façade of a mosque was of most sumptuous character and its decoration reached its height watermark of contemporary stone veneered mosque architecture. All the decoration is on carved stone, and on the exterior a prominent moulding that went around horizontally the turret and the facades at the middle of the building. The whole length of the east wall from outside shaft, measuring 24.72 m, flanked by two corner turrets, are conducted with a majestic look by a minute and playful using of band moulded and chiseled works as a part of creation of art in architectural setting. The carving works on the wall surface for adornment started above the plinth or the layer immediate to the ground level measuring 30 cm and reaches to the height point of the cornice. But in true scene, it could not be said that every bit of wall is not only adorned with chisel art but with architectural brilliancy. The intricate chisel work around five cusped arch openings of this façade that leads to the main prayer chamber could draw an extra attention to onlooker. To

enhance the beauty of the composition, some portion of the wall remain free from the chisel works, as a part of pre-plan for adornment before the erection. Thus, the maximum height at the center of eastern façade reached at 7.69 m at top, while 7.16 m.[129] at the both corner areas.

The Central Openning: The five entrances to prayer hall on east façade have been set on the vertically rectangle frame by intervening the string course with mouldings on mid wall. String course with mouldings of entrance section was placed immediate after the five frames on the eastern wall. Each Frame consists of arch way flanked by the presence of two engaged vertical pilasters with shallow projection from the façade surface level. The width and the height of the five openings are identical. Each arched entrance opening or portal consists of two multifoiled arch inside and outside with a tunnel vault between the two. All of the five outside openings are framed by a 12 cm. recess from the wall surface from the inside and outside. Due to this recess, the arched openings are clearly articulated from the wall surface with a surrounding frame on both the interior and exterior. [130]. These five frames measuring 4.63 m in height and 1.68 m in width[131]. Each opening of five is surrendered by a layer of very long stones that was place one after another vertically upto the springer stone of the arch. These vertical corner stones are used to pose as the door jamb and the support as well. To avoid the ennui of having simple form of door jamb, the edge of jamb of five openings were cut into recess of right angle but intervened by a number of bands like dog tooth ornamentation in regular intervals. Each arch spring from the height of 2.64 m from the floor level. The springer stone of the arches are 7 cm cantilevered from the impost of supporting wall, which has a staggered moulding in the lowest

[129] ASM Ahmed, *The Choto Sona Mosque in Gaur*, p- 41
[130] ASM Ahmed, *The Choto Sona Mosque in Gaur*, 1997. P- 60
[131] ASM Ahmed, *The Choto Sona Mosque in Gaur*,1997. p-45]

corner. The apex of the arch meauseres 3.68 m from the floor level.[132] The lucrative part of the opening is the multi foiled pointed arches that is springing from the door jamb. In other word, the entrance frame reaches above the spring course with mouldings on the mid-wall through cutting off it. Each of the arch spandrels of the four opening except the central one, is less decorated, only pointed section crowned with flower with 3 petal, that might be originated from trident (a trishul, commonly used as the principal symbols in Hinduism and Buddhism, usually refer Shiva, a hindu god). The Shiva-related tradition especially trident is a major element of deities depiction in Hinduism, found all over the Indian subcontinent, such as India, Nepal, Sri Lanka Shiva dancing, Shiva and its symbol, trident can be noticed even from the early prehistoric paintings at the Bhimbetka rock shelters somewhat pre-10,000 BCE period. Pashupati Seal is a steatite seal that was discovered at the Mohenjo-daro archaeological site of the Indus Valley Civilization. The seal depicts a seated figure that is possibly tricephalic (having three heads) more resemblance to trident of Shiva. It is purported to be one of the earliest depictions of the Hindu god Shiva.

The flower motif crowning on each pointed arch, must be an elaborate and Islamized order, undertaken by the Muslim artisan. The flower motif, flanked by a climbing plant on each side fix in a rectangular panel above the ogee meeting at the top or a pointed apex of the central arch way. Each of the climbing plants has a number of tendrils on its body and leaves bunch at top. A thin line in appearance of climbing plant rises from each sides and draw a slightly curved line in face of stem between spandrel and extrados of arch and meet to the rectangle panel of trident type flower motif. The extrados is filled with serpentine plant with an impressive combination in

[132] ASM Ahmed, The Choto Sona Mosque in Gaur,1997. p-60

accordance with the size where the plant would depict. A slightly wavy line but having an acute curve of stem vine with several sub aerial stems and leaves exists at each end. Each leaf alike grape leaves with multi pointed end. Above the border line of the extrados, the two-triangle shaped of spandrel of the central arch, also filled with great mastery when a round ornamentation having three layers of petal as true imitation of lotus flower from aerial is depicted at the center on both sides of the trident shaped flower panel. Another stem of vine climbing lotus flower round motif and several sub aerial stems and leaves at each end. The vine stem climbs round shaped lotus flower motif, as if snakes were climbing the tree branches. Thus, the artisan could succeed in bringing a complete contrast in depiction of the vine stem in selective area.

Above the spandrel of central arch way and below the architrave, there is another rectangle area (measuring 2.70 m X 0.63 m) of moulding and carving art as well. A layer of intricate motif of repetition of hanging flower motif is similar to the lower layer of moulding adjacent to the string course of mid level building. Above the layer there is another level of bead and real motif. Next to the area, a layer of meaningless motif enhanced the elegance of art as well.

Around the rectangular opening, there is another rectangle frame, that can be called architrave or epistyle especially distinguished by projection from the door jamb of arch opening level and 3 cm from usual wall surface of eastern side. The width of the each of architrave jambs of central opening is 58 cm breadth while the Architrave head or lintel height remains fixed at approximately 4.25 m top from floor level, having 2.75 m length and 60 cm width. Architrave head or lintel is nothing but an arabic inscriptional tablet of 2.91 X 0.58 m. [133] A round medallion in appearance of rosette

[133] ASM, Ahmed, *The Choto Sona Mosque in Gaur,*1997. p-46

design at the center point, other two of the same dimension and design are carved out at the same distance from the earlier. The rest of the area of inscriptional tablet filled with three lines of Arabic verses. To intensify the work of art by the artisans, the dimension of three round medallion is kept equal to the width of each line.

The wide architrave jambs of all of five openings on the eastern façade could easily be defined as pilaster. It is an architectural element in classical architecture used to give the appearance of a supporting column and to articulate an extent of wall, with only an ornamental function and to carry the extra weight of massive wall as well. Though the pilaster originated in the classical roman times, it was re-emerged in architecture during renaissance period, but in very different ways. Engaged columns were structural and aesthetic, connecting modern Renaissance structures to ancient Roman precedents while also supporting the taller, heavier walls of the new era. Pilasters became almost completely ornamental, added as decorative elements around doorways and along outside walls of buildings.

More interesting to note that, the Bengali architects successfully commissioned the component to their building structure, a short before the European architects of renaissance period could do. The architrave jambs of mid or central opening is emphasized by lavishly depiction of intricate works of art rather than other architrave piers of other four openings of this cardinal point. Each architrave piers of mid or central opening has only variation from other piers, being the middle one. Each architrave pier/jamb section of approximately 4.25 m X 0.67 m, placed about 10 cm above the floor level and divided into four embossed rectangle panels, vertically. The first three rectangle panels are placed one after another having same dimension measuring 1.2 m X 0.62 m each and followed by another rectangle just below the inscriptional tablet. All the four panels are adorned

with the minute chiseled work, harmonizing the two, Persian and the native either. At the bottom of the three panels, a group of three rosettes, are represented to give the form an impressive look to onlooker from its top to bottom. There is a pair of columns with fish scales and a number of bands design on regular intervals on columns, on which springing a multi cusped arch, crowned with trident head shaped flower motif. The artisans proved their mastery in adornment of profile of each column, gradually slender as well. The spandrel area of each arch niche is adorned with two rosettes and vine scroll. Above the area a line of intricate design of moulding somewhat resemble to the moulding of mid wall. The six equally rectangle panels of architrave piers of central opening have almost same design and elevation.

The style of adornment is an old tradition, originated from the Persian Architecture, especially when a portal projecting part of iwan was decorated with rectangle panels and arch niches. The tradition of decoration was successfully nurtured in a large scale during the period of Ilkhanid and Timurid and then followed in Safavid architecture. The design of arch niche inside a panel was foremost ever known, for the portal adornment, could appeal to the contemporary architect across the broad perspective. The tradition could travel to West Asia. A large portal with iwan along with arch niche in panels can be found in **Id Kah Mosque**, located in Kashgar, Xinjiang, China. It was built by Saqsiz Mirza in ca. 1442 (although it incorporated older structures dating back to 996 A.C.) and covers 16,800 square meters at present time.

Here, The native artisan of the Choto Sona Mosque didn’t rely just only upon the idea that carried from the Transoxiana region but put in an order for new idea of their own in the development of Indo-Muslim art in broader sense. The craftsmen employed their indigenous knowledge in terms of

decoration. In this case, they received a very much familiar component of old Hindu temple decoration, that is hanging light(*diya*) motif.

At the center of the upper two panels is embellished with a gradually slender chain hanging from spearhead motif flanked by two round medallion, followed by flammable and followed by palm tree male inflorescence type motif at its two sides. The more mastery work would have been found at the last end of the chain when embossed with trident shaped flower motif of opposite direction but same dimension to the trident of the pointed arch crown. Thus, craftsmen could conclude a total contrast in elevation of the depiction. This could be assumed the process of experiment for changing new motif instead of hanging bell motif as well.

Among the three equal rectangle panels, empty place of arch niches of the panel followed by the floor level is barely different from the upper two panels. A gradually slender chain hanging from spearhead motif flanked by two round medallion, followed by flammable and followed by palm tree male inflorescence type motif and a hanging lamp at the last end. Thus, the craftsman intentionally could draw a variation in design among similar panels.

Above the three layers of panels is crowned by another rectangle panel of 0.35 m X 0.62 m having embossed with impressive design, quite distinctive from traditional adornment. In this case, the panel has been filled with imaginary young plant. Thus, the native artisan could harmonize the style brought from their forefathers and an idea from contemporary local tradition what they development.

The Four Opening of Eastern façade: Obviously, the Central opening has been lavishly decorated compared to the other four openings of eastern wall. The dimension of the four arch can be varied in some cases but the decorations are completely the same. But, it can't be said that the four are embellished with barely intricate design in comparison to the design on central opening by any mean. The width and height of these four opening along with other architectural features of arch including arch height, dimension, support and recesses section of jamb, are identical to the central arch opening. Like the central opening, other four openings are framed by a 12 cm recessed rectangular surface with denticular teeth/cake bars with regular intervals. Moreover, like the central one, four arches have been fixed on the four frames, each frame measuring 4.63m in height and 1.68 m in width. But, the chisel work of pinnacle area of pointed arch and spandrel section are difference from those of central opening. It is a less decorated area compared to the central opening in broader sense. The top above pointed arch is crowned with simple trident type or flower of 3 layers petals of 27 cm diameter as well. But the motif is very simple and less decorated in comparison to the design of central arch opening. The spandrel segments are completely bare but three round shaped of medallion. The trident head flanked is by nothing but the two round lotus flower motifs at the same level, while another one has been embossed just slightly above the trident.

The top edge of the opening's frame (6 cm) remains free from decoration. But just below that has been embellished with decorated mouldings. This panel measures 2.70 m wide and 0.63 m high, consisting of ornamental moulding of the three layers. Among the three layers, the two layers from bottom is similar to those of the moulding just below the string course of mid wall. The remaining layer of top was embossed just with block

moulding. By making divergence and contrast in adornment, craftsman could show their mastery in erection of chisel work for elegance of art.

Each of Four openings except the central one is broader with broad bands like a architrave or epistyle of 50 cm wide. The broad bands or epistyle is especially distinguished by projection from the door jamb of arch opening level and 3 cm from usual wall surface of eastern side that we see on the central opening. The width of each of the architrave pier/jambs of four opening is equal to that of architrave head profile height that remains fixed at approximately 4.25 m top from floor level, having 2.75 m length. The whole architrave profile has been fixed slightly above (10 cm) the sill of floor level of opening. To enhance the beauty, the artisan commissioned an inclusive idea to make it more stunning to onlooker.

The entire profile of architrave is broader with a thin line of margin in bas relief, distinguishing the entire architrave profile from the façade surface and jamb of opening as well. With same proficiency, a round medallion in appearance of rosette design at the center point, other two of the same dimension and design are carved out at two corners of architrave head at a same distance from the earlier. The dimension of three round medallion is kept equal to the width of architrave.

Then, the whole profile has been filled with best known dominant motif which is quite different from the traditional architectural decoration of that age. The rest of profile segment which composed of the architrave lintel and jambs, are carved out the impressive scroll design. The motif is probably the amalgamation of Arab originated scroll design with native archaic idea and inventive object made by indigenous artists. The decorative motif at bottom of architrave jambs is different from other part of architrave. The bottom section is adorned with an imaginary plant in

shape of flammable, rising from decorated single stem. A vine of creative abundance is often depicted, running up the door jambs and across the architraves. Artist carved out the object as if the plant would grow from invisible vase. The scheme of plant motif in typical flammable appearance, could draw extra striking feature at any mean. Slightly above the plant a stem of a scroll starts just from middle of architrave jamb segment and running with serpentine move and rhythmic liner patterns of scrolling foliage and tendrils, alternatively combined with two different elements, flammable plant and corn with husk or a heart-shaped motif with a pointed end at each end of tendrils volutes. Each of tendril volutes makes repetition of nearly round segment of bas relief. The scroll of this segment of this mosque came to exit through a series of evolution in scroll adornment and even could be remarked as the best use of scroll adornment. Band of running scroll is intervened by the rosette decoration at corners of architrave. Moreover, the bare place of architrave or more specifically the area between tendrils volutes are filled with carving minute climbing plant. The Band of running scroll in combination of tendrils volutes and rosettes at certain distant demonstrate the dexterity of artist and craftsman and their highly artistic collaboration in term of undertaking the project.

The façade is elaborately ornamented in sensuous carving and patterns, so characteristic of the pre-Turkish days: the indigenous workman has been allowed to dictate. Indigenous artists and craftsmen made earlier structures but the Alai Darwaza shows the influence of the Seljukian art. The Seljuks who had started fleeing Western Asia after Mongol invasions in the 12th century A.C., had reached Delhi. The 'spear-head' embellishment on the three entrances is of particular importance in this regard. Also, the surface ornamentation has been done with an eye for lavishness and detail.

Skirting and Dado Decoration: A Skirting is a moulding board running along the base of wall, often can be found at any architecture. At Skirting level more specifically at gaps between one architrave's bottom of one opening to the architrave bottom of other opening of eastern façade, spear head or merlon motif (each measuring 2.1 mX 30 cm) are depicted. This section of moulding is completely alike to the bas relief of spearhead and Jasmine flower motif what we notice just above the string course of mid wall. Such adornment with same moulding either at Skirting and mid wall level could highlight extra beauty of facade to onlooker when one appears at the open courtyard, passing through entrance on east side. Moreover, to make the moulding easily visible to devotee and enhance the beauty of engrave, artist carelessly carefully carved out this moulding band slightly above the floor level but consciously at the bottom level of architrave. The rich moulding adornment with spear head motif at Skirting level of Choto Sona Mosque could even make an influence on the Mughal architectural decoration. The design of spear head with more elaborate design, inspired from this mosque, could be found at the turret decoration at marvel of Mughal architecture, Taj mahal at Agra.

Apart from this**,** the five vertical architrave frames of five opening and parallel horizontal moulding both at mid wall section and at Skirting level of eastern façade produce six equally bare rectangle area (each measuring 3m x2.1m) at dado and other six rectangle area (each measuring about 2.76 m x 1.94m) at top**.** Thus, the center of the lower and upper parts of the wall surfaces are embellished with six rectangular panel of motifs on eastern façade. The lower panels are bigger than those six of upper. The six small panels are set upon the six bigger panels at surface of dado. The six smaller panel are set up above a certain distance of the bigger panels at dado. The bigger or enlonged panel of dado area measures 0.78 m X 1.94m while the

dwarf or smaller panel of upper section measures 0.83 m x 1.34m. The rhythmic patterns of bigger and small panels respectively lower and upper portion of facade wall surface could produce a supplementary look to its beauty. These decorated panel carved from different sets of stones. That means an extra or additional stone that belongs to usual stones of the layer to embossed / high relief. The bonding of stones in the panel has no connection of continuation with the layers of wall. Moreover, it is assumed that these panels were carved, not after completion of wall masonry, but separately during the erection of the wall and lower panels.[134]

Design of Lower Enlonged panel of Dado: The artists would probably turn their extra attention in embellishing the panel with harmonization of essence of all existing motif in a single panel of façade with extra care. Each lower panel composed of multilayer cusped pointed arch springing from round column having basement. A pair of columns designed with fish scales and a number of bands design on regular intervals on which springing a multi cusped arch, crowned with trident shaped flower motif. The spandrel of this arch are adorned with two round medallions and climbing plants on either side of trident crown. The arch niche are embellished with a gradually slender chain hanging from spearhead motif flanked by two round medallion, followed by flammable and followed by palm tree male inflorescence type motif at its two sides. The more mastery work would have been found at the last end of the chain when embossed with trident shaped flower motif of opposite direction but same dimension to the trident of the pointed arch crown. Thus, craftsman could conclude a total contrast in elevation of the depiction. The dimension and design of this arch frame is consciously equal and same to the dimension and elevation panel design of architrave of central opening in a broader sense.

[134] ASM Ahmed, *The Choto Sona Mosque in Gaur*,. p-46

Even, immediate above arch frame, there are two types of moulding. The whole frame measuring 1.25 m X 0.62 m each is similar size to panel of architrave of central opening, that could consciously enhance artistic value of the site. The only variation could only be noticed in a number of medallions inside the arch niche, when six rosette motifs carved out around the hanging motifs in each panel of central opening, only two can be found in the six panel on dado as well. Next to the arch frame, there is another rectangle frame measuring 1.30 m x 0.61 m, with an intricate bas relief of scroll design. In this section, the scroll motif is completely an imitation of the scroll of vegetal component of the architrave of those four arch openings. The profile of this section is small in comparison to the vegetal profile of the architrave of opening. Moreover, three medallions have been added to upper and lower frame with the same elevation of the three rosettes setting at architrave lintel. The whole frame is broader with a moulding projection, similar to string course segment of mid wall, fixed exactly at top and at bottom. Each moulding segment is adorned with the width/span of 0.84 m X0.12m, designed with the same theme of strings course, projections regular intervals and horizontal bas relief of repetition of rhombus design. The artisan intentionally elaborate profile of moulding slightly bigger than the entire vegetal frame of panel. Next to moulding profile of upper, a dominant chisels work of vertical repetition of spear head motif having same elevation of the spear head motif of mid wall. Only variation can be found in the center of the spear head motif, while adorn with balloon motif. But at bottom, following the moulding, there is another rectangle of the festoon and swag motif, having same elevation of vegetal frame. Thus, artisan could succeed in bringing all the prominent designs in a single panel with proportional brilliancy at any means. To enhance the

beauty, medallions are placed at the center above panels. The medallions are 27 cm in diameter. [135]

Upper Dwarf panel Design of Eastern Side: The upper panel can also be called as dwarf panel, filled with dwarf cusped arch springing from dwarf columns along with small rosettes on spandrel having hanging chain motif at center as well. Whole setting has been set in a square frame. Basically, this frame is almost imitation of the arch frame segment of the lower panel but it has a variation in proportion. Above the square frame, there are four courses of moulding, having the same design above the architrave opening. Following the square frame, there is another frame of simple arabesque design in move of climbing plant and three rosettes on top. Above the frame there is a course of several hanging motif and followed by bead and reel motif. Above that level, there is a moulding with the same design to the moulding of lower panel, slightly bigger than the width of square frame. Following that level, there is undetectable series of decoration somewhat like a tree in the bell having cylindrical motif at it center. On the other hand, below the square frame there are two layers of bare moulding like the moulding of above. Following that a series of bead and reel motif and then at end with series moulding of repetition of meaningless flower motif. Furthermore, this type of **Upper dwarf panel** with the same design and elevation dominates the upper portion of other three outside wall surface.

Design at Curved Cornice: The curved cornice feature plays a vital role in erection and elevation. The crown adornment and elevation of upper six

[135] ASM Ahmed, *The Choto Sona Mosque in Gaur*, p-46

panels and five architraves of five openings of façade consciously are conducted to carry a premium looking and equal layer up to the crown decoration. To carry out perfect curvature setting, the craftsman chooses the section immediate above the horizontal setting of crown adornment level, done by varying the height of single stone layer in all four directions. This mastery formation of bend in form of convex in the stone layer in the outer surface can easily be recognizable in bare eyes. This prime distinctive measure of convex setting for curved roof elevation from 5.78 m above the ground level. Above that convex level, there is another convex layer to endeavor of perfect curvature appearance and setting as well. This middle portion, where the distance gradually increases upto 7.69 m at top, This layer is also curved gradually according to the cornice, having 23 medallions embellishing on this curved layer just above the convex layer. Due to the convex setting of this layer, the diameter of the 23 medallions are consciously varied from 18 to 22 cm. **[136]** and embellished as maintained according to necessary places. In this case of medallion, special attention has been given when in the middle portion the medallions of 22 cm are carved out and gradually decreasing its size according to decreasing size of convex layer and curvature cornice. Above the layer, all the stone layers of mouldings rise upto the last end of cornice set up regarding in parallel to the convex layers.

