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## **Editor's Note**

This volume has accommodated fifteen articles of which nine are focused on museum collections. One can also observe that seven articles are directly related to objects of distant past. This is nothing unusual given the fact that the traditional approach to museum is essentially archeological in nature. Museologists have since long emphasized collection of objects of long past. In doing so they have systematically ignored collection of objects relating to contemporary civilization, exceptions being arts works. This bias is amusing. While Bangladesh National Museum has in the recent time made a point to emphasize collection of objects of contemporary civilization, museologists, too, need to turn to contemporary history and tradition. This is truly important because time passes very fast and many of what is handy today becomes an item of oblivious past in a short span of time. Needless to mention that documentation of contemporary objects is comparatively easy and is more complete compared to relics from the past. Documentation of contemporary items with focus on the technology of the production and the man behind and mode of marketing of the same will prove invaluable to future generations. Therefore, I call upon museologists to take a broader look at the history of human civilization and include the present in their curriculum.

Faizul Latif Chowdhury  
Director General  
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## Guidelines for Contributors

Articles are to be submitted for publication in the Journal of Bangladesh National Museum should be printed, double space, on one side of A4 size paper with generous margins, and should not be normally exceeded 6,000 words and be sent by registered post or e-mail in MS word. A quotation that will run more than fifty words should be set off as single-spaced, double-indented paragraph. All citations must be full referred. Notes and references should be numbered sequentially throughout and be placed at the end of the article. Tables should be given separate numbers in the manuscript, such as Table 1, Table 2, etc. with running headings. Illustrations, graphs and charts should be drawn in deep blue ink on thick drawing papers clearly and legibly within the printing area with appropriate legends. However, computer aided graphics are encouraged.

The following style of references may be cited:

1. Bhattasali, N. K., *Iconography of Buddhist and Brahmanical Sculptures in the Dacca Museum*, Dhaka Museum, Dhaka, 1929, pp. 22-25.
2. Kramrisch, Stella, *Indian Sculptures*, Kolkata, 1933, p. 30.

### DECLARATION

A manuscript which is concurrently under consideration by another journal or press or which has been published elsewhere will not be considered for publication in the Journal of the Bangladesh National Museum.

The author of an article will sign a declaration to the effect that (i) the submitted work has been written by him/her; (ii) he/she takes public responsibility for the content of the article; (iii) the content of the article has not been published before in any journal or has not been submitted to such journal for publication; and (iv) he/she accords consent to the Bangladesh National Museum to publish the paper.

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## Two Oriental Swords: The Shamshir and the Kilij

Firoz Mahmud

### Abstract

The Shamshir and the Kilij are two unique sword types. While the former had its birth in Persia, the latter originated in Turkey. The Shamshir is a deeply curved sword meant for cutting alone. The Kilij, which is shorter and less curved than the Shamshir, is intended for both cutting and thrusting. This paper gives a historical background of both and explains the technical aspects of each. Both these swords found their way into the Indian subcontinent as a result of the expansion of Muslim rule. The blades of these two swords were widely traded and interchangeably used with hilts<sup>1</sup> of local manufacture in the Indian subcontinent. The Bangladesh National Museum is fortunate to have examples of both the Persian Shamshir and the Turkish Kilij in their original styles as well as with hilts of Indian workmanship.

The sword is a sharp-edged hand weapon, broadly consisting of two parts: the blade and the hilt. Comparatively young though as a weapon, it is one of the earliest arms used in combat. Two basic functions can be attained with the sword: cutting and thrusting. These functions have led to the evolution of two major forms: the saber for cutting and the rapier for thrusting. The saber is a sword with a long, curved, single-edged blade designed for use only on horseback.<sup>2</sup> Modern research suggests that the saber developed initially in regions of Central Asia.<sup>3</sup> The rapier is double-edged, sharply pointed, light and thin. Essentially a thrusting sword, the rapier seems to have appeared first in Spain.<sup>4</sup> In spite of the basic differences in the forms of these two main types of sword, attempts were made to combine both functions in a single sword. This led to the emergence of another form of sword: the saber for both cutting and thrusting.