The cornice has been adorned with four layers of mouldings that has been created from opus isodomum technique by facing ashlars masonry walls of dressed stones. Among the prime four mouldings at cornice area, the last lower moulding with tiny projection with a design after a certain interval like eye bud on node of bamboo. On the entire profile of moulding, a horizontal bas relief of repetition of rhombus design, artisan enhance its

[136] ASM Ahmed, *The Choto Sona Mosque in Gaur,* p-49

appearance with beauty The artisan tried to fill the bareness of the transitional area with supportive motifs of the moulding and the convex layer of round medallions of stone blocks. The motif of this area are similar to that motif bellow the string course of mid wall. Above the moulding, there is another band of convex moulding, followed by a gap having span of 8cm. In this case of moulding adornment, this is identical to the other moulding but the variations are on the profile decoration when the bead and reel motif adornment on profile that bring an extra flavor actually for pleasing in diversification in similarity. Above this layer, there is another course of gap having same span and followed by another course of moulding. But the variation has been carried on bas relief of profile decoration when bas relief of rhombus is quite different from the bas relief of lower moulding of cornice. At the last edge of cornice, craftsman consciously curved out another moulding from ashlars masonry stone dress as well. The moulding is different in shape and design, having projected 15 cm and with broaden volume and jail work at last edge by carving. But, each of three other mouldings of cornice is projected 13 cm and having of span of 10 cm gaps among them. The whole of the cornice including all the mouldings measures 1.10 m. Thus, the upper part or cornice of all the four sides is gently curved. There are four mouldings in this cornice that can impress anyone with its profile ornamentations at first sight. The three courses of gaps or interspaces between the mouldings are also adorned with continuous three different motifs, the lower with a typical merlon shaped, the middle with serpentine stem of vegetative leaves while the apex body filled with typical merlon design as well.

The layer of the foundation stone or plinth, the layer of ornamental bands at the mid-level and the layer of cornice continue right round the corner

turrets and run through all the facades. On architectural technique, it has been said that the layers can be used as bonding of the walls. [137] But, a deliberate question can come to our mind that, 'Are the layers of ornamental bands at plinth, mid and cornice only for the structural requirement?' an intricate observation can lead us to another phase of conclusion that 'Did artisan commission more or less the same type of design and intricate carving accidentally alike at plinth, mid and cornice area?'' If we try to find the origin of this type of adornment, we would easily trace out such type of moulding decoration, contemporary temple architecture at Orissa. Excessive use of different layers of mouldings with same carving design at plinth, mid and cornice area was the old fashion of contemporary temple stone architecture. This type of carving decoration could be noticed at first look on Kornark Sun Temple, Puri, Orissa of 13th century A.C.

Façade of Southern wall: To adorn the western and eastern façade, artisan did not just rely upon only the minutes chisel work of carving but also Opus pseudoisodomum technique by facing different dressed stones ashlars masonry walls. But, the different technique has been commissioned in adornment of southern and northern side alike where the technique of Opus pseudoisodomum technique by facing different dressed stones ashlars masonry walls rather than the chisel work. This means the outer side of southern elevation of this wall has been less decorated, in comparison to the eastern wall. The entire wall shaft especially between the two turrets at south-eastern and south-western corners, measuring 14.90 m long, having three pointed arched opening intervened by a continuous string with mouldings at mid level that leads to the three bays of prayer hall and the

[137] ASM, Ahmed, *The Choto Sona Mosque in Gaur*, p-49

traditional carved cornice**).** Thus, the maximum height is emerged at the center of curved façade especially at the area projecting part reached at 7.69m at top, while 7.16m [138] at the both corner**.** The technique of mid wall decoration especially the four gaps among the two corner turrets and four rectangle frame openings by the string course and adjacent mouldings is similar to the mid wall decoration western and eastern façade. But, the three openings, each composed of two centered pointed arch that fix in the separated and recessed rectangle frames from the entire wall surface.

The width and height of these three opening along with other architectural feature of arch including dimension, support and recesses section of jamb, are identical to the arch opening of eastern side. Unlike the openings of eastern side, width. But, the chisel work of pinnacle area of pointed arch and spandrel section are different from those of central opening. It is a less decorated area compared to the central opening in broader sense.

Each opening of five is surrendered by a layer of very long stones that were placed one after another vertically upto the springer stone of the arch. These vertical corner stones are used to pose as the door jamb and the support as well. To avoid the ennui of having simple form of door jamb, the edge of jamb of five openings were cut into recess of right angle but intervened by a number of bands like dog tooth ornamentation in regular intervals.

Like the eastern wall, the horizontal string course with the span of 68cm is running in the middle of wall at the height of 3.46 m from the ground level while three openings are framed (measuring 4.63 m X 1.2 m) by a 12 cm recessed rectangular from wall surface. The recessed jamb section has been

[138] ASM Ahmed, *The Choto Sona Mosque in Gaur*, 1997. p-41

adorned with denticular teeth/cake bars with regular intervals. All the three arch opening is pointed tunnel vault measuring about 2.2 m that lead to the prayer hall. Each of vaults is crowned with rhombus relief at center above keystone and flanked by two embossed rosettes of 18 diameter at same elevation on spandrel. The embossed rosettes and rhombus on the spandrel might have been supposed a new elevation and inconsistence to the other dominant design of eastern wall. The technique of simple spandrel decoration with round medallions and rhombus might have been borrowed from carving art on spandrel of arch opening contemporary Muslim secular architecture. Such type of decoration can be found on one of the most famous of the surviving monuments of Bengal, The Firuza Minar situated at Gaur, constructed during the reign of Saifuddin Firuz Shah (1488-90 AD). Moreover, The difference could be found at around the door jamb where there is no decorated architrave or the panel decoration as well. But the top edge of the recessed frame is terminated with different layers of moulding decoration at the height of 4.63 from the floor level. [139] The decoration of chisel work is just an imitation of the moulding design on the entrance frame of eastern façade.

The horizontal string course of mid wall and the arch frames produces four lower rectangle area adjacent to plinth (measuring 3.46 X 2.94m each) and another upper four rectangle areas adjacent to the cornice. Each of four upper rectangles have same width of 2.94m but have variation in height due to the elevation of curved cornice. Each of four lower rectangle area is embellished with rectangle panels (measuring 1.34 X0.83m) not at the center but bellow the central position. The variation of the four lower ornamental rectangle panels could easily be noticed at its erection when these panels are said to have carved out directly on the wall after its

[139] ASM Ahmed, The Choto Sona Mosque in Gaur, p-50]

erection. [140] With minute observation, to commission the work, each panel was done by carving the total form on ashlar/stone block and jointed to one another according to design. Unlike the other panel decoration of eastern façade, these four panels are recess in the wall surface. That means no extra or additional stone was used at time of erection. In the recessed panel there is low relief of only multi cusped arch niche and a hanging inverted trident in the arch that flanked two round medallions at spandrel and other two at below. Other four upper panels are placed in the same axis as the lower panels set above the string course of mid wall. In each gap between upper two panels, just above the opening frame, there are three embossed (each measuring 28 cm diameter) round medallions of same size and on same elevation. Moreover, to classify the idealized convex wall simultaneously according to the curved cornice, the wall veneered with stone ashlars of different size, can be recognized from outside. So, the stone blocks are not satisfactorily arrayed on this side wall.

On the convex area jus below the cornice mouldings level, there are 15 round medallions embellishing at top layer of the convex layer and bellow the curved cornice segment. Even, in this case, artisan could meet the demand of different size of round medallions. Due to the convex setting of this layer, diameter of the 15 medallions varying their size, consciously from 18 to 22 cm diameter. So the similar size and design of strings course with mouldings, upper panels, medallions and curved cornice with same design of eastern wall is identical with southern side.

As because the curvilinear roof of the mosque remains, full segment in including height of wall and cornice of each south and north outside comparatively has shortened in elevation to drain off the rain water. Four stone gutters of chisel work were installed at cornice edge on the two

[140] ASM, Ahmed, *The Choto Sona Mosque in Gaur,* p-50]

outside walls, exactly between the lines of dome to drain off the rain water from the roof.

Decoration of Turrets: *Minar(tower) were no longer in service of its traditional form and function and had changed its function, from* free-standing and taller to the decorative element and associated for supporting structure. *This types of changing in pattern and function had been materialized at the Choto Sona Mosque.* All four sides veneered externally with polygonal, more specifically dodecagonal corner stumpy towers, starting with heavy and gradually slender at the top. At its four corners, and the rectangle outside projection of central *mirhab* on the western side is flanked by the two Towers (now disappeared following the conservation work after the great earthquake of 1897).

But this new pattern and function has not been commissioned in Choto Sona Mosque this is not at all on a sudden but a result of architectural amalgamation of different component both from local tradition and foreign techniques, development in composition, reformation in size and elevation, evolution of design. We have already mentioned the changing point of view in function of turrets, from basic architectural elements to decorative component. The turrets no longer were used for architectural obligatory but for the enhancement of the embellishment. The functional turrets are only for relief of complete bareness at corner. The engage turrets components at each angle of Mughal structure is often cited as the major feature of Mughal architecture. The turrets, in a point of view, the Bengali architects could successfully lay/provide the foundation of norm of having decorative turrets in their grandiose structure. Besides, while the octagonal corner

turret was basic feature, that can be found in contemporary pre- Mughal Muslim architecture especially at the Bengal region.

Like the other parts of wall, the turrets are placed on the 28 cm high decagonal foundation stone from the yard level. Its parts are interlocked *to the* stone base of main building. Corresponding to the decagonal base stone, there is another decagonal proportionally slightly smaller, can be termed sill (31 cm high) of the main decagon turrets. Each side of the sill of decagon turrets sloped gradually above. Above the sill of each turret, following the sloping area, typical decagonal tower comes to exist. Then, on the basis of embellishment on the entire turret profile can be divided into four parts, the design at skirting area, two intermediate part (below and above string course with moulding at mid wall) and finally at the cornice.

These turrets are exactly slender besides its decagonal profile, but the craftsman could bring perfection in providing marginally slender turrets in this way that is untraceable to the naked eye. The four turrets are interlocked at four corners of the rectangle prayer hall. The center point of this decagon does not coincide with the outside corner of the hall, but at an offset of 16 cm in diagonal towards outside. [141] Of the total ten sides, there are seven full facets and two half facets/sides which are visible projected outward from wall corner. The remaining facets, more specifically a single facet along with two half facets are hidden interlocked with corner. The skirting (including four mouldings measures 1.10 m.) area is adorned with four courses of mouldings, upper three of them having projected 13 cm while the most lower moulding has a projection of 15 cm from turrets facet corresponding the four mouldings of topmost. The decagon sill and these

[141] ASM Ahmed, *The Choto Sona Mosque in Gaur*, p-67]

four courses of vertical mouldings at regular intervals surrounding the turrets at skirting level, creates four gaps on decagon facets (each span of 10 cm). The gap adjacent to the sill sloping moulding has been adorned with simple merlon design. Following the gap, there is another vertical moulding band that bears no notable design but only dabber after regular interval, having projection of 15 cm from turrets facet and quite bigger than that the rest of mouldings. Immediate above, there is another vertical gap, span of 10 cm, filled up with carving out the wavy stem line with pointed leaves at each curl part. Following the gap, there is another band of moulding having common dabber design with an embellishment of shallow carving of real and bead motif throughout the profile segment. Then, the turret surface (measuring 10 cm of span) seems the gap, that filled with has been adorn with free motion of stenciled with designs swirl, at a part of spiral design, in which each curl part of swirl alternates their positions after another inverted curl part. In some cases this motif can be called as filigree patter Thus, the artisan could succeed in provide tangle works from endless affixion of many simple units. This, the continuous motif is very familiar to the Nakshi Kantha for hundred years long, especially for the border part.

The basic of the carving design of surface gaps especially of wavy stem line with pointed leaves and stenciled with designs of swirl are rhythm pattern alike. Traditional swirls look stacked, one on top of the other inverted swirl. Basically, you travel into the center of each swirl and then travel out until you hit the edge of other inverted swirl. Then you travel along that edge before branching out to the next swirl.

Among the two intermediate parts (below the string course with moulding at mid wall): Above the last moulding and another corresponding course of moulding at height of 2.38 m, turret surface (span of 90 cm), is most

impressively adorned with carving of three different motif on each single side of decagon segment. The shallow carving alias relief art at each side profile (measuring 90 cm X 29 cm) of decagon comprises of single prime art panel designs and two different layers of supportive motif at bellow and above. After first observation, one can assume *that* these panels decoration might have been carved out directly from wall segment after its erection. With minute observation, to commission the work, each panel was done by carving the total form on ashlar block and jointed to one another according to design.

The ornamental prime art of panels on this segment is supposed to be the center of attraction, could easily be distinguished at first sight from any distance. Like the lower panel decoration of western façade, these panels are comparatively very shallow recess turret surface. In the recessed panel there is low relief of only the multi cusped arch niche, crowned with trident and a hanging inverted trident in the arch that flanked two round medallions at spandrel and other two at bellow. The highly skilled artist could bring all the essence of regular panel design to a tiny place with full impression.

To highlight the art to the onlooker, the artist placed it at central position of this segment surrounded by a single layer on top and bottom. The art of bottom layer is quite common motif, namely the merlon design, that has been used at mid wall and skirting of east side decoration. The only variation could be found in dimension, the spread of this layer is 16 cm, while the merlon layer of mid wall has a span of 26 cm. In design above the central panel, there is a layer of typical festoon and margent motif, where a thin line draped loosely between two supports having a flower at each curve and a vertical arrangement of flowers or hanging vines from the two supports. This motif might be originated in ancient Greek and Roman

civilization but has taken itself a new look and form through filtrations during pre-Islamic temple adornment. Thus, artisan could succeed in arrangement of a new form of embellishment, elements were taken both from Muslim design and technique of temple adornment. Above this segment, there is another course of moulding band at height of 2.35 m, that can be cited as the last border of this segment and beginning of another turret surface segment. This moulding band having no extra embellishment but dabbers after regular intervals, could draw extra attraction to onlooker due to its unusual barrenness on profile. This upper turret surface segment is just immediate below the string courses with moulding of mid wall.

This surface design immediate below the string courses with moulding of mid wall, has resemblance to the prime design of arch panel and typical merlon design below with same the dimension and elevation. But the only difference was been carried out in adornment of upper layer of panel where carved out the complex hanging motif of flower instead of festoon and margent motif. This variation in design could stop onlookers to be got bored. Above this segment, there is a course of string courses with moulding running horizontally around the turrets at the height of 3.46m by which the artisan produced a mastery of false impression of double storied elevation on turrets. The profile decoration with dabbers and shallow carving of rhombus series on it, below the bead and real motif and above the typical merlon correspond exactly the string courses with moulding at mid wall of the four outer sides of the mosque building.

Immediate above the string course at mid turrets, another decagon turret surface bordered by another course of moulding band at height of 4.76 m from floor level. This segment has the embellishment with the president design of shallow relief of arch niche with hanging motif, conventional

merlon layer at down and layer of typical festoon and margent motif at top of each facet of decagon. A variation has been brought in this section following the layer of festoon and margent motif, especially at transitional area between the moulding band and festoon and margent motif, an extra thin and narrow moulding of bead and reel motif has been put in it to bring the variation in design. The moulding band, followed by the bead and real motif lavel, is consciously adorned with nothing but dabbers after regular intervals. This bareness design on band and the bead and reel motif could alter the texture of conventional design.

Above this band, there is another decagonal turret surface that rise upto the height of 6.06 m from where the cornice mouldings come to exist. The portion of turret surface bears the same embellishment what we observe in the intricate relief on the turret surface portion just below is the string course of mid turrets.

Even the craftsmen, with *their* versatility of *merit* utilized in accurate the composition of convex/ bend cornice adornment with topmost decoration of each of six turrets of the building. The top of each turrets, is adorned with the four parallel layers exact corresponding the four moulding at curved cornice. The topmost turrets decoration is getting started through a shallow projection of band with carving design and followed by another band of bead and reel motif which are similar lower bands design string course of mid turret section. Above these, there four courses of mouldings band running round turrets having three horizontal gaps of 8 cm span each. The first three moulding having the same projection of 13 cm while the moulding of the last edge of topmost has a projection of 15 cm and with broader volume than earlier.

Above the moulding, there another band is of convex moulding, followed by a gap having span of 8cm. In this case of moulding adornment, this is identical to the other moulding but the variations are on the profile decoration when the bead and reel motif adornment on profile that bring as extra flavor actually for pleasing in diversification in similarity. Above this layer, there are another course of gap having the same span and followed by another course of moulding. But the variation has been carried on bas relief of profile decoration when bas relief of rhombus is quite different from the bas relief of lower moulding of cornice. At the last edge of cornice, craftsman consciously curved out another moulding from ashlars masonry stone dress as well. The moulding is different in shape and design, having projected 15 cm and with broader volume and jail work at last edge by carving. But, each of three other mouldings of cornice is projected 13 cm and having of span of 10 cm gaps among them. The whole of the cornice including all the mouldings measures 1.10 m. Thus, the upper part or cornice of all the four sides is gently curved. There are four mouldings in this cornice that can impress anyone with its profile ornamentations at first sight. The gaps or interspaces between the mouldings are also ornate with continuous floral motifs. The Surface decoration of entire turret produces striking contrast of light and shade.

This type of turret is significant as a prototype for the development uniqueness that employed first time in Bengali architecture. In this architectural remain, Bengali architect could successfully use the plan of decagon turrets long after the erection of decagon structure of Gunbat-i-Qabud, Iran. The decagon turret of this structure would break the contemporary tradition of building octagonal corner towers of grandiose structure and revived the style at a far distance of thousands mile from the land of Persia.

Portals on East Façade

The Quintuple (5 in number) stone arched way in the eastern side wall and triple lead to prayer room (sanctuary). The five portals to prayer hall on east façade have been set on the vertically rectangle frame, as we have discussed above. Due to brick core and stone veneer architecture, the thickness of wall of this building is bigger than any building of contemporary period. The thickness of wall is 1.80m. So the architect probably wanted to hide by the architectural technique. There are five opening/portals to the eastern wall and the five opening tunnels of 1.80m long are created by the five couples of pilasters. These pilasters are identified on eastern façade. These five couples of pilasters divided the inner surface of this wall into five parts corresponding to the breadth of the aisles.[142] Each of the five tunnels is almost identical in width and height through the thick wall are covered with a barrel vault on which the wall rises up to its roof level. The width of central tunnel is 1.47m while the other two arch tunnels immediate after the central portal, have a slightly smaller span (1.40 m) than the central one. Moreover, the other two arch tunnels immediate after corner towers have a gradually narrow span of 1.38 m. But, all the tunnels of central arch way have broader span of 1.75 m and resulted a deep alcove in tunnels due to having arches at its two ends with narrow span (1.42m each). The tunnels are veneered with the stone slabs inside out in proficiency that no one would identify the stone coating at a first look. Excessive height of the barrel vault on each opening or portal of eastern wall are hidden by two centered multifoiled pointed arches at two ends of tunnels, one at outside of eastern facade and other at inside. Each of multifoiled pointed arches springs from the height of 2.65 m and

[142] ASM Ahmed, *The Choto Sona Mosque in Gaur*, p-42]

terminates upto the height of 3.65 m from the floor level. Each of total ten arches of five tunnels has thick intrados of 30 cm wide. The concealing technique of excessive height of barrel vaults by two multifoiled pointed arches at two ends was developed however and when, is unknown to us. The technique whenever invented it was, but this technique was successfully adopted in this architectural remain. Furthermore, the architects proved their proficiency in producing artistic endeavor even in the architectural setting by hiding barrel vault by two centered multifoiled pointed arches at two ends of tunnels. One would be fascinated from the extravagant carving decoration both at eastern facade and the corner turrets when one would appear at the open courtyard after entering through main entrance of eastern side. After getting fascination form the outer design, and draw their attention to entrance portal, onlookers eyes would not be woebegone at all. Because, when onlookers look upon the inside and even outside through the tunnels, they could observe a false impression of double arches setting as if one arch were settled upon another one.

Portals on north and south side

Moreover, triple (3 in number) stone arched way at each side of northern and southern side lead to prayer room (sanctuary). But, the three opening portal on southern and northern side, each has a tunnels of 1.42m wide through the thick wall like the tunnel technique of eastern wall. A variation has been carried out maintaining new elevation. In each case, a pointed barrels vault opening spring from the height of 2.65 m of tunnel wall and terminates upto the height of 3.65 m from the floor level. The elevations of barrel vault opening of these opening portals are placed on equal position of multifoiled pointed arches of eastern façade. Only the barrel

vault of the upper opening on north western corner opening springs from height of 4.40m terminated upto to the height of 5.40m.