This article seeks to analyze two single-edged swords: the Shamshir and the Kilij. George Cameron Stone describes the Shamshir as the Persian curved saber, and he refers to the Kilij as the Turkish saber.<sup>5</sup> Curiously enough, while the word 'curved' has been applied to the Persian saber, it has not been used to describe the Turkish saber, which, though intended chiefly for cutting, is also effective for thrusting.

### The Shamshir

The Shamshir, which literally means "curved like the tiger's nail," is a deeply curved and continuously tapering sword, somewhat resembling the tail of this

majestic animal, which was prominent in Persian heraldry. Probably that is why Stone describes the Shamshir as a curved saber rather than simply a saber. It is the commonest sword in Persia. The Latin *simiterra*, the French *cimeterre*, and the English 'scimitar' derive from this Persian name. Because of a very pronounced curve the Persian saber came to be known as the scimitar. In course of time the English 'scimitar' became a generic term to describe Middle Eastern and oriental-looking sabers with a strongly curved blade and gradually tapering to a sharp point.

The early history of the Shamshir is somewhat obscure. According to Gerald Weland and Bernard Levine, the Shamshir was originally a hunting sword.<sup>6</sup> The earliest appearance of the Shamshir occurs in a Persian manuscript of 1306. This manuscript is now in the possession of the Royal Asiatic Society, London. The precursor of the Shamshir must have been the backward-curved Mongol sword, which found its way into Persia soon after the Mongols had occupied that country.<sup>7</sup> The Shamshir became typical of Mughal India, Turkey and the adjoining Arab world from the middle of the sixteenth century. In this study a sword with a deeply curved and continuously tapering blade will be classified as the Shamshir, regardless of whether the hilt is of Persian, Indo-Muslim or Arab form, in contrast with the Kilij. A sword intended for the drawcut is always sharp on the convex side. The extreme example of this form is the Shamshir, "the curve of which corresponds so accurately to the motion of the arm that the longest possible cut can be made with it."<sup>8</sup> Being purely a cutting sword, the Shamshir's point is particularly useless owing to the extreme curvature of the blade, which is thick though narrow. The blade of a Shamshir is not usually decorated except with one or more of the following inscriptions: the maker's name, the owner's name, the date, a dedication to a ruler, quotations from the Quran, and talismanic devices. One of the best examples is the Shamshir of Murad V, sultan of Turkey for less than a year in 1876.<sup>9</sup> Its blade was forged in Persia in 1688 and later set with diamonds; the jade hilt, mounted in gold and silver-gilt, and set with diamonds and emeralds, is hung with a tassel of matched pearls. Its chased gold scabbard glitters with more diamonds and enormous emerald cabochons."<sup>10</sup>

The hilt of a Shamshir, unless it is a decorated one like the Shamshir hilt of Sultan Murad V of Turkey, is simple and light with a single cross guard and a pommel projecting at one side. Occasionally a different style of hilt is used; it has short recurved quillons and an ogival pommel. The scabbard is usually covered with leather, often quite simple. The scabbard is sometimes embossed, and the steel

mounting is chiseled or inlaid. The hilt as well as the mounting of the scabbard is sometimes ornamented with carving, inlaying or enamel.

The curved blade of a Shamshir was often made of watered steel, which was produced by forging and cooling crucible steel of high carbon content to achieve strength.<sup>11</sup> Therefore, when a Shamshir has a better blade, it is always watered steel.<sup>12</sup> The process of forging and cooling crucible steel of high carbon leaves a faint wavy pattern on the surface of the blade. This pattern, emphasized by acid etching, is clearly visible on the Shamshir blade of Sultan Murad V. A watered blade has typical fern-like markings, and such a blade is of subtle but admirable beauty. As the Shamshir has an even curve, it is not necessary to split the back of the scabbard to admit it. It can be carried with the edge being down, hung from the left side of the belt by two slings.

As is evident from numerous examples of the Shamshir, now preserved in different museums including the Bangladesh National Museum, Persian Shamshir blades were frequently used in both Turkey and India where they were generally remounted in the style characteristic of those two countries.

Stone has illustrated a few examples. An Indian Shamshir, noticed by him, has a blade inlaid with gold.<sup>13</sup> Its steel hilt is inlaid with gold flowers. Although the blade was imported from Persia, its Indian hilt is clearly indicative of the sword being remounted in the style characteristic of India. The sword (**Plate 1**), now preserved in the Bangladesh National Museum (Accession Number 01-02-053-0000-01965), is also an Indian Shamshir as is evident from its hilt. The sword (**Plate 2**), also preserved in the Bangladesh National Museum (Accession Number 01-02-053-0000-01919), is an example of the Persian Shamshir. It probably found its way into India from Persia in the seventeenth century. The Indian Shamshir is from the eighteenth century.

The Shamshir is usually regarded as being optimized for mounted combat at close quarters, and such use is supported by illustrations and writings. P. S. Rawson holds that these sabers may well have been adopted more as a hunting weapon for killing animals from horseback than as a combat weapon.

The most celebrated swordsmith to forge Shamshir blades was Assadullah of Isfahan. He worked during the reign of Shah Abbas, the greatest Safavid king, who ruled from 1587 to 1629. Isfahan, which became the Safavid capital in 1598, was then known as one of the world's great centers of sword-making. Essentially

no actual details of Assadullah's life are known. Inscriptions proclaiming Shamshir blades to be his work are common and vary greatly in inscription placement, technique and style of execution, wording and calligraphy. On an examination of dated Shamshir blades included in *Islamic Arms and Armor*<sup>14</sup> we notice that inscribed dates associated with Assadullah range from the sixteenth century to 1808. Interestingly enough, we come across with a wootz blade also inscribed as the work of Assadullah but dated 1921. Another famed swordsmith from this same time and place was Assadullah's son Kalb Ali, for whom many inscriptions have also been documented. From the large numbers of Shamshir blades so inscribed and from the variations in style, it becomes obvious that these swords cannot be solely the work of the named swordsmiths or even of a particular workshop. Exactly which of the Shamshir blades bearing the signatures of these and other celebrated swordsmiths are actually their work, is now entirely unknowable. Rawson advises assessment of the worthiness of a Shamshir blade to bear the mark of a great swordsmith; however, this does not allow definite attribution of authorship. On the basis of a broad heavy blade bearing a bold, complex wootz pattern, Figel attributed a few of the swords in his collection to Assadullah; however, the cataloger of his collection at the time of auction was understandably more cautious.

### The Kilij

The Kilij is a sword used by the Ottoman Turks. This sword first came into use around the fifteenth century. It strongly resembles the Shamshir. The blade of the Kilij is, however, broader, shorter and less curved than that of the Shamshir.<sup>15</sup> In addition to being slightly shorter, the blade often flares large toward the tip, thus going against the typical tapering curve of the Shamshir. In the Shamshir the back is a fair curve almost parallel to the edge, but in the Kilij the curve of the back stops eight or ten inches from the point, and the blade then widens out abruptly and goes to the point in a straight line with a sharp edge on the back. To sum up, the blade of the Kilij differs from that of the Shamshir on the following counts:

1. Unlike the Shamshir, the Kilij is not uniformly curved.
2. Unlike the Shamshir, the Kilij has a false edge.
3. Unlike the Shamshir, the Kilij has a sharp point.

4. Unlike the Shamshir, which is intended for cutting alone, the Kilij can be used for a thrust as well, though not effectively.

The hilt of the Kilij is usually pistol-shaped and made of two pieces of horn, bone, ivory or stone fastened to the flat tang.<sup>16</sup> It has a guard in the shape of a straight, slim crossbar with balls or acorns on the ends.

The curve of the blade demands that the back of the scabbard at the top be open in order to admit it. A spring or a hinged plate sometimes closes the opening. The sling loops are generally on opposite sides of the scabbard, and it is hung in front of the wearer with the edge upward by a complicated harness of cords. Often two slings hang it with the edge down.