Inside payer chamber: east, south and north side wall decoration

Inside the prayer chamber, all the five multifoiled pointed arches on eastern wall and other six barrel arches, each has a high relief of rhombus at center flanked by two round medallion (27 cm diameter) at the same height at its top. Like four arch frames except the central archway of eastern façade, all the arches are framed by 12 cm recessed rectangle with the same chisel carving design at their top of same elevation of 4.63m high and 1.68m wide on the interior wall surface on east, south and north sides. Architects fixed all the rectangle frames of arch opening in each blind and giant arches, five transvers arches at east wall (21.5m length from inside) and six more at south (12.54 m length from inside) and northern wall (12.56 m length from inside)[143] . All these arches are spring proof pilasters and terminates up to 5.42m while all arches have same span/ wideness of 3.50m except the central one of eastern wall (having 5.97 m high & 4.49m span between the two pilasters. All the giant arch each of cardinal direction (east, west, north and south) from interior of prayer chamber brick core but stone blocks veneer work rise following the height of intrados of giant wall arch that lastly terminates to 5.4m. Architects conducted this stone block veneer with great proficiency so that no one would be able to perceive the brick core until giant arcades course of four walls from inside and out but above the arcades, there is absence of stone work but brick work upto roof. The view of total eleven arch openings, set in eleven recessed rectangle frames from giant arch shaped stone surface, at less predominance area of

[143] ASM Ahmed, *The Choto Sona Mosque in Gaur*, pp-50,52]

insides of payer hall would not be disillusioned to the devotee and onlooker when they turn back their attention from the extravagant decoration on western/ qibla wall inside.

Interior: The interior of the mosque, measuring 21.2 by 12.2 metres (70 by 40 ft), is divided into five aisles by two rows of stone pillars, four in each row. A wide central nave has cut the aisles into halves, each half showing six equal square units with a side of 3.5 m. The nave has three rectangular units, each measuring 3.5 by 4.5 m. The interior of the mosque has therefore a total of fifteen units, of which the three rectangular units are covered with *chauchala* vaults, and the remaining twelve square units each by an inverted tumbler-shaped dome. They are all carried on radiating arches springing from the free-standing stone pillars and the engaged pilasters. The upper corners in between the arches of the square units are filled with corbelled brick pendentive to make up the phase of transition for the domes. At the northwest corner of the mosque there is a royal gallery forming an upper floor, which is still standing in a dilapidated condition. It was approached from a staircase that reaches to a raised platform of outside at north western corner. The gallery has a *mihrab* in front.

Stone carving, brick-setting and gilding and were used in decorating the building, The subject matters of the stone carving were chosen according to the demand of the spaces, e.g., the borders of the panels with creepers and their interior with various forms of stylised hanging patterns adapted from the chain-and-bell of the Bauddha and Jaina period. those of the vaults being copies of the bamboo frames of local huts.

There is abundant stone carving in low relief in the exterior, and ornamental motif rectangular panels, rosette and merlon motifs that are used repeatedly. There are similar motifs employed even in embellishment

of qibla wall as well. But the central mihrab is bare and the original stone veneer is now preserved in the Royal Scottish Museum in Edinburgh.

Floor decoration: The new course of conservation work at floor, in modern time, destroyed the original look of the floor. So the original floor condition is not in situ. For further information, we have to depend on the surveys of different expert. But, the limitation of exact details description is unavailable. Only A.H Dani supplied a partial description of floor in front of the central mihrab, assumed of a 6 feet square space of overlaid with octagonal encaustic tiles.[144] The dilapidated tiles remains might have been removed after conservation work.

West wall (qibla wall) decoration

The western outer wall is entirely stone veneer while the interior, the stone coating is only upto the spring level of giant transverse arcade of western wall. The inside of western wall coating technique is exactly similar to the coating of other interior walls, reaches this apex to an giant arcade of five transverse arches, spring from six engaged pilasters , each apex rises upto 5.42m.

Each arch shaped stone vereen (central one measuring 4.49m wide and 5.97m height while other four have a dimension of 3.5 m span and 5.2m high) , flanked by the presence of two engaged vertical pilasters with shallow projection from qibla wall surface level. Each of arch shaped stone Vereen parts has one frame of intricate art alcove

[144] A.H. Dani, *Muslim Architecture in Bengal* p-139

These all arches are spring proof pilasters and terminates up to 5.42 m while all arches have same span/ wideness of 3.50m except the central one of eastern wall having 4.49m span between the two pilasters. All the giant arch each of cardinal direction (east, west, north and south) from interior of prayer chamber brick core but stone blocks veneer work rise following the height of intrados of giant wall arch that lastly terminates to 5.4m. Architects conducted this stone block veneer with great proficiency so that no one would be able to perceive the brick core until giant arcades course of four walls from inside and out but above the arcades, there is absence of stone work but brick work upto roof.

***mihrabs*:** At the center of each aisles, exactly opposite to the five entrances opening of the eastern wall, there are five semi-circular alcoves, commonly known mihrab niche in the western wall. The *mihrab* is a symbol of prayer direction and an alcove for performing and leading prayer by imam. With time, besides functional use, the main *mihrab* is supposed to be a symbol of sacred place,excellency and embellishment, while side *mihrabs* became center of attraction to devotee and focal point of adoration.

It seems relevant to indicate the constructional framework of the *mihrabs* of the mosque under study. There is exterior projection of the *qiblah* wall from the base to the top in the central *mihrab* whereas the side ones are not externally projected. Each *mihrab* niche is placed at focus point within a rectangular framework measuring 3.54 x 1.85 m, except the central one. Moreover, there are other two niches at the northwest corner of *qiblah* wall, having no frameworks, a dwarf niche of upper and a niche with on framework of regular dimension under gallery. It is hardly possible to make a possible feature and dimension of the central mihrab due to a number of conservation work, undertaken by the archeology Department,

Bangladesh, but dimension of the empty brick niche and architectural details presumes the possible aspect of central *mihrab* niche encircled by rectangle framework of substantial height and span from other usual three. The architects consciously undertook a task of the formation of central *mihrab* niche and its rectangle framework with border height and span, caused by the demand of proportional fact of tall and broad central nave (arch shaped stone Vereen of *qibla* wall). The central mihrab with broaden framework, emphasizing itself grand and different from other side mihrabs in addition to, only scared place poses only functional use for imam. For a number of modern conservations works especially at all *mihrab* niches, we had to rely on the information on the size of different niches, given by **MA Abu Sayeed** in his book [145]

Mihrab Niches-	SM-2	Southern *Mihrab*(next to main *mihrab*)	Main *Mihrab*	Northern *mihrab* next to main *mihrab*)	Northern most *mihrab*-2	Gallery *mihrab*
Width (in m)	1.02	1.03	1.05	1.00	1.02	0.71
Depth (in m)	0.58	0.56	0.60	0.54	0.60	0.42
Height (in m)	2.17	2.19	3.20	2.18	1.81	1.52

[145] ASM Ahmed,The Choto Sona Mosque in Gaur, P-54

Dimension of all *mihrab* niches/niches and frameworks are almost identical. But there is no variation in the decoration of all alcoves niches so far. The embellishment and adoration of all must be alike, maintaining the contemporary tradition of mosque adornment. Nevertheless, It would not be applicable to the decoration of central *mihrab* niche. The decoration has not existed since long. All the stone ornamentations were been pulled out from the central niche and the whole structure has been assembled and conserved in the Royal Scottish Museum, Edinburg. But, It can be assumed that the decoration of central *mihrab* niche would be near to the design of other four *mihrabs*. On the minute observation and form the contemporary tradition of *mihrab* adornment, it can be said that it might not vary in grand scale. Proper observation on design of the other four *mihrabs*, could flash on design/aspect of stolen/missing stone *mihrab*. It is quite impossible to presume the original appearance of niche adornment but to imagine the possible view of central *mihrab*, from comparison of decoration on side *mihrabs.*

A minute observation at the various parts of the mihrab niches and its frameworks around reveals the fact that the engraver artists embellished the surfaces of the walls with old tradition and abstract motifs by cutting the stones in an exquisite manner. The mosque is supposed to be the most sacred place for the Muslims. According to the theologian opposition against pictorial art or sculpture, the *qibla* wall of mosque is kept remain free from types of figurative art as well.

Design at Alcove of *mihrab*

The design of alcove survived almost *intact.* For the convenience of study, the alcove niche of other side *mihrabs*, may be divided into three parts- the lower, the middle and the upper. Before further details of design of the

three parts, the floor of all the five *mihrab* niches were covered by the stone slabs. But, now concrete work, exists at present time, throughout the semi-circle area of each niches.

The lower portion of all five including the central *mihrab* are in situ, and are 23cm high skirting area. To produce perfect semi-circular curvature, three curved stone slabs joined sidewise, containing layers of mouldings parallel to semi-circle edge. The lower most layer is adorned with blind merlon of spear head shaped design and single flower carving between two. Above this, there is another layer with carving out the wavy stem line that went running in serpentine mood with pointed leaves at each curl part. This serpentine vegetal design in rhythmic pattern made an appeal of aesthetic beauty. Following the level, there is another band of moulding having been being repeated common dabber design that carved out after regular intervals. To enhance the beauty of embellishment, a string course with brightly visible carving of bead and four petals flower motif goes running around the alcove. Immediate above, a thin layer running parallel to the previous one, this section had been filled with the wavy stem line, sub-stem and bud of leaves with more elaborately distinct form in comparison to the vegetal carving level below. The last and upper level has been adorned with crowning upper vegetal level by the decorative spear heads type again and again.

Immediate above the moulding and carving of skirting level, the middle part is supposed to be the focal point and center of attraction among all decorative areas of the niche. Artisans made their special attention in adornment of the most important part. This part is coated with five vertical stone plates, beside each other (each measuring 01.0m X0.40 m). The rectangle plate has shallow chisel of swirl 04cm in width around and outside the plate. The central plate has been carved out a motif hanging

chain suspended by a lamp or shikha, being clearly visible or obviously accentuated.

Other four flanking vertical stone plates, each hewn plate divided the surface into two parts. And each panel was embellished with shallow engraving of multi cusped arch, crowned with trident shaped motif and flanked by two rosettes at spandrel, span of arch is filled with hanging motif of inverted trident, flanked by rosettes and other decorative motif. Each panel was differentiated by a shallow chisel work of serpentine stem of 04 cm in width with swirls at each curved portion at top and bottom. Following the vertical setting plate level or at level of 1.23 m from floor level, four string of mouldings, one after another running around the alcove. To produce perfect semi-circular curvature of each string, three curved stone slabs joined sidewise. The four layers of motifs are exactly the same design of the four layers of string courses of mid wall of outside. The *mihrab* upper side is covered with a half semi-circular dome. To produce the half dome, the five identical hewn slabs were jointed sidewise, the surface of each slab has the embellishment of shallow relief of vegetal design and herbs and leaves running upward while the central one was adorned with shallow relief of meaningless hanging motif.

There is no sign of pier and engriled arch in present time, due to conservation works. The evidence of square shaped foundations that was visible few days back, but does not exist today.

The sign, it assumes that each alcove of the *mihrab* would have been placed between the two stone piers, the base to capital of which must be carved out very exquisitely. The engriled arch would have been rested upon the two piers having the representation of small rosettes in their spandrels, as well. The floriated and engriled meeting at the zenith and crowned with

trident motif. The ornamentation of the side piers and other adjoining areas might have got similarity with that of the central and other *mihrabs*. The spandrels and piers might have settled upon a rectangle frame to differentiate it from *qiblah* wall surface. But, calling this by name of barren rectangle would be expedient, today.

But, the decoration of spandrel in central *mihrab* might differ from other spandrels of side *mihrabs*. All the *mirhabs* might have been cusped arches following the tradition of so-called other Sultanate tradition of *mihrab* decoration of mosque architecture. Thus, all the alcove niches including the central *mihrab* has a symmetrical, but graceful decoration befitting for the sacred place of prayers.

Frame Decoration (Architrave) around the mirhab Niche

Following the rectangle barren frame (measuring about 2.73 X1.04 m) of pier and cusped arch, spandrel area (no sign exists today) of each *mihrab* niche, there is another rectangle framework of sunken shallow carving of 40 cm width around and outside, comparatively bold. This type of framework decoration can only be found round three *mihrab* niches, two *mihrabs* next to central *mihrab* and another one of the southernmost *mihrab*. The two *mihrabs* at level of upper and lower of platform and the central one bearing no such decorative framework, u*sually due to not having enough space for* embellishment. But, each of three rectangle framework is exactly 3.15 m in height and 1.85 m in breath, has a quite identical carving decoration of 40 cm in width around and outside.

But, the rectangle framework bears a distinct design at its skirting level (measuring 30 X 40 cm). This segment is adorned with geometric design of three layers of eight-pointed stellar panel, each layer bearing five such

stars, cobalt cruciform design between the gaps are curved out from single plate. The type of eight-pointed stellar, produced from the geometric technique is popular Persian technique of adornment in tiles, employed the carving design. In general, this is the outcome of tessellation patterns as well.

Each of the architrave framework carving is started above the skirting design and running round the barren frame of mihrab arch. Most of design has remained *intact* over the centuries.

There is another rectangle panel (breadth of 20 cm) running throughout the center of architrave rectangle frame. The central rectangle is filled with a course of climbing plant of spiral swirl alternating its side one after another, each swirl taking plant and another swirl of lotus bud. Even the round rosettes were placed on the top, a round medallion in central and other two flanking on the corners at the central rectangle architrave. The total impression is similar to the carving design of the four architraves of eastern façade.

The contrast in embellishment was been brought out in the same segment of the area. Around the engraved panel of swirling plant, there is an extravagant adornment of another type stem of vine design throughout the rectangle panel. The rest area of rectangle has carving of serpentine stem running throughout. Stem allies' vine is bearing leaves and flowers, grows by means of a terminal bud and shows distinction of nodes and inter-modes. Each curve bears nodes with extravagant leaves. A vine of creative abundance is often depicted, running up the door jambs and across the architraves. Thus, leaves at vegetative shoot are carved according to the gap of serpentine stem throughout this panel. On either side of each rectangle framework of serpentine stem, there is a shallow circular recess

with meaningless carving on entire profile, running vertically from skirting level to the top.

Moreover, to make the *mihrab* embellishment look more majestic look, artisans thought of extra profile of carving design that can be added above the rectangle panel. Four strings of different scheme of motif (measuring 1.94 X0.52 m) were carved out from a four horizontal layers of stone, settled up one after another. In this case, the artisans relied upon the foremost popular and dominating motifs of string courses with mouldings of mid-wall outside. Thus, total dimension of the entire framework of each three *mihrabs* (southernmost and two of the either side of central *mirab*) reaches almost 3.67 m height with breadth of 1.92m. Each layer of first three lower layer setting based on the technique of corbelling, having a shallow projection outward, one after another synthesised with indigenous traditions. The last layer of spearhead of merlon design has been installed at top framework that produces crowning impression. The artisans conducted such type of synthesis from their proficiency of experience to produce contrast of light and shade. Other three *mihrabs* (central one and two *mihrabs* niche of upper and lower of gallery) carry no framework but bareness frame design.

Each framework of *mihrab* niche flanked by two rectangle panels (each measuring 1.70 X 0.75 m) of carving design, cover up bears the gap between the pilaster and rectangle framework. Each frame is almost similar to the enlonged panel design on lower level of eastern façade. Each contains an exuberant shallow engrailed and floreate arch niche, span filled hanging chain suspended by inverted trident head, two pairs of round medallions, and whole segment encircled by a frame of stem of swirls of vegetative design. These panels are placed above the skirting level of 29 cm. So that the art work would be easily visible to the devotees.

Only variation could be found in two panel settlement of central *mihrab* portion, where the two flanking panels are small scale in comparison to the other panel, because, encircled by a frame of stem of swirls is not present here.

Three more dwarf panels completely similar in dimension and carving design are settled above the three rectangle frameworks of *mihrab* of two southern and northern *mihrab* next to main *mihrab*. The panel above the main *mihrab* is bearing no motif at all. All the stone ornamentations of this panel might have been pulled out from wall edifice and could have been assembled on the whole structure and conserved in the Royal Scottish Museum, Edinburg.

It can be cited at first look that extra or additional stone was used at time of erection. It would very fair calling them Upper dwarf panel. More details of these have been presented at the time of description of eastern façade decoration. This embellishment can make onlooker stunned each time immediate after entering the mosque.

The architects and craftsmen of the mosque were masters of proportions and tricks of the eye. One who first approaches at the main gate way and frames of the mosque, the monument would be appeared incredibly close and large. Furthermore, the changing *sunlight reflection at day time and playful contrast of light and shade, enhance the artistic beauty.* The turret at four corners serves itself one component of decorative manners, artistic form rather than function although it contains no functional role today. And its grand scale and extravagance artistic form in carving art prove the delicacy of Muslim art even after the age of classical Hindu and Jain art. It

symbolizes affluent wealth of local leader, absolute power of Sultan. The Mosque can be cited as the pinnacle of Sultani art and architecture, constructed with impeccable symmetry according to the doctrines of the period's style. From the analyses of all artistic beauty and architectural setting, it can obviously be cited that Commissioner or builder would want desperately the Mosque to be an exquisite masterpiece without an equal.

Chapter- V

The Adina Mosque: An Example of Magnificent Art and Delicate Ornamentation of Muslim

The Adina Mosque is an excellent example of sultanate period architecture which carries an identity of distinguishing monument and Bengalis' nationalism as well. This was, at the time, the largest mosque built in the Subcontinent. The majestic pointed tunnel vault above the central nave, impressive hypostyle prayer hall with dome roof, arcade facade all around the big open courtyard, grandiose mihrabs with intricate carving on stone, all expressed a new grandeur, such type of architecture was never been seen before. It might be a reflection of the power and wealth of the Sultan. The mosque contains very unusual formation on the perspective of Indo-Islamic architecture. The mosque is decorated with magnificent intricate carvings, calligraphic inscriptions and non-calligraphic surface ornamentation.

The Name: The mosque is widely known as Adina mosque, though inscription contains no word like Adina, except Jami mosque. Basically, the word, *Adina* is a Persian word, a Persian name for girls that means weekend, the last day of the week, which in Islamic culture means Friday. The meaning would be appropriate if we consider the explanation of erecting the large mosque, made by Adib Ali. The mosque was erected in large scale so that all muslim inhabitants of Pandua could gather in one place for their Friday prayer. [146] The grand mosque might have been called by the name Adina as it was a royal Friday mosque. On the other hand,

[146] Adib Ali Khan, *Memories of Gaur and Pandua*, p-129

actually this word '*Adine*' originated from Hebrew language, meaning a girl who is 'Gorgeous' 'Delicate'. It would have been justified if builder had named the mosque after considering the fact of Hebrew word meaning (the girl who is 'Gorgeous').

Furthermore, there is a number of mosques at Patan, Gujrat, even at Jhenidah in Bangladesh, each locally known as Adina mosque (*jami* Mosque or Friday Mosque).

Location and present condition: In the medieval period, the Adina Mosque was situated at downtown in old city, Hazrat Pandua, exactly on the right side of the connecting road from city of Devikot to Gaur, capital city. But now it is located about twenty kilometers north of the modern town of Maldah, in West Bengal.

The mosque is severely damaged but a partial section of prayer hall and entire western wall are in situ. Present ruined condition might be happened during the earthquakes of past centuries. Now, this mosque is under the protection of Archaeology survey of India.

The Date of Erection: This was the largest mosque in medieval times not only in Bengal but also in the whole of the subcontinent. It was, according to a stone inscription measures 4' 9'' X10'' (01.45mX25cm), lies fixed at its back wall, built in 1369 A.D. by Sikandar Shah (r.1358–1390 A.C.), son of Ilyas Shah. The inscription contains a single line of *Arabic* calligraphy, combined with naskh and Tughra. In the inscription, the Sultan assumed himself as assistant of the kings of Arabia and Persia. [147] But A H Dani said that it was built in 776/1374-75. [148]

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[147] A. Karim, *Corpus of The Arabic and Persian Inscription of Bengal*, p-89

[148] A H Dani, *Muslim Architecture in Bengal*, p-55

The Sultan used to compare himself with the supreme lord of Persia of araba, undertook a project of erecting magnificent and splendor mosque so that the mosque would rival the finest architecture of his ever foe, Delhi Sultanate. The mosque is completely incomparable to the contemporary mosque project of Delhi, in size, elevation, standardization and formation. After successfully repulsing the enemy army of Delhi and peaceful settlement with Delhi Sultan Firuz Shah Tughluq, the sultan probably built it as a visual proclamation of his victory over the Delhi ruler. Even after that he proclaimed himself warrior (Muzahid). [149]

Material: It is often cited that the Masjid was built with the destroyed remains of a Hindu temples. Much of the finely worked basalt was taken from the earlier Hindu building at Lakhnauti or other areas nearby. The stone of old temple, is still visible in the present structure of the inner walls, pillars of this Mosque. Apart from this, a good number of stone block were imported under royal supervision. Because, without using fresh stone block, this grandiose mosque would not be possible to carry out depending only disposal of old temples.

The Architectural material either from earlier structure or monolithic source of neighboring province, was used in constructing this mosque as we can see from the base structure which is built from black basaltic, but interior up to the height 3.35m covering with gray basalt stones, some remnants of carving on these stones are still visible. The upper structure is completely of baked red brick work.

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[149] A. Karim, *Corpus of Inscription of Bengal*, p-89]

Plan and Elevation: The mosque is oblong quadrangle structure, an open courtyard at center, a prayer hall (liwan) on west, and rest of the three sides around the courtyard surrounded by *riwaq* or cloister. Though, the Mosque contains very unusual feature in comparison with the other mosques of this region, it has a great resemblance to the orthodox mosque [150]style of the Arab land. This is one of the largest mosques ever built in Indian sub-continent, measuring 158.7m length from south to north and 96.6 m in width from east to west.

Most of the upper part of the building, the arches and the domes, is made of brick. At the corners of its exterior walls are engaged circular turrets with fluted stone-faced (only two exist today). The lower eleven feet of the columns are faced with stone while the upper portions are articulated with beautifully molded brick molds up to the midpoint, beyond which the surface due to erosion becomes smooth. The mosque is entirely brick masonry but the outside wall at the level of 3.50 m height is completely coated with black glazed stone blocks while the qibla wall has a glazed stone camouflaged upto to arch spring.

The Mosque Proper, Courtyard and *riwaq* (cloister): An open courtyard of oblong rectangle measures 127.70m from north to south and 57.20m span from east to the west. At at a corner of the courtyard, there is a water well frame of brick (1.7m diameter) to meet the demand of devotee at the prayer times. All around the open courtyard there were a series of arcade, on the west side the arcade of prayer chamber while three other sides had arcades of *riwaq* [151]or cloister. All three sides of the courtyard is a

[150] A.H. Dani, *Muslim Architecture in Bengal*, p-57
[151] R. Ettinghausen and Oleg Graber, *Islam Art And Architecture* (650-1250 A.C.) p-23

continuous façade, surmounted by a parapet, beyond which the domes of the bays can be seen.

Each riwaq (cloister) of southern and northern side, was divided by three aisles and 15 bays, while the eastern riwaq contained 37 aisles and three bays, each having depth of 15.50m.[152] and height of about 7 m/20 feet. [153]On the outside of all three sides (north, south, East), there might have been windows, closed with brick or stone lattice screen.

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The Entrance and Art Decoration: The most unusual feature of the mosque is the position of main entrance. The mosque interior can be access through a grand gate of three arch entrance at the south-east corner. which was observed by A. Cunninghum **[A. Cunninghum p-91]** but no remains exist today. There is not a single example known of mosque that contained its main entrance at its corner. This entrance might be for the devotees of city inhabitants. Today, it can only be entered from the east through a modest arched opening. Beside the main arch entrance, the existence of other four entrance on qibla wall can be traced out from present architectural remains. One small entrance rectangle frame, is through the western wall just right side to the transept, might be for the Imam. Moreover, there are two more portal for entrance which might be for the devotees of royal members. These two entrance openings are located through the qibla wall at the second story corresponding at royal gallery. Other portal is in qibla wall at the north, might be for the royal officials and courtiers.

[152] A.S.M. Ahmed, *Mosque Architecture of Bangladesh.* P-31
[153] A. Karim, Corpus of The Arabic And Persian Inscription of Bengal, p-89

Frame Decoration of Entrance for Imam: The entrance for Iman, is actually an arch way through the thick qibla wall of the northern aisle just beside the central nave. Basically, two centered arch contains nothing but embrasure design. This may affect in composition of arch design of Kusumba mosque a century after. But the whole arch has been covered with the five layers of rectangle stone architrave frame, each gradually recessed one after another. The whole frame (measuring 3.23X2.13m) has been adorned with exquisite carving design must be collected from the temple.

[Figure no.- A Small portion jamb of rectangle frame door of Imam, Adina Mosque]

Royal Entrance Frame Decoration: The entrance for royal members contains a graceful treatment in decoration and setting as well. The stone of this segment is completely black basalt of better quality, must be carried from nearby temple. Being a door way for royal members, this doorway is comparatively broadened in height and span, having three bold layers of rectangle stone with same composition of recess formation (measuring 3.5 X 3.23 m). But design embossed in high relief, each architrave layer contains different scheme of decoration. Immediate flanking jamb of architrave has serpentine snake with Snake scales design and flower, running from the skirting level to top, then followed by another layer of architrave carving with many panels design, each panel contains empty trifold arch niche. Each deity figure had been disfigured with hammering. Theas two rectangle frame contain trifold arch crowning with '*amalake*' and' *kalasa*' design, which is considered the key feature of '*sikhara* temple' architecture. Around outside the layer, each of flanking jamb has a shallow carving of vase, full of flower at base and capital while the shaft has a design of typical repetition of rhombus net with meaningless design.

This design is very much similar to the one of abs wheel of Kornark Sun Temple, Orissa.

[Figure no.- A Small portion jamb of Royal rectangle frame door, Adina Mosque]

[Figure no.- Rhombus design at the abs of one wheel Kornark sun temple, Orissa]

The architrave head contains different design to jamb, jute string with interlaced design carved out. The architrave head might be collected from another and be used after recycling.

The Prayer Hall or Sanctuary: On the west side of the open courtyard, there is a giant prayer hall (measuring 153 m long from south to north and 24m span from western rear of courtyard to west wall). This sacred place of the mosque architecture, the hall, is almost ruined and already abandoned for any type of religious rituals like place of prostration but a small is now in a dilapidated condition. The prayer hall composition of this mosque probably was adorned with the most intricate and graceful rather the other part of the mosque.

The prayer hall formed by five arcade series at regular interval running parallel to the qibla wall. But, with the same technique of the Qairawan Mosque (862 A.C.) [154], a broad perpendicular central nave/ transept running from the western courtyard to the qibla wall, divided the five series of arcades equally into two halves. For convenient study of art and architectural formation, Prayer chamber can be divided into three sections, viz. a central nave and the two side-wings (north-western and south-western).

[154] Creswell, A short Account of Early Muslim Architecture, p-254

The Central Nave or Transept: The most exclusive part of the mosque premises would be the transept, the unusual feature for the mosque architecture of this region. It was striking innovation in Indo-Muslim architecture. [155] The concept might have been imported from the outside from the Indus valley. The sultan might have tried to commission the architectural style of Arab and Persia mosque architecture. Because, in the mosque inscription plate, sultan expressed his loyalty to his Arab and Persian lord and assumed himself a trustful assistant of lord. [Karim, A. Corpus of The Arabic And Persian Inscription of Bengal, p-89] The central nave of the prayer hall is a magnificent structural feature of a well-proportioned hall, aligned running from western qibla wall to the courtyard (measuring 23.7 X10 m). the whole area of transept was once covered with large tunnel vault, might have had the height of 20.1m from floor level to the top of the pointed tunnel vault. The roofed tunnel technique more resembles to Masjid-i Jami' in Niriz, Fars, Modern Iran. (Inscription date in 973 A.C. but constructed in next century) [156] The vault has been rested upon the two arcades of central nave, spring from massive pier. The Most of area of the qibla wall, under the roofed vault, has been coated with glazed black basalt, while the brick piers had once stone coating at the height of 3.35m. There is a semi-circle window at center of the top of the qibla wall, just below the vault roof, for proper ventilation and illumination with sunlight. This type of window can be found in the Mosque of Amr, Qairo, (827A.C.) [157] Just below the semi-circle window, there is an embossed design of interlaced design of meaningless theme in pyramidal composition. The two embossed giant round rosettes at mid wall, deserves especial notice from the great artistic skill. But central nave contains three

[155] S. M. Hasan, *Mosque architecture* of *pre-Mughal Bengal*, p-77]
[156] Ettinghausen, R. and Graber, O, *Islam Art And Architecture(650-1250A.C.)* p-109]
[157] Creswell, A short Account of early Muslim Architecture, p-243

other mosque features at the qibla wall, **A.** The Central Mihrab, **B.** Southern Mihrab and **C.** a raised platform or Pulpit. These three are cited as the sacred component mosque for a Muslim devotee.

Mihrab: The central mihrab is located at the end of the central nave with a smaller additional mihrab and a stone Pulpit or dikka platform flanking it. Furthermore, on the western side of the courtyard is a façade of total 36 arches. Corresponding to each aisle there is a semi-circular mihrab niche exactly to the western qibla wall. Of the 36 secondary mihrab, three mihrab niches has been placed above raised platform of royal gallery. Thus, the Mosque contains total 38 mihrabs. The 33 mihrabs except the four (two mihrabs of central nave and the other three mihrabs on royal gallery) contain very usual stone formation having semi-circular alcove niche covered with half dome and placed between two pillars, very simple in ornamentation while each carries a common hanging motif, the wick lamp container, carried by two curvilinear harp hanging from multi curly braces containing chain loop. This 'hanging lamp' was getting popularized in mosque of Bengal regarding the motif to be spiritual representation of God.

In each case, 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.

Three Major features of Central Nave: The transept has three prime components, central mihrab at the central place of qibla wall, flanked by another mihrab on left side and other at last end of a raised platform of pulpit or dikka, can be reached by staircase.

Decoration of Central mihrab: The central mihrab is supposed to be the most sacred place and artisan always turn their extra concentration and attention for graceful aesthetic treatment so that it would contain incomparable aesthetic value. Furthermore, As the mosque was directly commissioned by royal patron and sultan himself, so artisan's main challenge was to create a splendor design and to elevate a structure with grand look and royal formation, would not be equal to other mosque architecture in all prospects.

The central mihrab being always designed with distinctive ornamentation to give grandiose impression, in comparison to other side mihrabs. **the central mihrab niche is bigger than the flanking niches.** [158] The central *mihrab* niche is placed within a giant rectangular framework (measuring 4.4 x 4.46m.) exactly on qibla wall of transept portion.

A minute observation of the various parts of the *mihrabs* reveals the fact that the engraver artists embellished the surfaces of the walls with mostly pre- Muslim Indian tradition, floral, creeper and abstract motifs by cutting the stones in an exquisite manner. The entire formation of mihrab can be divided into the part on the basis of the structural component, viz, semi-circular alcove with multi cusped arch, covered with another trefoil arch rested on two pillars, a rectangle frame around and outside the trefoil arch. The whole formation is in situ.

[158] ASM. Ahmed, *Mosque Architecture of Bangladesh*. P-31

Semi-Circular alcove with multi Cusped arch of Central Mihrab: The Semi-circular alcove niche, coated with glazed and polished black basalt, may be divided into four parts for study—the lower, the middle, the upper and placed before a multi cusped arch. Each of lower and middle portion is coated with three curved stone slabs joined sidewise, while upper half dome form is produced from 7 hewn slabs adjustment.

The lower portion bears no design but s running around semi-circle. Immediate above the skirting level, the middle part is supposed to be main the attraction of all decorative area of the niche. Whole middle portion has been divided into 28 rectangle shallow niche panels (having 4 layer and each layer have 7 panels), each panel contains hanging motif, the wick lamp container, carried by two curvilinear harps hanging from multi curly braces containing chain loop from ceiling.

Above the decoration of the middle portion, a horizontal layer of repetition of draped string and hanging bell as margent design, has a much resemblance to the Engravings on Pillar of Kailasa Cave, Ellora. **[Figure no.- (already in chapter II) draped string Engravings on Pillar of Kailasa Cave, Ellora.]**

Each draped string takes a tree in its womb, replacing the deity of pre Islamic decoration. Above the layer there is a layer of merlon, followed by another thin string running round semi-circle. Each hewn stone plates of half dome has a shallow carving of meaningless design. The whole alcove has been placed behind a cusped arch crowning with rhombus, which flanked by two embossed rosettes on spandrel. Moreover, the whole facet of arch base of impost to spandrel has an intricate carving design of vegetal design inspired from arabesque design.

Decoration of Trefoil Arch rested on Two Pillars: The Central mihrab alcove covering with trefoil stone arch springing from two stone pillars. Arch and pillars are carved from several blocks of stone slabs, placed

horizontally or in layers. This is more of a false but a decorative element. This type of trefoil arch is a direct imitation of the niches of the Buddhist temples at Pagan. [159] The trefoil arch of the Adina mosque, has a carving design corresponding three trefoil layers running on spandrel. The first layer contains repetition of rhombus and round flowers alternatively, followed by another trefoil layer of meaningless vegetal design and then a trefoil layer of narrow string. Rest of the area of spandrel bears two embossed round medallions and meaning shallow relief throughout the segment.

The trefoil arch rested upon the two slender pillars. Each pillar has square composition at base and capital while the shaft is hexagonal sides with moulding bands. The design at base contains a vase of flower, which is almost similar to the pillar decoration of Cave 31, Ellora**. [Figure no.- Cave 31, Ellora]** Thus, the Pillar profile composition are more likely to be the pre-Islamic temple pillar.

Rectangle Architrave Frame: Around the trefoil arch and pillars, there is an architrave (measuring about 4.4 m, span of4.36m) of framework contains a distinctive and very different pattern of ornamentation that highlights the central mihrab. The entire architrave framework can be divided into two segments, firstly, a central architrave recess frame, running through the architrave and lastly, another projected framework of art around and outside the central one.

The central is filled with a course of intricate geometric design synthesis with and arabesque design in the form of climbing plant. **[Figure no.- Geometric design central portion of architrave, Central mihrab]**

[159] A.S.M. Ahmed, *Mosque Architecture of Bangladesh.* P-31]

Another framework carving with two type of art design around and outside the central one, contains shallow carving design od rhombus and round alternating their position with arabesque design in bear space. **[Figure no-Rhombus, round flower and arabesque carving design on around and outside framework]**

Supplementary Carving Design at top of the Central Mihrab Frame: Above the rectangle framework of central mihrab, there are multi layers strings of moulding for supplementary embellishment. Artisan could have undertaken the tasks of supplementary embellishment by intricate series of carving to elevate the central mihrab formation into royal look. Moreover, devotees standing at courtyard from long distance, could easily see the graceful combination in embellishment of royal mihrab and would be stunned. Above the head of architrave, a layer of meaningless horizontal moulding, followed by a wide horizontal panel frame of the Quranic verses, what is engraved in exquisite style. The panel of inscription contains a single panel but stylistically accommodated two different styles of calligraphic bands. The upper horizontal band contains Surah al Fatiha (the opening chapter) in thin line of Kufic style. This was known only specimen of *kufic* inscription with vegetal design in Bengal. **[160]** On the other hand, the lower band contains verse no18-19 of Surah At-Tawbah in *thulth* design. Which poses the main body of the inscription panel. The verse of Surah At-Tawbah was profusely used in mosque architecture in all over the world. **[161]** The long vertical stroke of *thulth* is combined with a thin band of kufic by interwoven their strokes. The Arabic calligraphy carving produces an extra elevation of most sacred place of a mosque. Just above the calligraphy panel frame, there is a thin panel stone carving of arabesque

[160] Enamul Haque, ed., *Historical and Cultural Aspect of Islamic Inscriptions of Bengal: A reflective study of Some New Epigraphic Discoveries*, p-111]
[161] Abid Ali Khan, *Memories of Gaur and Pandua*, p-132

design, followed by another horizontal moulding layer which bears repetition engraving design of pointed arch replica, then followed by projecting horizontal string. At last, a layer repetition of merlon is embellishing upper most layer which might be considered as the crown of framework of entire central *mihrab*. The merlon obviously has been carved out with bold representation and each merlon cell contains typical three motif in cusped arch. The cause of bold representation of merlon might be to easily visible from land distance. In this circumstance, sumptuous carved central *mihrab* of fine-grained black basalt can be claimed as a unique specimen of the stone carvers' [162]art.

There is another course of embossed design on stone veneer qibla wall transept portion, keeping some distance above the crowning carving design of mihrab frame. It would be more appropriate calling it as medallion of the Central Mihrab artwork. This course of medallion is composed of the art of pyramidal composition zenith with fluted *kalasha* design, flanked by two right angle composition. Pyramidal portion has been filled with the embossed work of spiral works, synthesized with calligraphic design Arabic verse. Here the embossed design of inscription contains a verse in *thulth* style in the decorative form of *tughra*. **[163]** In this place, the verse no.77 of surah Al Hajj has been inscribed in pyramidal frame while other two flanking right-angle frames are remained free from any type of verse depiction.

[Figure no.- Central Mihrab, of Adina Mosque.]

Southern Mihrab of Transept: There is another *mihrab* to the south of the central *mihrab*, containing simple and basic features including alcove,

[162] S. M. Hasan, *Mosque architecture* of *pre-Mughal Bengal*, p-77
[163] Enamul Haque, ed., *Historical and Cultural Aspect of Islamic Inscriptions of Bengal: A reflective study of Some New Epigraphic Discoveries,* p-110]

pillars, cusped arch and encircled by rectangle framework, get along with architrave, what we find within central *mihrab* frame. But the southern mihrab frame work is slightly smaller in dimension (measuring 3.5 x3.1 m) in comparison to the central *mihrab***.** The design at mihrab alcove, spandrel of cusped, pillar composition, frame decoration is almost identical to the formation of main mihrab.

The art of design of the middle of alcove carries many panels of engraving of hanging motifs exactly similar ornamental treatment of alcove of central mihrab, but only difference could be found at central vertical column replaced by a long vertical margent motif of hanging lamp. More elaborately, a hanging lamp as margent takes center position while rest of semicircular are filled with 21 panels, each having small hanging margent. The upper level of the alcove, especially at half dome containing margent at its central, is flanked by geometric vertical design.

Alcove placed in multi cusped arch springing from two pillars, each pillar has base with rectilinear design, followed by pillar shaft of octagonal with four embossed hanging bell motif and two courses of moulding bands. Then upper portion has been adorned with different types of octagon. The whole profile contains very shallow and polished carving of intricate geometric design as well.

The spandrel of cusped arch contains a splendor design that is quite simple in form. A replica of multi cusped arch string parallel to actual cusped arch has divided the whole area into spandrel and hunch segment. The cusped hunch segment has a projection from the spandrel surface, containing shallow engraving of arabesque design throughout the cusped replica frame. Furthermore, there are two round medallions boldly embossed, while the rest area has a shallow carving of vegetal design, originated from

the mathematical form. Above the spandrel, there is a string of moulding of festoon and margent repeating motif, then a course of string of bead motif. Like the central mihrab's rectangle architrave, this mihrab has a same rectangle framework containing the same geometric design. The southern mihrab has also crowned ornamentation frame of merlon design at top, almost similar to the central mihrab.

Art at Pulpit Platform or Dikka: On the right side of the central Mihrab, there is a raised pulpit or Dikka, with sarcophagus of Adina Mosque. Following the northern African tradition, added architect added an unusual and special feature to the prayer hall. The first ever known specimen of dikka is supposed to be found in the mosque of Kayt Bay, in Cairo (15th century). This was the upgradation from of traditional member, a short staircase in mihrab/pulpit, is used to deliver the sermons to the devotees in Friday prayer. The feature is an important feature in mosques of Egyptian and Turkish influence. This is largely found in Central Asian region. The Mughals commissioned this feature in name Dikka to their royal mosque architecture.

On the right side of the central Mihrab, there is a raised pulpit or Minber in Adina mosque. A simple pulpit or steps might had been erected from in earlier time for preaching sermon by Imam. But additional part of dome and sarcophagus have been added after 15th century. **[Figure no- Pulpit or Dikka, Adina Mosque]**

This pulpit can be reached by nine steps, but the two steps designs are in situ having shallow polished engraving design. Each step carries intricate design, both originated from geometric measurement, octagonal grille and other octagonal flower. The pulpit has a stone dome supported by four thin columns. The chamber is large enough for an Imam standing there, from

where he could give the sermons. The chamber has a tiny mihrab niche**,** containing an alcove with replica of cusped arch design what is filled impressive polished intricate grille of eight pointed stars net and cruciform design while a hanging lamp motif was embossed at the center of cusped arch replica. The whole area of pulpit spandrel has been ornamented with exquisite geometric pattern.

[Figure no.- Geometric Design- Knots and Weaves design, (Octagonal star shaped outcome tessellation) Pulpit niche, Adina Mosque]

Art and Design in the Side Wings: Following the tradition and technique of art in architectural setting, firstly invented in the Damuscus mosque, Syria,[164] which is considered the ideal mosque for other mosques around the Islamic world. Each of the two wings, northwest and south-western side, measures 70.2m by 19.40m each. [165] The South-western side wing is almost ruin, having no trace except the base of pillars and piers are in situ. From the archaeological sign and with the help of comparative study of other part, a replica of past structural formation might be traced out. The South-western side wing is composed of five series of arcade, parallel to the qibla wall, keeping certain distance between them. Each arcade contains eighteen arches, rested upon nineteen supports. The arcade, exactly next to the western courtyard, springs from the nineteen stumpy piers of brick masonry but coated with stone plate upto to certain height. But inner four arcades were springing from stone pillar. The entire space of side wing had five bays deep. On the contrary, of all five series of arcades, each contains eighteen arches corresponding eighteen aisles in each side wing of prayer hall. Thus, each side wing composed of almost

[164] Creswell, *A short Account of Early Muslim Architecture*, p-51]
[165] [ASM, Ahmed, *The Choto Sona Mosque in Gaur*, p-86]

square of 90 cells, demarcated with either brick pier of stone pillars along with western wall. Each cell covering with tumbler shaped dome, rested upon both the transverse and longitude arches springing from support.