As is evident from one example of the Kilij (**Plate 3**), now preserved in the Bangladesh National Museum (Accession Number 01-02-053-0000-01775), Kilij blades were frequently used in India where they were generally remounted in the style of that country. The Bangladesh National Museum also has a Turkish Kilij (**Plate 4**, Accession Number 01-02-053-0000-01963). This probably found its way into India in the sixteenth century.

An interesting anecdote is that the Kilij is the basis for the Mameluke sword of the United States Marine Corps. As the Mamelukes were originally of Turkish descent, the Egyptians bore the Milij for hundreds of years. During the Napoleonic wars, the French conquest of Egypt brought this beautiful and functional sword to the attention of the Europeans, and this sword became known as the Mameluke sword in Europe. In 1831 the Mameluke sword, because of its popularity, even became a regulation pattern for British officers. The American victory over the renegade fortress in Tripoli in 1805 led to the presentation of a Mameluke sword to the lead Marine officer. Since then the Kilij, under the name of the Mameluke sword, has been a Marine Corps tradition in the United States of America.

### Conclusion

To conclude, the Persian Shamshir and the Turkish Kilij were not confined to their counties of origin. Because of the Muslim rule in Persia, Turkey and India for a long period of time, blades of these two swords were widely traded and interchangeably used with hilts of local manufacture in the Indian subcontinent and throughout the Near-Eastern Islamic world. Also, examples of the Persian Shamshir and the Turkish Kilij in their original styles are not unknown in India. Because of historical vicissitudes the Kilij found its way into Europe and spread

as far as the United States of America. The Bangladesh National Museum is fortunate to have the Shamshir of both Persia and India and the Kiliz of both Turkey and India. These swords found their way from the Baldha Museum into the Dhaka Museum (now called the Bangladesh National Museum) in 1963.



Plate 1.



Plate 2.



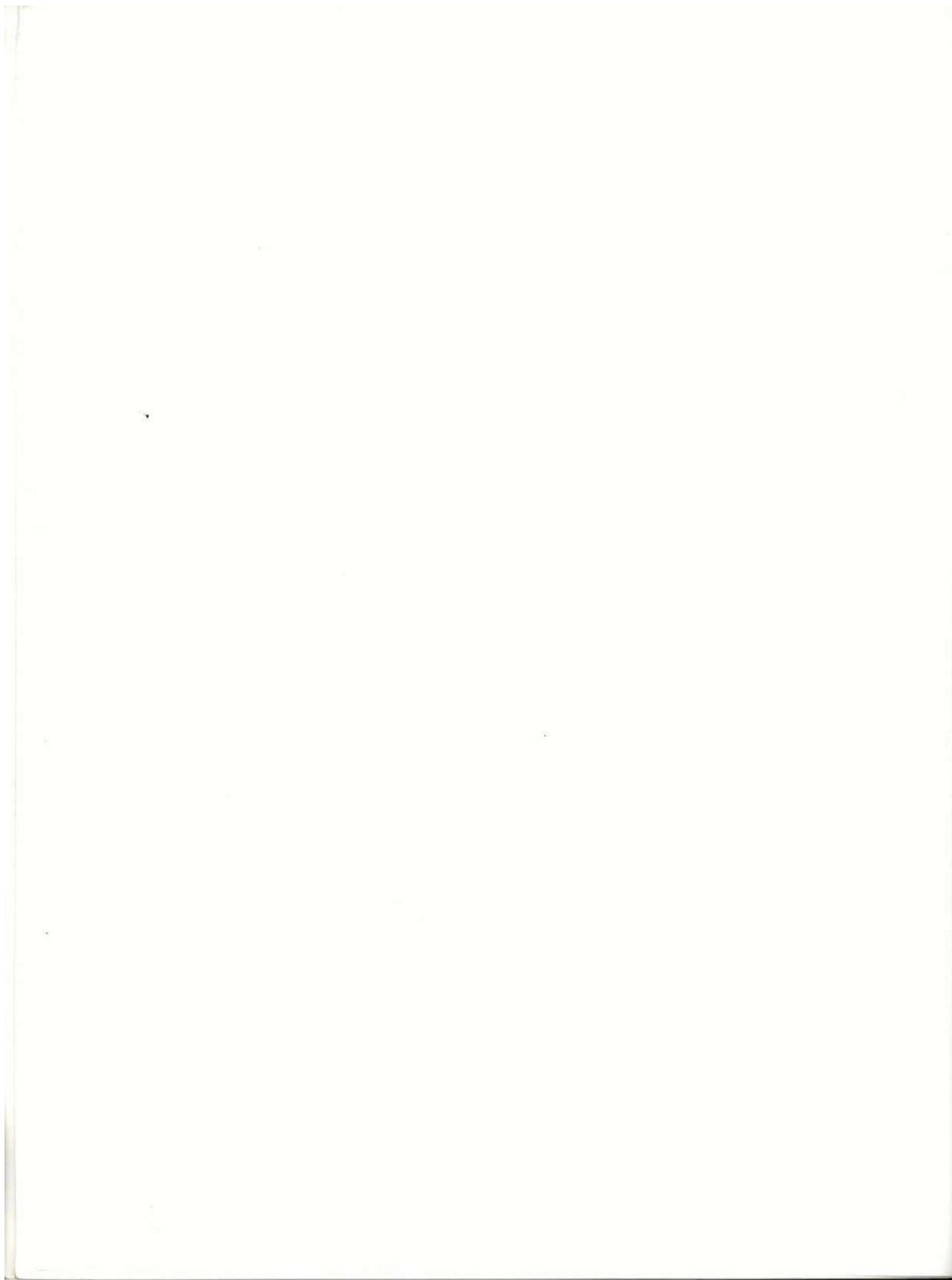
Plate 3.