The North western side wings of prayer hall carried same technique that we see in formation of other wing, to conclude an ideal hypostyle prayer room covering with ninety domes as well. This wing contains some especial features of the Royal Gallery which would be adopted as the basic component in later mosque architecture in this area. This segment is now comparatively in good state from other completely rest ruined part of the mosque.

Royal Gallery or Badshah-ka-takht: There is a raised platform alias the Royal Gallery, which comprises an area of five aisles and three adjunct bays to the qibla wall, roofed with 15 higher domes. This is the only portion that its roof alias dooms in *situ*. This is the earliest example of its kind to be followed in later architecture in Bengal. [166] The structure has been constructed with post and lintel technique, having been supported by 18 stumpy stone pillar(2.5m high) while above floor these pillars are to be changed into fluted stone columns. There are three niches of *mihrabs* on the west wall. There are also two doorways that leads to the Square chamber what is cited as the chamber of Sultan Sikander. [167]

Three *Mihrabs* of Royal Gallery: The three *Mihrabs* of royal gallery contain some difference in formation and function, but have most elegant, intricate and drastic ornamentations. All three *mihrabs*, contain very unusual type in formation in comparison to other mihrabs of the niche.

[166] ABM Husain, ed., *Cultural Survey of Bangladesh,* (Architecture) ASB, 2007, p-105

[167] Adib Ali khan, *Memories of Gaur and Pandua*, p-134

Each of three, is composed of a very shallow alcove, placed behind a cusped arch springing from pair of pillars. Each of three, has no enough space for prostration, but containing a symbolic form of mihrab.

But two mihrabs (the central one along with the *mihrab* of left-hand side of central), projects are made of off-white stone with glazy look, exactly dissimilar type of stone to the stone of central nave and other stone veneer part of the mosque. Architect might have wanted to embellish the project to be highly sophisticated, because the sultan, accompanied by royal member of highly official used to attend before the niche of the chamber during prayer time. So, he might have imported the shades of white stone block from far region, which would contain exceptional aesthetic colour and ideal quality stone for chisel work. The niche design of two *mihrab* survived almost intact (situ). The two niches have an intricate design, contain somewhat different stone carving design. The mihrab contains similar features of others mihrab niche, having alcove, which is placed between two pillars. Each of the mihrab contains an architrave frame around which bears a series of intricate design.

Mihrab of Southern Side of Royal Gallery: The alcove of Mihrab of southern side of royal gallery bears three vertical panels, placed sidewise to fill perfect curvature. Each vertical panel contains three subdivisions, middle one is bigger than other two panels on upper and lower level. Thus, there are nine panels frames, bordered by a thin line of shallow carving design of pure arabesque. Each of the bigger panels contains a replica design of multi cusped arch having arabesque design on spandrel of arch replica. The arch span of cusped arch has been filled with very common eight-pointed stars and curly braces design, originated from geometric tessellation. Rest six small panels contain a pure arabesque design. The upper portion of alcove bears a half dome compartment with cusped

section. This portion contains very exquisite carving of geometric design originated from successful combination of circular and foliage design. **[Figure no.- Combination of circular and foliage design, Ink Drawing of William Franklin.]** The pillars and spandrel of the arch contains same design of southern mihrab of central nave, having arabesque on spandrel with two round rosettes and very common type of pillars adornment. Surrounding the alcove niche frame, there is architrave frame (40 cm wide) which contains two types of design. The central panel contains net design with meander and rosettes alternating their positions. All the arrangement has been originated from geometric tessellation. Immediate around and outside of this panel, there is a narrow frame of stone carving design of another type of intricate but delicate geometric design. The architrave frame contains additional design on its top when it is crowned with a panel (measuring 1.4 m X 40 cm). The panel contains very delicate arrangement of complex design of hexagonal cells, which is encircled by a thin frame of repetition of eight-pointed star around and outside. The panel contains another frame design around it, somewhat with same pattern of meander design and geometric pattern what we already observe on the design of architrave frame. Around and outside of the architrave frame design, there is another architrave frame which contains delicate stone carving of Arabic calligraphy, getting started from plinth jamb and running around the mihrab architrave frame and travel through the architrave head and reached at the plinth of jamb. The inscription bears an exquisite Arabic calligraphy of Quranic verse no. 20-22 of the Surah At-Tawbah in exquisite *thulth* design. The verse has been resumed of the other Arabic inscription of central mihrab (discussed earlier). It is important to note that the verse was not used in earlier inscription in this region. [168] To enhance the aesthetic

[168] Enamul Haque, ed., *Historical and Cultural Aspect of Islamic Inscriptions of Bengal: A reflective study of Some New Epigraphic Discoveries,* p-116

treatment, the shallow vegetal design with swirl of spiral design have been competently used. The synthesis of three different motifs in a single panel could make an appellation of affection to onlooker mind. Above the architrave, the convex area under the arch spring of doom roof, also contains an exquisite art design on stone surface with delicate polish ed round medallion design what conveys no meaning but a delicate treatment of shallow stone carving.

Middle *mihrab* of Royal Gallery: Middle mihrab of the Royal Gallery, contains same panels arrangement but different type of motif arrangement. Thus, artist has elevated the design with variation in similarity in art treatment. Unlike the pervious one, the semi-circular niche of this *mihrab* portion contains five long rectangle frames side by side. The middle rectangle frame owns a lamp hanging from the chain. The motif of hanging lamp is carved out with high relief with bod representation. Each of other four flanking frames contains two oblong panel, placed one above other. Each of the frames owns a carving design of multi cusped arch replica and spandrel with delicate arabesque design while the arch span contains a geometric pattern as well. Immediate after the central panel of hanging motif contains replica of cusped arche and geometric design. But the flanking other panel has motif of vase design. **[Figure no.- Niche of Middle mihrab of Royal Gallery]** The upper portion of at half dome of the two niches are identical in design, containing a motif of Arab types of flower vase, flanked by arabesque design other side. **[Figure no.- Drawing of Arab types of Flower vase]**

The pillars contain same size and design what we have observe on the *mihrab* niche earlier. On the contrary, the whole area of spandrel contains geometric design which is exception example of design from traditional

design of arabesque or vegetal. [**Figure no.- Middle *mihrab* of Royal Gallery]**

Around the middle *mihrab,* the architrave jamb and lintel contain geometric design but quite different from the design of the southern *mihrab.* Unlike the design, the architrave contains very distinctive design to make it special from other *mihrab*. This potion lattice design originated from the octagonal cells with interlace style. So that, twinkling octagon interlace plays polychromic effect when they illuminated from sunlight reflection during daytime. The mihrab might have been used as the prayer direction by Sultan himself. This lintel of architrave owns a panel in it with different design of calligraphy. A verse of Quran is inscribed in horizontal panel, centrally above the arch of middle *mihrab*. This portion bears the verse no. 56 of Surah Al-Ahzab of the Al Quran. This horizontal stone inscription is in delicate style of *thulth* art design.

The architrave of geometric is followed by another architrave of inscription. This architrave including its portion of two jambs and lintel, contains an exquisite inscription of *thulth* style that owns the part of Verse no. 27, 28 and full of verse no.29, taken from Surah Al-Fath. Thus, the architrave inscription bears verses of the Quran from different three verses of a Surah, which run on all the three sides (top, right and left) of the Quran. **169**

Other norther *mihrab* of Royal gallery contains somewhat carries the same design of the other two *mihrab* of royal gallery having decorated niche with

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169 Enamul Haque, ed., *Historical and Cultural Aspect of Islamic Inscriptions of Bengal: A reflective study of Some New Epigraphic Discoveries*, p-119]

pillars and spandrel of arabesque design. It also contains an exquisite and delicate stone carving of geometric design.

All the three mihrabs of Royal Gallery contain an exuberant design of stone carving. All the chisel work on stone concludes a delicate and polished impression. All design might have been in inlay work. Furthermore, another layer of art associate with the writing of Quranic verse in impressive calligraphy work enhances the entire beauty of two mihrabs**.** The use of Arabic inscription of exquisite carving as a part of embellishment which was a common tradition of central Asian mosque architecture, has been followed in this mosque. The inlay technique, associated with highly polished produces an effect of polychrome. Thus, Architect might have wanted to embellish the three mihrabs with exquisite manner. The mihrabs are rigorously Islamic in their general conception because pre-Islamic carvings are deep and bold but the Sultanate carvings are shallow, subtle, delicate and minute, which reflect artistic refinement.

The combination the ideas current in contemporary Iranian stucco or ceramic examples with local stone-cutting practices. Later monuments erected under the Mughal Dynasty (r.1526-1858) [170]

Western Wall (exterior): The western wall exterior is almost in situ, and contains exquisite and graceful in term of blue-gray basalt stone coating to the height of 4.15m. There is exterior projection of the *qiblah* wall from the base to the top, having extra height, right opposite to the central nave

[170] Jonathan Bloom, Sheila S. Blair (ed) *Grove Encyclopedia of Islamic Art & Architecture*: Three-Volume Set, p-517

portion. But other flanking area of western wall are not externally projected. But the whole west exterior wall contains vertical offsets and recessed panels which cover from the plinth to the entire height of western exterior wall. There is a horizontal String course goes running at the mid of western exterior wall, while nave projection has a three layer of horizontal strings. Thus, the whole exterior is camouflaged with two storied of impression and the central nave(transept) portion contains a false impression of three storied. There are vertical offsets and recesses which dominates all over sides, continuing from the stone portion to the brick portion of upper level. The offset and recess which are alternating their position, produce the charm of interplay of light and shade. [171] Moreover, each of offset segment of the lower level of west wall exterior what contains stone veneer and brick work of lower, are kept free but a rectangle panel design on it. The panel is much similar to the panel composition of Choto Sona Mosque. On the contrary, each recess segment contains a three layers of stone moulding of string on stone veneer section. But the upper level of brick masonry contains a terracotta design of multi cusped arch from the apex of which a hanging chain ending with different decorated motif.

The projection part of western exterior of central nave contains some difference in adornment on the stone veneer portion where the central offset contains a replica of multi cusped arch with blind niche. The arch exactly is placed at the right opposite to the central mihrab niche (measuring 1.45X1.50 m) if the transept alias central nave section. This blind arch is rested upon the two stone pillars of exquisite carving design which has been undoubtedly originated from the geometric pattern. The arch apex is crowned with rhombus design with round medallion. The total

[171] M. Hafizullah Khan, *Terracotta Ornamentation in Muslim Architecture of Bengal*, p-96

composition of replica arch crowned with three courses of string moulding and finally contains a stone inscription of Arabic language in *thulth* style. The inscription (measuring 1.45X0.25 m) contains the information of builder and timeframe of construction. [172]

Thus, this glorious building bears exotic and indigenous craftsmanship. It is one of the most prominent historical monuments of Bengal due to its structural characteristics and having carving design and scripture decorations. A large portion of the motifs includes a wide selection of geometric patterns carefully combined with arabesque and floral designs. The decorations are carefully combined into a rich combination that is free of both dullness and confusing contrast. This is one of the aesthetic features of the building and has been achieved through the careful combination of floral arabesque motifs and a variety of geometric designs as well.

[172] Abid Ali Khan, *Memories of Gaur and Pandua,* p- 139-140

Chapter- 05

The carving design of Kusumba Mosque:

‘simplicity is the ultimate form of sophistication’….Vinci

The last surviving example of brick core and stone veneer mosque architecture must be the Kusumba Mosque. If one wants to draw a comparison between the artistic beauty of the Choto Sona Mosque and any contemporary, This mosque can be cited the best example manifestation in art and architecture. A non-expertise often remarks it as almost carbon copy of the Choto Sona Mosque. It contains almost simple design in comparison to the highly embellishment of stone carving on stone veneer of the Choto Sona Mosque. But, in special cases, the artisans have showed their high proficiency in the adornment of *mihrabs* and the stone screen with lattice (*jail*) at side openings in the most intricate way. It can be cited that Choto Sona Mosque could have inspired major architectural innovations, culminating in the construction of the Kusumba Mosque. ‘simplicity is the ultimate form of sophistication’ said by the great artist Leonardo da Vinci**.** Vinci, what he realized the fact in 15th century A.C., emphasized the native artisan could successfully utilize simple design in form of another impressive masterpiece in terms of adornment long before. Abstract motifs on *mihrab* segment by cutting the stones in an exquisite manner indicate the existence of skilled hands in the art of making, more than that of Choto Sona Mosque. The Kusumba Mosque has often been cited as **‘**Black Gem of Bengal’. Its uniqueness in art design makes it one of the three national Heritage Sites in Bangladesh. The ornamentation of the *mihrabs*, set against each of the bays, consisting of engrailed arches with framework of tessellation, rosettes, climbing plants and hangings

motifs are some of the finest specimens of this kind of decoration throughout the Varendra region. But in some cases this mosque is supposed to be more than that of Choto Sona Mosque in the art of stone carving.

Location: The Kusumba Mosque is named after the village of Kusumba, under the Manda upazila of Naogaon district, on the west bank of the river Atrai. This main mosque building is still in a good state but other part of the mosque premise including entrance gateway and surrounding wall and three domes (collapsed during the earthquake of 1897) is restored and renovated under the supervision of the Department of archaeology, Bangladesh.

The date of erection: The date of erection can be found from the inscription table that was discovered by J.S.Carstairs Magistrate of Rajshahi. The slab (measuring 79 X 21 cm/2'7'' X8'') [173]bearing the inscription was found fixed over its eastern central entrance. The inscription tablet is in Arabic and style of writing is *Tugra.* It is cited that the mosque was built during the reign of Afghan rule in Bengal under one of the last Suri rulers Ghiyasuddin Bahadur Shah.The writing records the construction of a mosque by Sulaiman in 966 A.H. (1558-59 A.C.) who was probably a high ranking official.

The Mosque Premise: The mosque premise, demarcating the area with a surrounding brick wall (original wall no longer exists) for preventing encroachments of unwanted animals moving in, as the mosque is cited the most sacred place for the devotee, offers a panoramic view of the front side. A gateway (now disappeared today) at the southernmost side of surrounding brick wall, leads to the open courtyard of mosque premise. To

[173] A. Karim, *Corpus of the Arabic and Persian Inscriptions of Bengal,* ASB,p-393]

the East, one Monumental gateway was the essential part in each mosque premise of royal scale. So, it would be very possible for Kusumba Mosque to have such a gateway having standing spaces for guards.

On the eastern side, adjacent to the mosque premise, a big tank (measuring about 380m x 270 m) was dug out for ablution before prayers time and solving household water problem of local inhabitants. There was originally a stepping masonry ghat (now restored by the local authority) with approaches from the east after ablution.

Materials: The mosque building is brick core masonry, but the entire outside is edified with the stone slabs. The walls up to the arches of the hypostyle with pilaster, supports and staircase including platform of mosque interior being completely stone veneer. Moreover, the floor, perforated side screen are of stone work. Stones used in this mosque are dark black-basalt that was transported from Rajmahal hills Malda district[174]. Bihar through waterways. The clay and mud from nearby tank were used for building purpose being including making baked brick and high mound.

The exterior wall was entirely camouflaged in such way that onlookers would mistakenly recognize this structure of complete stone building from outside. In this mosque, there are probably three types of stone slab such as sand stone, granite and marble stone by which core brick building was coated. Because of nature caused due to local atmospheric conditions and weather of Bengal, Architect thought of sand stone for exterior wall what

[174] A.H. Dani, *Muslim Architecture in Bengal,* p-10]

would be highly water resistance and durable along with suitable for ordinary carving on rough surface of stone. This very rare stone type, sand stone imported from Bihar, a neighboring province of Bengal. [175]

Elevation and plan: The mosque is a quadrangular in plan. The mosque structure measures 19 m long and 13.75 m wide (42' X 58') externally, with eastern wall thickness of 2.30m and side wall of 1.85m. The structure comprising a simple oblong curved structure covered with six hemispheric domes, four octagonal engaged corner turrets at four corners. The mosque interior can have access only by the eastern side of three pointed archways and the north and south sides have two arched openings.

The cornices are curvilinear and have stone gutters to drain off the rain water from the roof. There are three arched doorways in the eastern facade and two each on the north and south walls. Corresponding to the three archways in the east wall there are three semi-circular *mihrabs* inside the west wall.

In the context of chisel work, ornamentation on stone veneer in this mosque is less distinctive from decoration of Chota Sona Mosque.

Main Details of Carving design and chisel work on stone black at Kusumba Mosque.

If an onlooker appears at the mosque compound and looks towards the eastern side of the mosque he would be fascinated to see simple stones facing rectangular walls with upper curved cornice, crowned with three hemispheric domes, richly ornamented with carving of different motif and

[175] A.H. Dani, *Muslim Architecture in Bengal,* p-10]

vertical longitudinal projections with horizontal mouldings at certain intervals as the common front facade feature of the mosque.

Façade decoration:

Architectural plan of Islamic decoration of the mosque façade always carry sumptuous feature, a **certain element** that are important to building decoration, could be compared with prolegomenon of a book. Following custom, the eastern façade embellishment of the Kusumba Mosque bears distinguishing feature.

The three entrances to prayer hall on eastern façade have been set up in vertically recess(10cm) rectangle frame (measuring about 5.25X2.20 cm) from wall surface, each flanked by the presence of two engaged vertical pilasters with shallow projection from surface level and reach upto lintel level. In each case, a number of big stone block, without decoration, is used as lintel beam. The lintel beam of pair of pilasters of central opening bears an inscription tablet of acute black stone. A deceptive impression by duplicity of post/pilasters and lintel alias architrave technique has been commissioned to produce an art of embellishment, created from only size ashlars. This technique could be cited as the invariably form a part of the buildings, and are built either to reinforce or merely as ornamental appendages.

Eastern façade of Kusumba Mosque is nearly disheartening in comparison to the façade decoration of Choto Sona Mosque. The architects might have been very assiduous, nearly spending their total attention to architectural dexterity rather than embellishment. A string course of moulding goes round horizontally the turrets and the facades at mid-wall, while another horizontal string course with supportive band at frieze level at three exteriors (east, south and north) cure total boredom. Apart from this, each

architrave/ duplicity of pilaster and post (supported by pilasters, around each entrance frame) through cutting off the band moulding on the mid-level of structure, reaches to the top crowning with string of moulding of frieze level.

In the center of pilaster frame, there is a recess rectangle frame (about 10 cm recess) of three entrances bearing a tunnel opening portal. Following the technique at eastern openings of Choto Sona Mosque, each arched entrance opening or portal, architecturally consists of two pointed arches, arch inside and outside with a tunnel vault through thick wall, between the two. All tunnels of eastern wall carry almost similar width.

The double horizontal string courses of mid-wall and the three vertical arch recess frames creates four of rectangle (measuring about 2.45X3.35 m each) and another upper four rectangle areas (measuring about 2.45X2.35 m each) adjacent to the upper string course on eastern façade. The each of total eight rectangle areas were embellishm with a quadrangle panel. The upper four panel are settled above in the same axis as the lower panels. The upper four panel, adjacent below the curved strings course of frieze level are supposed to be slightly dwarf while other four at dado level of façade (below the string course of mid wall) are slightly enlonged in profile. (each of lower panel measuring 1.95 X1.20m while each of lower panel measuring 1.85X1.20m)**.**

The exterior facades contain nothing but a thrifty decoration except panel embellishment and art from innovative architectural formation. Architect tried to conduct a majestic look by a minute and playful using of band moulded series as a part of creation of art in architectural setting. The upper part or cornice of all the four sides is gently curved.

[Fig—Façade of the Kusumba Mosque]

Entrance on east façade: The each of three duplicity of post/pilasters and lintel setting separates recess rectangle frame of entrances (measuring 5.25X2.20cm) from rest of wall surface at eastern façade only. In the center of each recess frame, there is an arch entrance, springing from vertical post/jamb. Each arch is springing from the door jamb at height of 3.05m from the floor level. The apex of the arch reaches at the height of 4.45 m from the floor level.

To avoid boredom, the jambs are adorned with horizontal projected mouldings at regular intervals. These are very similar to the repetition of internodes on a bamboo pole that are often used as supporting element in the Village huts. The each arch spandrels of the three opening except the side arch ways covering with lattice, contains almost same decoration.

The each two centered pointed arch is crowned with embossed design of *kalasa* (water pot) motifs. Corresponding embrasure design, embrasure frame having span of 10cm running parallelly from two capital of impost/jambs throughout intrados/soffit of cusped, meeting at the zenith and crowned with *kalasa* motif. At each opposite angle (to the spandrel) of embrasure design, there is embossments of vertical *kalasa* motif at each angle. One the either side of crowning *kalasa,* there are two rosettes at same level, on the spandrel, which has been adorned with graceful chiseled work. The last edge of spandrel area, contains low relief of half spearhead motif.

Each recess rectangle frame of all three exterior (north, south and east) is holding three courses of shallow projected mouldings having offset and recess profile.

[Fig- Entrance of Façade]

Blind multifoiled Pointed Arch: Each of three arches on eastern facades for their distinguishing feature which *is easily traceable to the naked eye*. The arch is actually two centered pointed arch, but is carrying a false impression of blind multifoiled pointed arch. These two types pointed led to the evolution of new formation of blind **multifoiled** pointed arch with embrasure design. It is interesting to note that this type of arch is completely different from those of Choto Sona Mosque.

Moreover, artisans might just put more emphasis to assimilate and combine different forms to evolve an arch of distinguishing appearance from traditional multi cusped arch with highly embossed design of Choto Sona Mosque. This new form created a specialized craftsmanship which trained the local people about this arch, to be incorporated in the future Terracotta Temples.

Strait String Course with Mouldings in Mid Wall: An old popular technique of producing false impression of double storied building from outside, either in brick and stone-brick architecture is one of technique of embellishment. At the height of 3.35 m from the ground level, a strait string course of moulding runs round the four exteriors including four corner turrets of mosque building. To ensure the perfect utilization of technique, stone slabs with projection profile were been jointed together one beside other at exact height when stone veneer was conducted by the opus pseudoisodomum technique. To avoid boredom in profile, strait String course moulding is designed with dabber projections after intervals of 32cm. The profile of this horizontal string course along with dabber design is bold and striking at any mean. This string course of mid wall running around the structure, disturbed by the three arch frames on eastern side, two arch screen ways on south and on north and a number of recess

frames of west wall. Immediate bellow the string, a shallow projection band is parallelly running round. These courses of band were curved out as a supportive scheme of the string course.

String Course of Moulding at frieze level of Four Facade: Another course of string curved fixed on wall facet of three exteriors, except western exterior, exactly on frieze or just above the arch frames level. This course is sign of advancement in embellishment. This setting probably was adopted from the Bengali hut, where the bamboo planks are used to tie up the wall of bamboo hut. Moreover, artisan might try to break traditional sphere of influence and technique of wall decoration. In this case, the artisan might want to employ more indigenous element in their mosque architecture.

Unlike the string of mid wall, the course of string is gently curved like arrow drawn, running across the shaft area between each pair of turrets on three exteriors except western exterior. The course has been fixed on frieze area just keeping the same distance both from curved line of cornice segment and the rectangle arch frames. The whole profile of string has adorned with dabber design just like the string of mid wall. Moreover, this string however is not uninterrupted at all, The upper border of dwarf panel of upper on three exterior wall surface except the west, has been conglomerated with the string of upper level. Thus, artisan could successfully synthesize an old item in new look in an innovative way. Thus, traditional excessive motif of adornment at frieze level what we see at the Choto Sona Mosque, was completely replaced with simple string course. Even the upper string course would produce convincing a false impression of double storied building.

The string course of frieze area of all three exteriors, is carrying two supportive motifs, immediate above and below. The string of shallow

engraving band of repetition of inverted crenellated (provide a wall of a building with battlements) or inverted merlon motif has been embossed on layer of black basalt (having breath of 9 cm), running parallel, adjacent below the string course.

On the contrary, Immediate above moulding with, a motif in series, can be called typical scheme of spear/arrow head design, might have been derived from such type of decorative motif of Qadam Rasul Mosque, Gaud (b.1530A.C.).

Panel design of Façade and side Exterior: The panels of upper and lower level of all four façade except the west exterior, are alike in composition, adornment and even in technique. The artisans adopted distinctive technique for panel embellishment, by putting traditional method of using extra or additional stone for carving panel or recessed panel aside. Regarding the new strategy for the panel in the Kusumba Mosque, artisan conducted a false impression of recessed frame, but in reality, engraving works at prime rectangle portion (measuring 1.65X90cm) has been carried out exactly on the wall surface.

Each prime rectangle portion bears a well-known and dominating pattern of replica of multi cusped arch, springing from pilasters, in shallow engraving. The composition of multi cusped are not a typical cusped of eastern façade of the mosque, but likely to be an impression of multi cusped pointed arch niche in panel of eastern façade at Choto Sona Mosque. The carved pointed arch crowning with spear head motif, flanked by two embossed rosettes on spandrels area, while rest of area on spandrels is bearing meaningless motifs.

Each Prime rectangle portion has a shallow projection of a rectangle frame (measuring 1.95X120cm) with 15cm in width around and outside. The

frame has been demarcated by a number of string course of carving, immediate above and below. The frame is crowned by upper three string course. Among upper three strings, a band of carving course (span of 8cm) of inverted merlon, followed by string of moulding with dabber on profile **(similar to string of mid- wall)** than a course of carving of merlon, brings a total contrast in embellishment. On the contrary, bottom of each frame, two course of stone chisel work, astringe of projected moulding and then series of festoon and meander by iota, distinguishes the frame from wall surface.

With minute observation, it would be possible even by non-experts to unearth the fact of technique behind panel embellishment procedure. According to blueprint of design, each motifs might have been carved the total form out on ashlar/stone block and joint, one after another according to master design.

[Fig- One of Complete form of Panel design of the Kusemba Mosque]

Curved Cornice: The architects and artisans followed the old practice of curvilinear cornice. In the application the architect must have faced the difficulty of producing perfect curvilinear cornice along with the roof of dooms. It was very challenging to construct curve cornice of brick core and stone veneer on in such a small scale structure like Kusumba Mosque. The technique of curved cornice differs from the technique of Choto Sona Mosque. To produce perfect curved cornice in Choto Sona Mosque, an extra convex layer was added just below to cornice segment, while stone artisans assembled sized stone blocks of different dimensions for veneer and curved cornice in so impressive way that no extra convex layer was needed to employ. In this case, artists could show their skill in cutting stone

and measurement rather than carving. This middle portion of cornice, where the distance gradually increases upto 7.36 m at top from floor level, while gradually decreases at its two ends at 6.56m each side.

Thus, curved cornice were implemented successfully even in the stone coating structure with great proficiency and skill by the local craftsman as well. Moreover, Architects with dexterity broaden the thickness of four wall of mosque to distribute excessive weight of stone cornice, roof premise as well.

The cornice has been adorned with courses of three layers of mouldings that been created from opus isodomum technique by carving which ashlars face and then fixed according to design. The moulding is different in shape and design, having projected 15 cm and with broaden volume with half dabber design and edged projection at last apex of cornice. But, each of two other mouldings of cornice is projected (about 9 cm) and having of span of 10 cm gaps among them. The two courses of gaps or interspaces between the mouldings are remained free from any decoration three different motifs. Just below to the most lower layer, there is a band of moulding of inverted merlon design. The three layers of cornice along with merlon band continue right round the corner turrets and run through all the four facades and it can draw a first attention to onlookers and get stunned.

Exteriors of Southern and Northern: The embellishment of both southern and northern exteriors are alike**.** To pursue a grand elevation but simple look to those side, artisan relied upon either the minutes chisel work of carving and opus isodomum technique by facing different dressed stones ashlars masonry walls. By any means, the exterior elevation of southern and northern would not be supposed to bear less decoration, in comparison

with the eastern wall. The each entire wall shaft especially between the two turrets, on south and north exterior, measuring 11.90 m long, having two pointed arched openings intervened by a continuous string with mouldings at mid level. Thus total typical four arch recesses on two side exteriors. Thus, simple composition can be more difficult than complex.

On both sides, there are three panels design fixed at dado area just below the string course of mid wall while other three panels design of upper levels are just below the frieze level. The same technique of eastern wall exterior has been applied to produce such area and elevation for panel design on each exterior of south and north side. These panels are completely same in design and elevation along with dimension with those upper and lower panels of eastern façade.

Moreover, the two arch openings **(**each having span of 1.75m) through the thick wall on each side of northern and southern exterior were being installed/attached to the two axis of each bay of prayer hall. The width of these four opening along with other architectural feature of arch including dimension, pilaster, Arch frame are identical to the arch opening of eastern side. But, the chisel work of pinnacle area of pointed arch and spandrel section are different from those of eastern façade, bearing simple form of pointed arch tunnel through the thick walls. The arch segment of south and north side is a less decorated area in compared to the openings of eastern side. The two round medallions were embossed on each spandrel while the arch frame has crowned with a different layer of horizontal strings of mouldings with similar recesses and offset profile.

Among the four pointed arch tunnels of southern and northern exterior, the arch technique of north-western side of northern exterior, carry some

differences in erection. The regular arch tunnel was placed above another arch of short height, corresponding to upper and lower level of Zenana Gallery of north-western corner of prayer hall. These technique for proper ventilation and penetration of sunlight to both upper and lower level of gallery inside. Such type of technique and arrangement could already be noticeable in the brick Mosque of Bagha, Rajshahi, of the same age.

Stone Lattice Screen: We do observe no surviving brick-stone mosque architecture, except the Kusumba Mosque, which carry stone lattice screen at its portal or windows recess. In this prospect, it carrying very unusual feature, from traditional Sultani mosque architecture. The use of stone lattice screen was supposed to be used as decorative element, more than that of architectural technique. It is very interesting to note that we have observed such type of brick screen in brick mosque building in Bagha Mosque, which was erected shortly before the Kusumba Mosque.

All the four pointed arch tunnel openings have been enclosed with the stone lattice screen of 5cm thickness. All the three except the tunnel opening of north-western corner, have carried the same technique to enclose arch openings. Rectangle space of span between the imposts of each arch was filled with rectangle arch screen, having three layers of boarder design of door jambs around outside, two round medallions in square panel were affixed at each jamb, while another medallion at the center of above. The door-jamb that is divided into three facets, all on different planes by chisel work. The impression is completely inspired by multi layers of boarder design of door jambs of temple architecture. This type of door jamb can also be found in the earliest mosque architecture, Jafar Khan Ghazi Mosque, Tribeni. The main portion of quadrangle screen was created from the tessellation pattern inside door jambs boarder.

[fig- multi layers of boarder design of door jambs of Bhubenoswar Sun Temple, Orissa] **[fig- Arch screen of the Kusumba Mosque]**

Above the rectangle screen, the span between the intrados of arch, above the impost level allies tympanum is completely blind of stone masonry, and a round medallion, encircled by many vine bulks motif around were embossed. This scheme is carrying a camouflage of motif of the sun. This scheme is very amazing and obviously innovative idea of decorative motif. The stone lattice screen of northern side is more open work having particular reason, permitting light and air to enter interior spaces, while the role of screen of southern side is protecting interior from the heat of the sun. Moreover, the changing direction of sunlight reflection all daylong produces a striking and playful contrast of light and shade in interior.

In the north-western double layer arches of northern exterior, carry some differences stone lattice screen. The whole dwarf arch has been covered with stone lattice screen of geometric pattern.

Western Wall(exterior) Decoration: There is exterior projection of the *qiblah* wall from the base to the top at the central *mihrab* portion, whereas the side ones are not externally projected. The rectangle projection of the central *mihrab* niche, exterior of western wall (65cm projection western wall surface), is common feature of mosque architecture in this region. The rectangular projection towards outside of western wall of the mosque**,** is not carrying such an exception feature. This exterior side almost plain, but a number of vertical deep recesses compartments (each having 79cm span and 15cm in depth), running from the sill level to edge of cornice level. Thus, there are many vertical off-sets and recesses, throughout the whole facet. Two such vertical recesses could be distinguishable on the rectangle projection at western wall exterior, flanking by three more recesses design on the either on north

western and south- western segment. The each off-set facet has carrying no such decorative motif, but stone masonry, each layer and jointed could be recognized from outside. On the contrary, the decoration of each recess is quite impressive. Each recess bears nothing but horizontal strings of moulding, similar to the string design of mid wall outside. The elevation and setting of string course of moulding at each recess portion is corresponding the elevation of moulding band to corner turret. A false impression of each strings of turret of west side travelling through western wall exterior and finally reaching at the other corner turret, has been carried out in form of stone veneer architecture. The impression must have been borrowed from side wall embellishment of the Qadam Rasul Mosque, Gaur (built in 1530 A.C. by Sultan Nasiruddin Nusrat Shah). But the earliest specimen of this kind of west wall decoration with offset and recess design must be the Adina Mosque. Such type of decorative pattern elaborately was not furnished in the western exterior of the Adina, what we observe a delicate design on the Kusumba. In The new attempt and technique might have been commissioned to relieve the boredom of traditional embellishment of western exterior of contemporary mosque structure.

[Fig- Western Wall(exterior) of the Kusumba Mosque]

Corner Turrets: All four corners veneered externally with polygonal of most probably octagonal corner stumpy towers, starting with heavy and gradually slender up to the top. Each octagonal tower adjunct to the main structure. *Of the total eight sides, there are five full sides and two half sides are visible of have been projected outward from wall corner. The remaining facets, more specifically a single facet along with two half sides are hidden in interlocked with corner.*

Like the other part of wall, the turrets are placed on the 13cm high octagonal foundation stone from the yard level. Its partly are interlocked to the stone base of main building. Corresponding to the octagonal base stone, there is another octagonal proportionally slightly smaller, can be termed as sill (31cm high) of the main octagon turrets. The Each side of sill of decagon turrets slopes gradually above from half dabber design level. *Above the sill of each turret, following the sloping area, segment of octagonal tower come to exist. We can hardly notice chisel work of carving rather than moulding bands throughout the turret profile.*
Then, on the basis of embellishment on the entire turret profile can be divided into seven parts, the design at skirting area, five intermediate part bearing no chisel work(below and above string course with moulding at mid wall) and finally at the cornice.

Number of tricks were adopted by the architect to show his proficiency in shaping the form of tower. From the basement to the top, each slender tower was divided into two sections by string (horizontal band/ discarded the dominating horizontal mouldings or string courses that went round the turret and the facades), coordinating the string at middle of façade by which façade was given to two-storied appearance.

Upper section (of band of mid wall) of tower has been divided into four equal phases, each phase being demarcated by three courses of horizontal band mouldings with dabber profile. The last upper phase has been bearing the same design of cornice, having three moulding bands running round, while other three phases are completely free/abandoned from design on turret facet.

On the contrary, lower level (of band of mid wall) of tower has been divided into three phases, each being separated from the other by two courses of horizontal band mouldings with profile dabbers. Among the three phases, the middle has comparatively broaden profile, from other two phases of immediately above and below, one only phase which carries repetition of spar-head motif a its lower level. The top phase has exactly been barren in decoration, while the lower phase (just above the sill level) has a design of three band mouldings. Among the three mouldings, the upper two bear very common design of dabber on their profile, while the lower moulding has no design at all.

Thus, entire tower has been adorned with a number of octagonal bands. The artisan would rely upon moulding bands in term of gorgeous embellishment, rather than the chisel work in carving. Then, the first and last phase of immediate next to basement and parapet part respectively, are divided into three parallel bands design of moldings.

The setting of regular Polygon bands at intervals on these tower might have been adopted from nature, the **bamboo thorn**. The corner turrets have completely vertical sections of flat unlike the cupola on tower of Bagha mosque. With only moulding bands embellishment on each turret profile, which has been given a simple look but an archetype of beauty.

[Fig- one of corner turrets]

Interior: The interior (measures 12.45m long with the breadth of 9.25m) is divided into three bays and two aisles, can be reached through three entrances on the east wall.

The interior is divided into almost six square spaces by equal disposition and arrangement of two monolithic pillars **(**pillars runs south-north in the center of the prayer chamber) and ten pilasters (engaged to interior wall surface, each two pilasters in the east and west walls, one each in middle the north and south walls, and four slender half-pilasters at four corners, corresponding to the two freestanding**)**. Each square space cell (measuring about 4.625 X 4.25 m), demarcated by two free standing and two engaged pilasters at four corners, produces an ideal arrangement for springing up two transverse arch along with two longitudinal arch. The inverted tumbler shaped /hemisphere dome has been rested upon, to cover up each cell. Although the main fabric of the building is of brick the entire exterior walls, and the interior up to the arches of the pendentives have stone facing of basalt. There is absence of stone work but brick work upto roof. The simplicity in stone veneer rules style everywhere, but exception can be found in some places.

The three arches opening and the entire interior up to the arches of the pendentives of the domes except three rectangle frames of *mirhabs* are coated with black granite stone. As the granite is not ideal for carving by any mean but for the more imperishable/long-lasting, Lastly, to emphasise *qiblah* wall and *mihrab* and to make it with majestic look, three rectangle frame of *mihrab* are coated with black marble to conclude fine carving on it.

Raised Platform/ *Zananah* gallery: Apart from this, the square raised platform(measuring about 3.15 X 2.25m) adjacent north-western corner, reached by a flight of stair from north-eastern side, was constructed with the help of four semi-circular stone arches from stone squat support along with engaged pilasters and post-lintel technique. It must be noted that these four stone pillars are quite short/squat in size to meet the demand of necessary height. It is very interesting to note that the profile of column is almost resemblance to the octagonal shaft of traditional mosque column.

[Fig- Design on Raised Platform of the Kusumba Mosque]

Pillar and Pilasters: To carry the heavy load of the massive structure and domes, artists of that time relied upon the black basalt for its hardness and durable having height of 2.9 m each. But there is a grave obligation that it is not suitable for minute carving on it. So we observe very simple cutting design in many cases rather than intricate work on it. All the pillars and pilasters of basalt, have same design and dimension in form. The pillars along with pilasters have a square bases and crenellated (provide a wall of a building with battlements) capitals, followed by shaft of dodecagon, intervened by two dodecagonal moulding at regular distance, and then square at the ends. The profile of pillar was common in from but to be verily used in almost all the contemporary mosque architecture such as in the Adina Mosque, the Darasbari Mosque to Choto Sona Mosque etc, in where this type of pillars was been lavishly used. Thus, corresponding of a hypostyle build was established basically on Pillars and pilasters afterward. Otherwise, the artisan could prove themselves one step forward from the artisan of Choto Sona Mosque, by replacing shaft of dodecagonal pillar instead of traditional shaft of hexagon in Muslim architecture. The artisan might have used the dodecagonal pillar to change in traditional pattern. Thus, the dodecagonal pillar could make an appeal in such a way that the

dodecagonal pillar of brick and terracotta would become the essential setting in temple architecture of colonial Bengal.

Mihrab:

The interior west (*qiblah*) wall has two *mihrab*s on the floor level right opposite two arch entrances, but another in the northwestern bay is above a raised platform ascended by a staircase on the northern side. The central one being wider and profusely decorated than the two sides ones in the ground and a small *mihrab* in the presumed *Zananah* or ladies gallery in the north-western corner.

The more important thing to note that the two *mirhabs* and a certain rectangle area around them of floor level, are of stone carving on black marble stone. Such types of black marble stone facing were totally new in art making. To emphasize the importance of mihrab along with the making it more impressive to devotee. By use of marble, a structure was furnished with a very smooth finish and when polished, it gives a luminous shine. As marble is translucent material, when exposed to sunlight through the southern side, marble facing glows and increases radiance. It gives a soft appearance as compared to granite. The romantic carving motif gives excellent pleasing look. The engraving on marble creates a very significant aesthetic beauty for interiors.

All the three *mihrabs* frameworks contain an elaborate stone carving. The motif of pineapple or more likely to be *kalasa* (water pot) motifs, cusped supported on intricately carved stone pillars with projections and tasseled decorations hanging from chains, bunches of grapes and wavy climbing tree are basic component for embellishment.

Each framework of carving art of southern and central *mihrab* is flanked by five rosettes on each side, while more five rosettes symmetrically embossed above the frame to meet the gap of stone arched wall of western wall .

Detail Decoration of Central *mihrab* ;

The central *mihrab* is supposed to be the most sacred place of a mosque architecture for devotees, always designed with distinctive ornamentation to give grandiose impression, in comparison with other side *mihrabs.* The central mihrab niche is placed within a rectangular framework (measuring 3.9m x 2.6m.) that rises above the springing level transverse arch of western wall.

A minute observation of the various parts of the *mihrabs* reveals the fact that the engraver artists embellished the surfaces of the walls with indigenous floral design, creeper and abstract motifs by cutting the stones in an exquisite manner.

Alcove of Central *mihrab* ; The alcove is completely semi-circular, with dimension of 2.3m high, 90 cm wide and 1m deep. The design of alcove survived almost ***intact.*** The alcove niche of the central *mihrab*, may be divided into three parts for study—the lower, the middle and the upper as like as previous one. The lower portion is adorned in accordance with the lower part of niche of the south-western mihrab.

The lower portion contains layers of strings running round semi-circle. These layers of strings, carved out with dots/iota generally, of which could be noticed two bold bands also created with dots/iota, in accordance to the design of basement of pillars, running parallel to either end.