Plate 4.

## Notes and References

1. Tarassuk, Leonid and Blair, Claude (ed.) *The Complete Encyclopedia of Arms & Weapons*, Simon and Schuster, New York, 1982, p. 408.
2. *Ibid.*, p. 408.
3. Levine, Bernard and Gerald Weland. *Knives, Swords, Daggers*, Barnes & Noble Books, New York, 2004, p. 72.
4. Stone. *Ibid.*, p. 550 and p. 356.
5. Levine. *Ibid.*, p.76.
6. The Mongols, led by Genghis Khan, invaded Persia in 1220.
7. *Ibid.*, p. 593.
8. *Arms and Armor (Guide to the Collections in the Metropolitan Museum of Art)*. The Metropolitan Museum of Art, New York, 1962, p. 28.
9. *Ibid.*, pp. 28-31.
10. *Ibid.*, p. 31.
11. Watered steel, a strong, tough material, is known by a great variety of names, such as Damascus, wootz, Jauhar, and so on. Western scholars often refer to watered steel as 'Damascus' because it was from Damascus that this kind of steel first reached Europe.
12. Stone. *Ibid.*, p. 551.
13. Robert Elgood (ed.), *Islamic Arms and Armor*, Scholar Press, London, 1979.
14. *Ibid.*, p. 356.
15. *Ibid.*, p. 357.



## Samatata Type Gold Coins of Śaśāñka in the Bangladesh National Museum

Shariful Islam & Muhammad Manirul Hoque

### Abstract

Śaśāñka, the king of Gauḍa, issued a large number of gold coins. Most of his coins have been discovered from ancient Gauḍa and Raḍha sub-region. The weight of these coins is 9.4g. and those coins were issued from Karnasuvarna, the capital of Śaśāñka. All these coins are symbolically and metalurgically same and now these are known as normal gold coin of Śaśāñka. But in 1998, B. N. Mukherjee published a different type of gold coin of Śaśāñka which was discovered from southern Tripura. This coin is similar from the other gold coin Samatata and it is defined as the Samatata design gold coin of Śaśāñka for the first time. So far we know that one piece of such coin has hitherto been published. But it is interesting to note that three of such gold coins are preserved in the reserve collection of the Bangladesh National Museum. These coins were discovered from Southeast Bengal. It was not known in the past whether Southeast Bengal was included within Śaśāñka's kingdom or not. But these coins can throw some fresh light at this regard. The present work is virtually an attempt to draw the scholar's attention about this numismatic evidence and their historical consequence in ancient Bengal.