A minute observation, unearth the fact that a replica of cusped arch**,** dominated and most popular motif on the temporary usually in mosque architecture, at focal point of each panels, are carved for greater illumination**.** The spandrel area has two rosettes with iota. The innovation has been occurred on the question of hanging motif. A motif of Bellflower/ campanula (*jumka phool*) from the nature, might be adopted in against traditional hanging chain motif. Moreover, this motif is resembling either to J*humka* jewelry of woman's ear and hanging tassels. A composite form of intricate design is carved out by tree composition of tassels or bellflower, hanging from cusped arch and curly braces. The hanging motif whatever it is, a composite tree of courses throughout the span of cusped arch in panel**,** contains an intricate design like *jhar* (*beaded chandelier*) and total form of symmetrical composition.

Process of experiment of changing motif instead of hanging bell started shortly before the erection of the Kusumba Mosque. This type of new composition borrowed from the terracotta panel design of the Qadam Rasul Mosque, Gaur (b.1530A.C.) The artisan of kusumba successfully employed the new composition in engraving on stone for greater illumination. The artisan might have chose new composition instead of hanging bell motif probably realizing the origin of bell motif or avoiding boredom.

Each panel of five has a bold frame of interlaced geometric design *jali* (octagonal starshaped outcome tessellation) of 6 cm in width around and outside. The blank space of each octagonal starshaped filling with flower, seeking enhance the effectiveness of embellishment of panels.

[Fig- octagonal starshaped outcome tessellation]

Above panel layer, two curved stone slabs joined sidewise for zone perfect composition. On this segment, there are three courses running round the semi-circle. Lower layer composed of series of inverted pointed arches having the representation of small rosettes in their spandrels, followed by another layer of string of bead motif. The last upper layer contains the repetition of bunches of grapes. Upper portion is half dome. To produce the half dome, the panel identical hewn slabs were joined sidewise, each contain hewn panel but the central hewn slabs contains shallow relief of vegetal design. However, on this analysis it may be assumed that the whole area of the alcove niche of the central *mihrab* has nothing, but graceful decoration befitting for the sacred place of prayers. **Pillar of Alcove:** The central *mihrab* alcove covering with multi cusped pointed arch of stone springing from two stone pillars alias piers. The alcove of the central *mihrab* is placed between the two stone piers of intricately carved from stone having several projections. The pillars are octagonal from top to bottom, of which five facets are visible and rest of side are engaged with back stone wall. Pillar profile composition, are more likely to be the pre-Islamic temple not to be pointed out clearly. Artisans of Kusumba Mosque could draw few changes in adornment of pillar profile with abstract art instead of figurative art. The pillar is entirely made of black marble started with frequent 3 layers of moulding. For convenient study of decoration, each pillar can be divided into three sections, viz. the base or lower, the shaft or middle and the capital or top.

The lower portion (about 50cm high) contains rectilinear formation from recessed angle, having three layers of bold moulding band of carrying several iotas, followed by octagon rectilinear formation having weaved tendrils with leaves. The tendrils panel is crowned with inverted tassel or pineapple and triangle. The inverted tassel or pineapple and triangle alternately were used to hide the transition from rectilinear profile to octagonal shaft. The middle or octagonal shaft demarcated by two bold moulding bands, lower band at height of about 50 cm and another at about 95cm. The tassels from hanging chain, followed by a band of interlaced design of inverted pointed arch, culminates the traditional adornment of pillars. The last layer of the capital contains three layers of moulding, two octagonal band of bold composition of iota and bunches of grapes. But the top most moulding is in rectilinear formation.

[Fig- pillar composition of pre-Islamic temple, similar to pillar of *mirab* of the Kausumba Mosque]

This shape and dimensions of such stone columns is very common in both form of brick terracotta and stone mosque architecture throughout Sultani period.

Cusped arch: Cusped arch, rested upon the pillars, old technique of *mihrab* formation an imitation of *mihrab* composition of contemporary time, crowned with embossed design of *kalasa* (water pot) or pineapple motifs. Corresponding cusped section, cusped frame of tendrils having span of 4 cm running parallel from two capital of pillars and meeting at pointed arch. Serpentine stem of climbing plant with blooming tiny rosettes at each curved portion, engraved out in low relief in this cusped frame at extrados. This cusped frame separated from rest of spandrel by thin cusped line of dots, running from impost of two sides, throughout intrados/soffit

of cusped, meeting at the zenith and crowned with pineapple or *kalasa* motif.

This technique of art of decoration was originated completely in Sultani architecture, contains an exuberant engrailed and floriated arch, would dominate in decoration through number of evolutions in Mughal design in later period**.**

[Fig- daantedaar arch, Khas Mahal,

Moreover, on the opposite side (to the spandrel) of cusped arch, there is a pineapple or *kalasa* motif at each angle. The pineapple motif has a resemblance to *kalasa* motif in true sense. We have already known that the *kalasa* motif that was used as the decorative for almost all structures in Bengali mosque architecture. The pineapple motif must be employed to make a moderate form and a step of development in decorative motif when the crown of scale leaves and ovaries was been finely carved on the pineapple.

On the either side of Pineapple motif, flanking by four rosettes at same level on the spandrel, has been adorned with graceful chiseled work. In last edge of spandrels, contains low relief of half spearhead motif. Apart from this, the rest of the space on spandrels was adorned with imaginary motif probably with a wavy stem with bunch of flower and leaves, climbing the rosettes of spandrel. To the last end of spandrel, a string of moulding that carries vertical composition of many pineapples at certain intervals. Whole composition of relief assumes its majestic look to the onlookers.

Small Rectangle Architrave Frame (of Paddy stalk): Following the rectangle frame of pillar, niche and arch segment of main Mirhab, flanked by a tall rectangle architrave/pilaster carving panel **(breadth of 20cm)**

composed of several pieces of stones of adornment that is running from basement reach to the height of spandrel of arch. These settings are slightly projected from the layer of spandrel and pillars. This designable panel of each of two panels on two sides, has been divided into four rectangle sections equally by more five squares of another decorative motif, while the head contains two rectangles get along with three squares. Each of five rectangle panels surfaces is carved out a motif which seems to be stalks of ripe paddy rising out of a vase spread over a block of stone. **[Yakub-p.5]** Moreover, a thin parallel line at last edge of each paddy stalk motif rectangle, is adorned with thin flower motif in variegating the modes of decoration. Each square panel is again adorned with rosette at center, followed by course of square around and outside having filled with serpentine stem of climbing tree and blown rosettes.

This type of panel division by rosettes squares, is very old fashioned of art of India itself. In 1873 Cunningham discovered this type of composition in the remnants of a Buddhist stupa at Bharhut (about midway between Allahabad and Jabalpur).

Small Rectangle Architrave Frame: **The architrave of paddy** stalks motif, followed by another architrave (measuring3.30m with span of 34cm) of framework contains very special but innovative feature of intricate carving art. On the basis of types of motif, this would to be a convenient and accurate for study, if we spilt up architrave framework into two segments/sections, firstly, a central architrave frame, running through the architrave and lastly, another framework of art around and outside the central one.

The central is (span of 20cm) filled with a course of a **replica/**imaginary of climbing plant. The **twining vine/stem,** climbs vertically with

serpentine move/wavy manner, climbing embossed rosette at top corner in accordance with clockwise direction, and running horizontally and meeting in the same direction of twining vine coming from other side. Stems of both sides starting from meaningless curve device, very noticeable for their composition. The composition might have been borrowed from temple, where the deity holding a curve stem of climbing plant on its head.

[Fig- resemblance to basement stem to architrave -tendril entrance-to-Shiva-Temple-near-nandi-hill-in-Karnataka-India

Artisan could successfully emboss a deceptive appearance/ false impression of climbing plant, as if stem of plant and another motif were **climbing** on g**a**rden Archway. A vine of creative abundance is depicted, running up the door jambs and across the architraves.

Another framework of art around and outside the central one, contains bold frame of interlaced geometric design *jali* (Octagonal starshaped outcome tessellation) of 8 cm in width around and outside. The blank space of each octagonal starshaped filling with flower, has enhanced total appearance of rectangle framework panels. Furthermore, the whole area, around rectangular frame deliver an impression of twinkling stars when these are playfully illuminated from sunlight reflection during daytime

Artisans have been undertaking the tasks of supplementary embellishment by intricate series of carving at top of frame. Above the head of architrave, a string course of moulding of grape bunches, followed by string of corn fruit bearing bold appearance is vividly noticeable. The topmost series of merlon contains itself a crowning look.

Southern Mihrab: The *mihrab* to the south of the central *mihrab* contains all the feature including alcove, pillars, cusped arch and rectangle

framework, get along with architrave, what we find within central *mihrab* frame. But the southern *mihrab* frame work is slightly small in dimension (measuring 3.7 m x 2.5m) in comparison to the central *mihrab***.** The design and formation of technique at alcove, spandrel of cusped, pillar composition, frame decoration with paddy stalk are almost identical to the formation of main *mihrab*.

The alcove contains quite similar technique formation of semicircle alcove to the alcove of prime *mihrab,* even engraving at both skirting level and upper level. But in some cases, it is vary from those of main *mihrab*. Dimension of the alcove (measuring 2 m high, 75 cm wide and 95 cm deep) differs from the alcove of main *mihrab*.

The middle of alcove carries five panel of different motif but with the same technique of main *mihrab*. Each five panel bearing a lighting bulb hung from a semi-circular inverse arch and inverted half-circular at bottom, a thin boarder with a frame of net around (*jail*). Each panel of five has a bold frame (span of 6cm) of rhombus and rosette (interchanging their position) around and outside.

The pillars and spandrel decoration of cusped arch along with paddy stalk frame have same intricate chiseled work, what we observe at central *mihrab*. A minute variation could have been traced, when we look up serpentine stem at base of central architrave. Here we find an additional motif of betel leaf/ *Horton*, at the lower of climbing plant starting to climb. The portion of around and outside of central architrave, contains the motif of rhombus and rosette alternating their position.

This rectangle framework has two series that are similar to the series of main mihrab. But only variation has been occurred when a series of frequent spearhead motif with moderate form possess itself as crowning formation.

***mirhab of Zananah* gallery/ Raised Platform**

On the north side of the central *mihrab* is a niche indication downstairs for its parallel niche measuring 106.68 cm high, 39.37 cm wide and 45.72 cm deep placed within a rectangular frame, the measurement of which is 203.2cm in height and 121.92 cm in width in the upstairs of the presumed *Zananah* gallery.

The northern *mihrab* of the presumed *Zananah* gallery in the upstairs resembling the two other *mihrabs* described above, has got variation in representing alcove and spandrel decoration where a big rosette in the middle portion of the alcove niche, two round medallions embossed on spandrel. But the framework embellishment, around the pillars and cusped arch, is supposed to be replica of the carving art of central *mihrab*.

Conclusion: on the basis of engraving on stone veneer exterior**,** it may assume simple but finest specimen, among the surviving brick-stone architecture. On the contrary, extravagant embellishment at rectangle frameworks of mihrab creates a superb polychrome effect in stone surface**.** In some aspect, *mihrab* and screen decoration of the Kusumba Mosque indicates the existence of skilled hands more than that of Choto Sona Mosque in the art of stone cutting.

Figure no.- A01. replica of the seal ‘Unicorn before an Incense Burner’ collected from Harappa, now in Pakistan (measuring 4.5 x 4.5 cm.) preserved in National Museum, New Delhi

Figure no.- A02. One of the Pillars of Ashoka, in Vaishali, present day Bihar

Fig: The Konark Sun Temple, built in the 13th century by the Kings of the Eastern Ganga dynasty

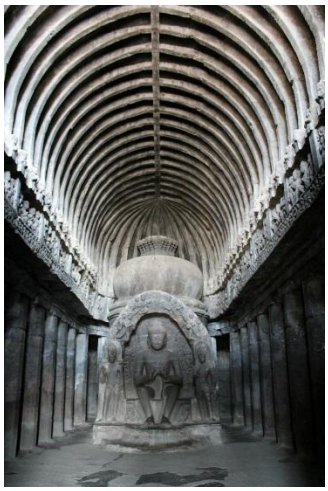

Figure no.- A03.The Cave no. 10, Ellora

Figure no.- A04. Kailash temple, (Cave no.16 of Ellora caves

Figure no.- A05. Adi Kumbeswarar Temple, situated Tamil Nadu

Figure no.- A06. The Konark Sun Temple, built in the 13th century by the Kings of the Eastern Ganga dynasty.

Figure no.- A07. Sarasvati, c. 11th century A.D Cericittsed

Figure no.- A08. Surya, c. 9th century A.D Black Stone

Figure no.- A09. Vishnu, c. 10th century A.D Black Basalt

Figure no.- A10. Vishnu, c. 11th century A.D Black Basalt

Figure no.- A11. Inscribed Vishnu (Sridhara), c. 12th century A.D Black Basalt

Figure no.- B01. One of Column of Ruined Ghantai Temple, Madhya Pradesh, India Dated to around 995 A.C.

Figure no.- B02. One of the Bell (ghanta) type temple Architecture at Bhubaneshwar, Orissa

Figure no.- B03. Hanging trident motif, at Salami Darwaza of old Gaur

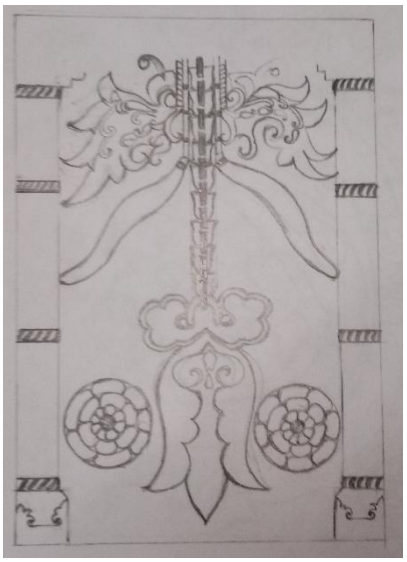

Figure no.-B04. Drawing of Hanging motif of Choto Sona Mosque

Figure no.-B05. A Trident shaped decoration, which was engraved on basalt stone wall surface on west wall, just above the main mihrab, of Adina Mosque

Figure no.- B06. Hanging lamp in ceramic mihrab decoration dated 663/1265, preserved in DDFIA

Figure no.- B07. Hanging lamp motif, carved in Mihrab-shaped panel, approx. 1350 Asian Art Museum

Figure no. B08. -Festoon and mergent And Engravings on Pillar of Kailasa Cave, Ellora

Figure no.- B09. Hoysaleswara Temple and Jafar khan Ghazi

Figure no.- B10. Festoon and margent can be observed in the elephant platform of Kailasa Temple

Figure no.- B11. Bell margent composition on Column of Ruined Ghantai Temple, Madhya Pradesh, India Dated to around 995 A.C.

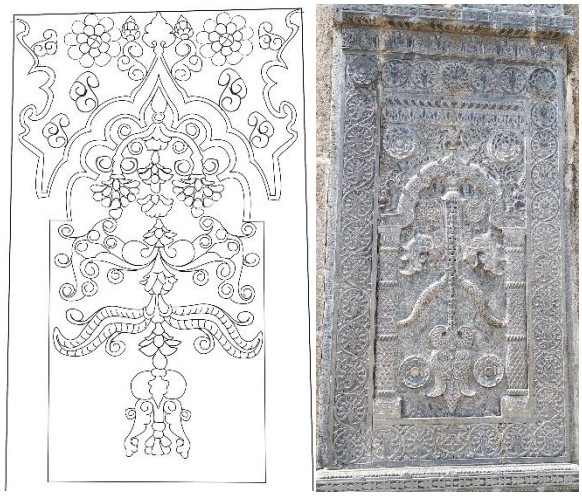

Figure no.- B12. Curly Braces of Kusumba (left) and Choto Sona Mosque (Right)

Figure no.- B13. Spear head head Design of Kusumba

Figure no.- B14. Kalasa motif, Baitaḷ a Temple 8th-century Hindu temple, Bhuvenshar, Orissa, India

Figure no.-B15. Vase motif at pillar of Adine Mosque (left) and vase design with vegetal design on pillar of Ellora Cave (left)

Figure no.- B16. Band mouldings, Begunia Temple Complex, located at Barakar city, Asansol, West Bengal

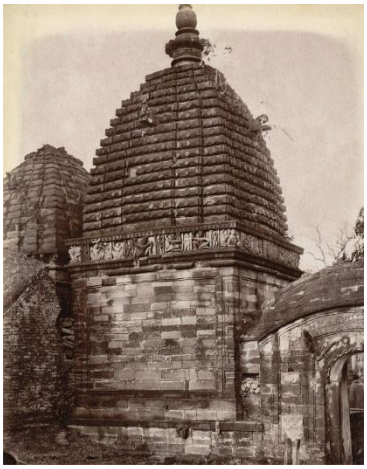

Figure no.- B17. Kalyaneshwari Temple, Bardhhaman, WB

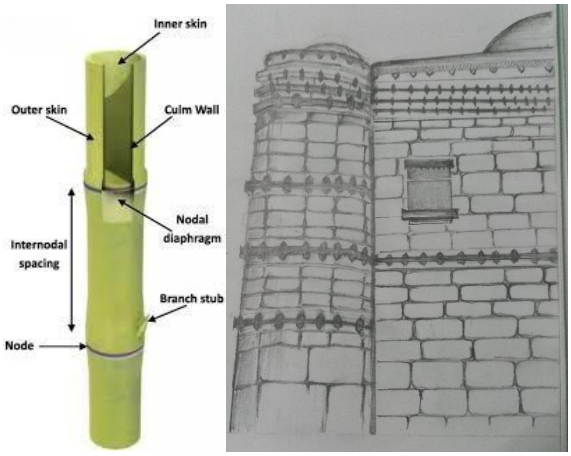

Figure no.-B18. Bamboo node and band mouldings of tower of Choto Sona Mosque

Figure no.- B19. Band moulding of Mundeshwari Devi Temple, Kaimur, Bihar2nd century A.C(108 A.C)

Figure no.- B20. Bead motif band at Cave no. 19, Ajanta(left) and string of bead motif, Ellora Caves column

Figure no.- B21. Traditional "Bead and reel" motif

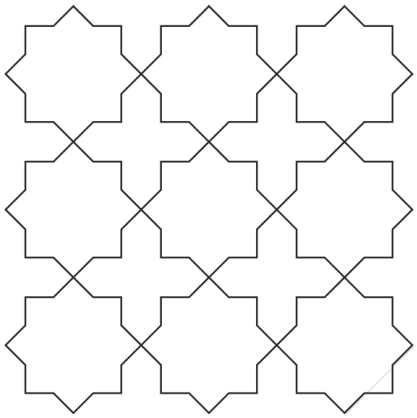

Figure no.- B22. 8pointed star from Tessellation

Figure no.- B23. Lotus carving on ceiling in cave no 32, Ellora cave Art

Figure no.- B24. Full bloomed Lotus flower

Figure no.- B25. 8 fold rosette Drawing-lotus- of Small Golden Mosque-(middle) and Kusumba Mosque (right)

Figure no.- B26. Drawing of Rhombus and Rosette, Adina mosque

Figure no.- B27. Rhombus, Engravings on Pillar of Kailasa Cave, Ellora(left) and rhombus and design at Adina mosque Indian ink drawing by William Francklin (1763-1839)

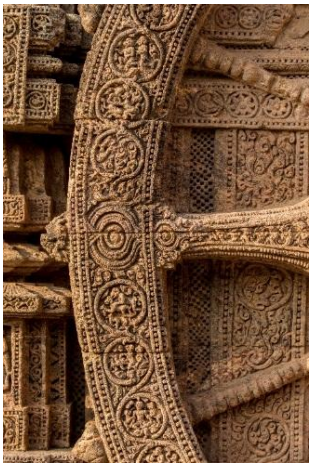

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Figure no.- B28 Deity depiction at each center of spiraling or volute/swirl, scroll design at the wheel of Kornark Sun Temple, Orissa.

Figure no.- B29. Lotus bud depiction at each center of spiraling or volute/swirl, scroll design at architrave frame of entrance of east Façade, Choto Sona Mosque

Figure no.- B30. Panel design Baitala Deula, Bhubaneswar, Baitāḷ a deuḷ a or Vaitāḷ a deuḷ a, 8th-century Hindu Temple, Orissa, India

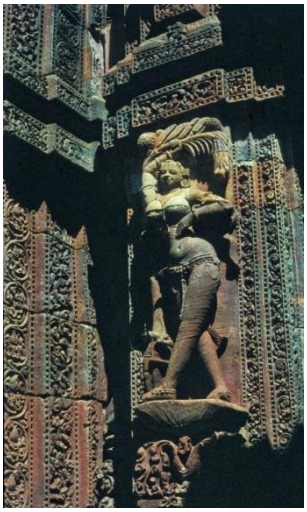

Figure no.- B31. Panel design Kornark Sun Temple

Figure no.- B32. Panel design Chitrakarini Temple

Figure no.- B33.Arabic stone inscription of the reign of Ghiyas Ud-din Bahadur Shah, 966 A.H./1558 A.D. Style: Thulth. Sub: It records the construction of a Mosque and Wall

Figure no.- B34. Arabic Stone Inscription of the Saifud-din Firuz Shah, 889 A.H./1484 A.D. Style: Naskh. Sub: It records the construction of a Mosque.

Figure no.- B35. Arabic Stone Inscription of the Alaud-din Hussain Shah, 912 A.H./1507 A.D. Style: Naskh, Sub: It records the construction of a Mosque.

Figure no.- B36. Arabic Stone Inscription of the Nasir Ud-din Nusrat Shah, 932 A.H./1526 A.D. Style: Naskh (Tughra in its decorative variety). Sub: It records the construction of a Mosque.

Figure no.- B37. Arabic Stone Inscription of the Jalal Ud-din Fath Shah, 887 A.H./1482 A.D. Style: Tawqi, Sub: It records the construction of a dilapidated edifice

Figure no.- B38. Arabic Stone Inscription of the Shams Ud-din Yusuf Shah, 879 A.H./1474 A.D. Style: Muhaqqaq (Tughra in its decorative variety), Sub: It records the construction of a Mosque.

Figure no.- B38. Arabic Stone Inscription of the Alaud-din Hussain Shah, 916 A.H./1510 A.D. Style: Naskh, Sub: It records the construction of a Mosque.

Figure no.- B39. Arabic Stone Inscription of Jalal Ud-din Muhammad Akbar, 989 A.H./1581 A.D. Sub: It records the construction of a Mosque.

Figure no.- B40. Arabic Stone Inscription of the Jalal Ud-din Fath Shah, 891 A.H./1486 A.D. Style: Tawqi, Sub: It records the construction of a Mosque.

Figure no.- B41. Arabic Stone Inscription of the Alaud-din Hussain Shah, 910 A.H./1505 A.D. Style: Tawqi, Sub: It records the construction of a Door-way.

Figure no.- B42. Arabic-Parsian Stone Inscription of the Shah Alam (II), 1218 A.H./1803 A.D. Style: Nastaliq, Sub: It records the construction of a Mosque.

Figure no.- B43. Inscription of the Sultan Ud-din Mahmud Shah (1st), 858 A.H./1454 A.D. Style: Ghubar, Sub: It records the construction of a Mosque.

Figure no.- B44. Arabic Stone Inscription of the time of Alaud-din Hussain Shah, 907 A.H./1501 A.D. Style: Muhaqqaq (Tughra in its decorative variety), Sub: It records the construction of a Mosque.

Figure no.- B45. Arabic-Parsian Stone Inscription of the time of Aurangzed, 1068-1119 A.H./1658-1707 A.D. Style: Nastaliq, Sub: It records the construction of a Mosque.

Figure no.- B46. Arabari Inscription of the Laksaman Sen, c. 1184-1185 A.D. Sub: It records the construction of a Mosque.

Figure no.- B47. Arabic Stone Inscription Nasir Ud-din Nusrat Shah, 930 A.H./1524 A.D. Style: Muhaqqaq (Tughra in its decorative variety), Sub: It records the construction of a Mosque.

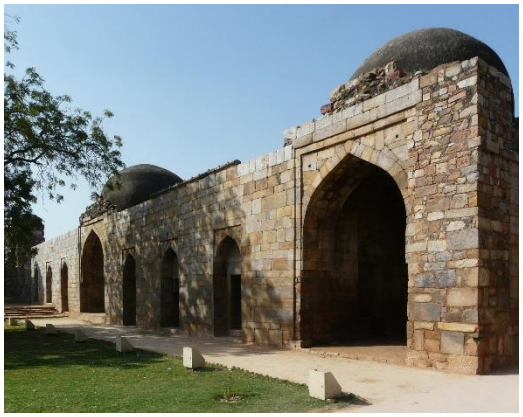

Figure no.- C01. Contemporary stone architecture at Delhi (Alauddin Khalji's Madrasa ca 1316 A.C. Qutb complex

Figure no.- C02. One of Falling part stone slabs with hook at Kusumba Mosque premise

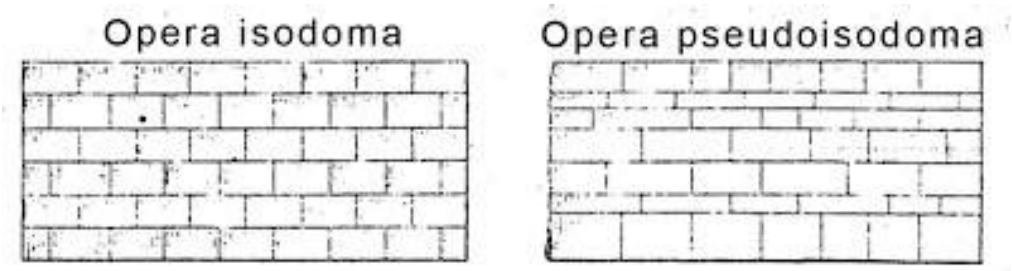

Figure no.- C03. Opus isodomum (left) and opus pseudoisodomum (right)

Figure no.- C04. Hexagonal Shaft of Column, the river goddess Ganga, Jamuna, Sarasvati with Crocodile, Ellora cave

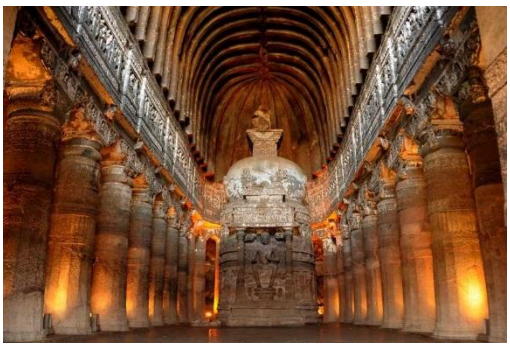

Figure no.- C05. Column with square profile at capital and basement, while hexagon at shaft at cave No. 26 of Ajanta,

Figure no.- C06. Simple circular and hexagonal column with hanging bell motif of pre-Islamic buildings were been used in Bari Mosque, Choto Pandua, India

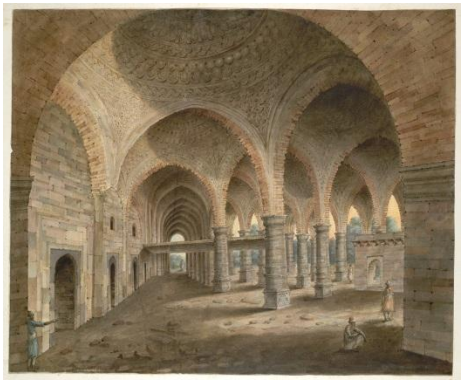

Figure no.-C07. Hypostyle chamber at Adina Mosque Interior, Artist Sita Ram (fl. c.1810-1822) Water colour, 1817A.C.

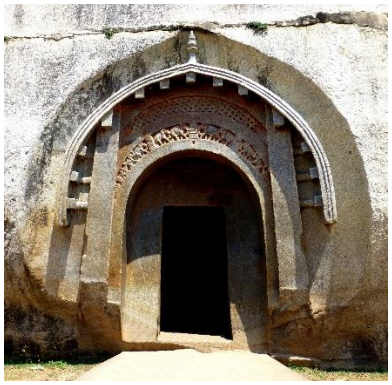

Figure no.- C08. Arch opening, Barabar Caves in Bihar, India (3rd century BC)

Figure no.-C09 Arch opening with engrailed composition, at cave no. 09 and 19, Ajanta

Figure no.- C10. Engrailed arches screen of Ardhai-Din-Ka- Jhonpra Mosque, Ajmir, India

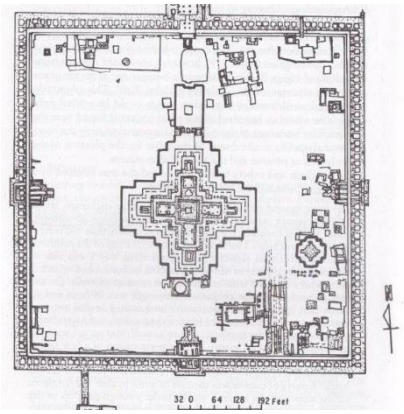

Figure no.- C11. Ground plan of Paharpur, Nagaon district, Bangladesh.

Figure no.- C12. Firoze Minar at Gaur, Maldah, India

Figure- C13. One Dodecagonal mosque minaret base, adjunct to main mosque structure in Gawharshad Musalla Complex, Herat, Architect: Qavam al-Din Shirazi. Dodecagonal base with glazed tile panels with arch and geometric design in it. Photo: Robert Byron, Copyright Conway Liberty, Coutauld Institution of Art.

Figure no.- C14. Slender Minarate at Sanctuary in Bibi-Khanym Mosque, Samarkand, Uzbekistan

Figure no. D01 : Choto Sona Mosque Facade

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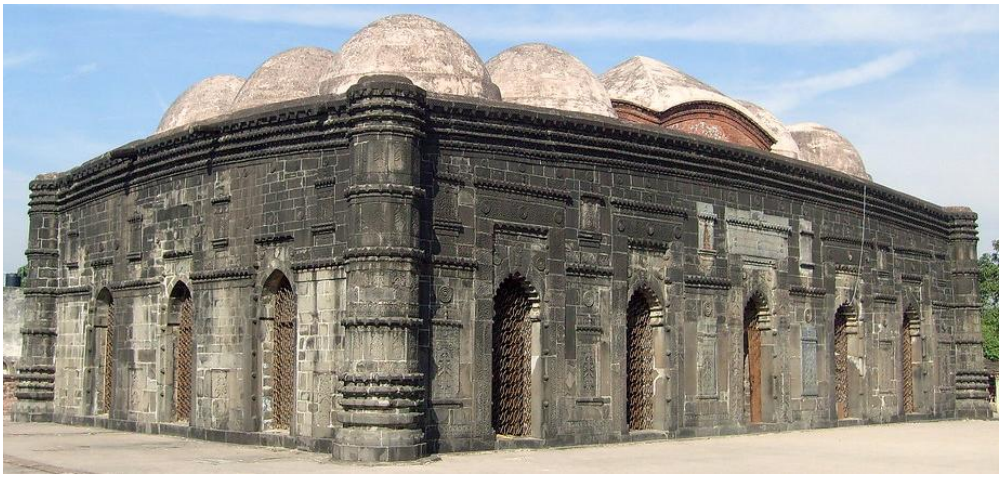

Figure no: D02 Choto Sona Mosque (Eastern and Southern view)

Figure no. D03. Cornice and rain spout detail on north side

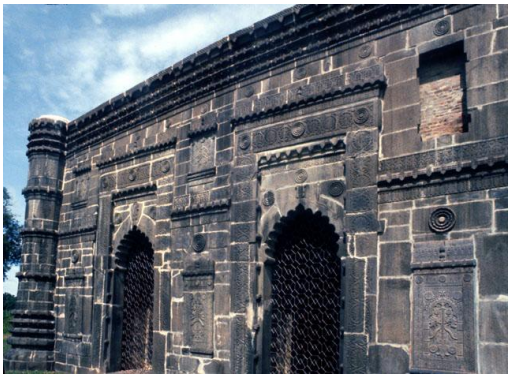

Figure no. D04. outside of North side

Figure no. D05. Band Moulding on Corner Turret

Figure no. D06. Multi Cusped Arch

Figure no.D07. Hanging trident in Panel

Figure no.D08. Hanging lamp in Panel

Figure no. D09. Hanging trident on Facade

Figure no. D10. Panel on Facade

Figure no.- E01. Geometric design central portion of architrave, central mihrab, adina mosque by William Francklin (1763-1839) in 1810.

Figure no.- E02. 8pointed star and cruciform and rosette in each cell, drawing by William Francklin (1763-

Figure no.- E03. Ink drawing of carved relif by William Francklin (1763-1839) in 1810.

Figure no.- E04. 3-Indian ink drawing of carved relief by William Francklin (1763-1839) in 1810

Figure no.- E05. Side Mihrab

Figure no.- E06. A portion basalt engraved decoration of door frame for Imam

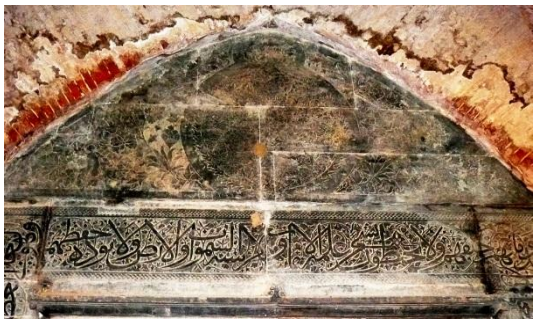

Figure no.- E07. Upper portion of southern mihrab of Royal Gallery

Figure no.- E08. Adina Masjid, still has remnants of Hindu temples and sculptures of Hindu God

Figure no.- E09. A portion of royal entrance jamb.

Figure no.- E10. Drawing of geometric design by William Francklin (1763-1839) in 1810

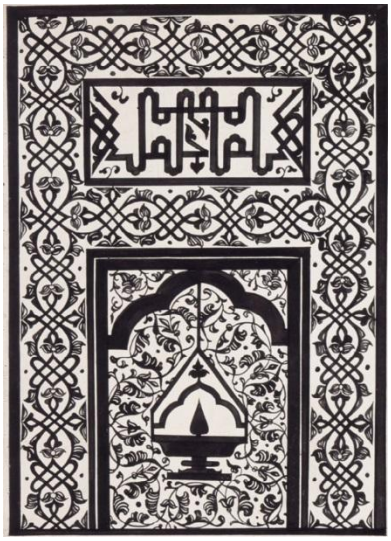

Figure no.- E11. A design at skirting label of architrave of mihrab frame by William Francklin.

Figure no.- E12. Adina Mosque-Carvings on the Stone structure-1

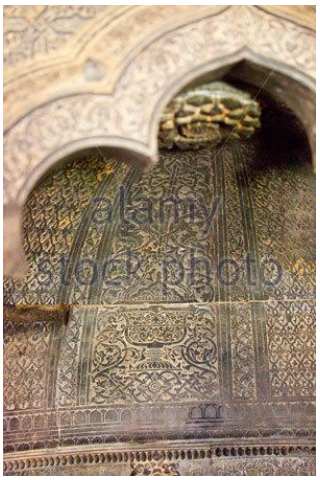

Figure no.- E13. Half dome of middle mihrab niche of royal gallery.

Figure no.- E14. alcove of central mihrab

Figure no.- E15. Drawing of Artist William Francklin (1763-1839)

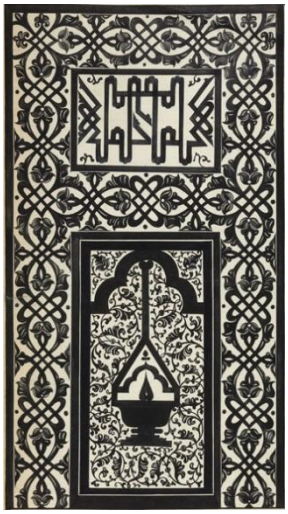

Figure no.- E16. A design of relief on the Adina Mosque, Pandua (Bengal)

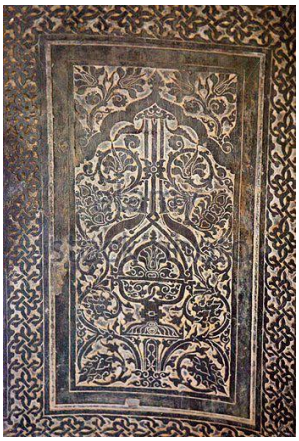

Figure no.- E17. A portion of middle mihrab niche of Royal Gallery.

Figure no.- E18. by William Francklin (1763-1839) in 1810.adina mosque 3

Figure no.- E19. calligraphy design mihrab of royal platform

Figure no.- E20. Carved border designs on the Adina by William Francklin (1763-1839) in 1810

Figure no.- E21 Carved relief on the Adina Mosque, Pandua (Bengal

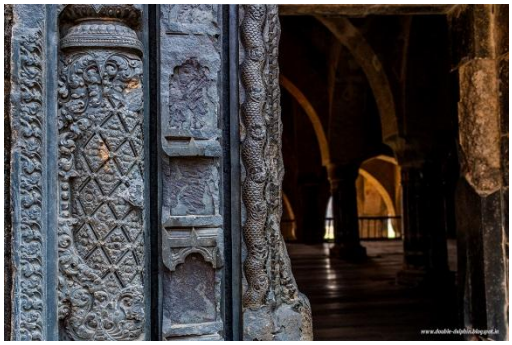

Figure no.- E22. design at Royal Doorjamb Adina Mosque

Figure no.- E23. A portion of middle mihrab niche of Royal Gallery.

Figure no.- E24. A portion of middle mihrab niche of Royal Gallery.

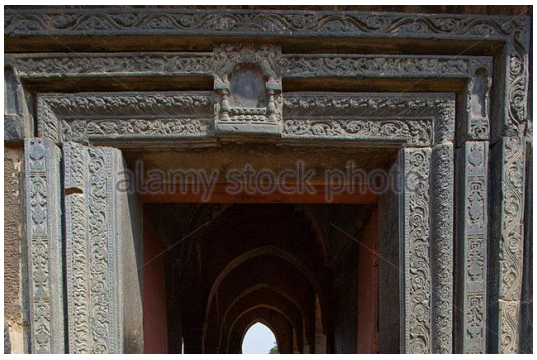

Figure no.- E25. doorway of adina-mosque

Figure no.- E26. rhombus, round flower and arabesque carving design on around and outside framework, adina mosque by William Francklin (1763-1839) in 1810.

Figure no.- E27. Geometric border designs on the Adina by William Francklin (1763-1839) in 1810.

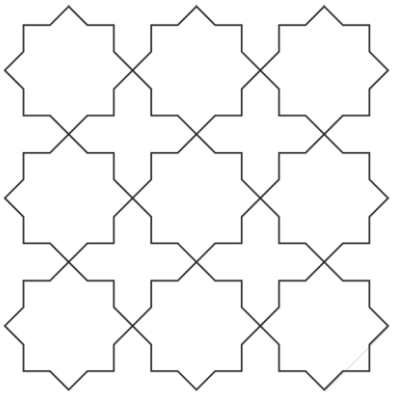

Figure no.- E28. Geometric Design-Knots and Weaves-star shaped from tessellation

Figure no.- E29 mihrab niche of Royal plat form

Figure no.- E30. Pandua Adina Buddhist Collage

Figure no.- E31. geometric of mihrab

Figure no.- E32. hanging lamp of alcove Adina Mosque

Figure no.- E33. corner turret of Adina Mosque

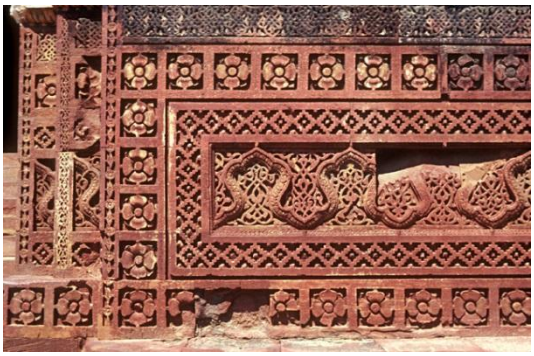

Figure no.- E34. Merlon of Alai Darwaza, resemble to Merlon of Choto Sona Mosque

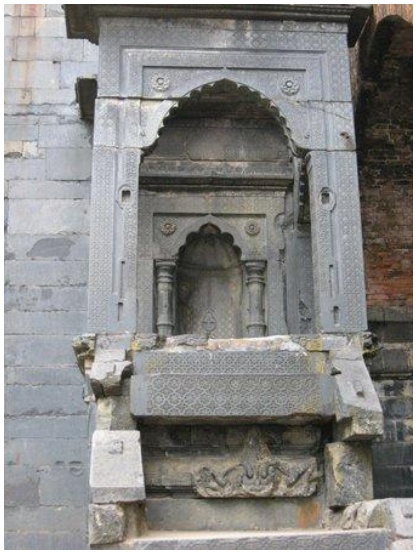

Figure no.- E35
Mihrab of Adina-Mosque

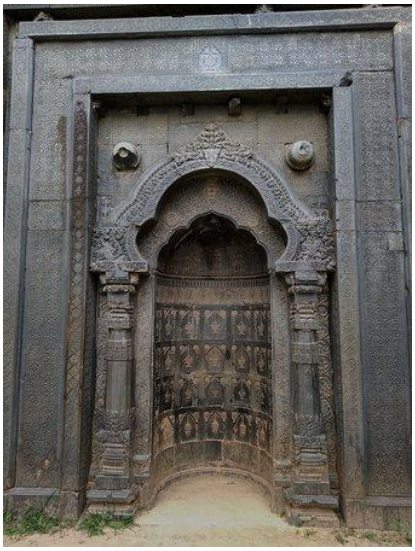

Figure no.- E36. Mihrab of Adina-Mosque

Figure no.- E37. middle mihrab of royal platform

Figure no.- E38. a portion of main mihrab

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