Three Samatata type gold coins of Śaśāñka in the reserve collection of the Bangladesh National Museum deserve the attention of scholars. These coins were collected by the museum from Southeast Bengal in 1973-1976. The acquisition history of these coins is not comprehensively recorded in the museum document. The exact places of discovery of these gold coins are not known. These coins were collected from somewhere in Kachua Police Station of Comilla District along with other Post-Gupta gold coins. It is most likely that these coins were discovered from a hoard. The local coin dealer collected these coins from a jewelry shop and sold these to the Museum. It is interesting to note that one gold coin has the unique characteristic feature which discloses some new facts about the history of ancient Bengal. However, these numismatic sources demand a fresh assessment of the post-Gupta history of ancient Bengal.

The typological and symbolical features of these coins are as follows:

1. Accession no. 73.1506  
Weight: 5.03 gram.  
Place found : Kachua, Comilla.

Obverse: Within a circle of large dots, Siva reclining on a couchant bull with the trident held in the upraised left hand. Under the bull, the legend 'Śrī ja(ya)' is written in Brāhmī script.

Reverse: Within a circle of large dotted border, a goddess is seated on a lotus, presumably Lakṣmī. She holds a lotus bud in her left hand and an unknown object in her right hand. The legend is in Brāhmī 'Śrī- Śaśāṅka'.



Obverse



Reverse

1. Accession no. 73.1795

Place found : Kachua, Comilla

Weight: 5.5 gram.

Obverse: Within a circle of large dots, Siva is seen sitting on a couchant bull with the trident held in the upraised left hand. Under the bull, the legend 'vija(ya)' is written in Brāhmī script.

Reverse: Within a circle of large dotted border, a goddess is seated on a lotus, presumably Lakṣmī. She holds a lotus bud in her left hand and an unknown object in her right hand. The legend is 'Śrī- Śaśāṅka' on the left field of the deity.



Obverse



Reverse

2. Accession no. 76.1016

Place found : Unknown, collected from a coin dealer of Dhaka.

Weight: 5.83 gram.

Obverse: Within a circle of large dots, Siva is seen sitting on a couchant bull with left hand upraised holding a trident. Under the bull, the legend 'Śrī-ja(ya)' is written vertically in Brāhmī script.

Reverse: Within a circle of dotted border, goddess Lakṣmī is seated on a lotus. She holds a lotus bud in her left hand and an unknown object in her right hand. The legend is in Brāhmī character 'Śrī- Śaśāṅka'.



Obverse



Reverse

These above noted three gold coins are very rare and different from the normal coin of Śaśāṅka, king of Gauḍa. Only one such piece of gold coin has been published by Jahar Acharjee<sup>1</sup> and B. N. Mukherjee.<sup>2</sup> This single piece was discovered from southern Tripura, and is preserved now in the Rajendra Kirtisāla Museum of Agartala in Tripura. It is interesting to note that the normal coins of Śaśāṅka do not have any dots, but these coins bear the large dotted border like the other coins of Samatata, such as the coins of the Rātas, the Khaḍgas and the early Devas. Most of the normal coins of Śaśāṅka weigh 9.4g. But the weights of these coins are around 5.7g. It is interesting to note that goddess Lakṣmī in these coins are holding an object in her right hand that is very similar to the object in the hand of the deity depicted on the normal coins of Samatata. These coins are of fairly good metal with thinner and broader flan, and the figures are well punched like the other Samatata coins. Comparing these characteristics with the Samatata

coins, this coin has rightly been assigned to Samatata type gold coin of Śaśāṅka by B.N.Mukherjee.<sup>3</sup> N. G. Rhodes has supported B. N. Mukherjee and gave a clear description of the Samatata-type gold coin of Śaśāṅka.<sup>4</sup>

B. N. Mukherjee refers a coin of Śaśāṅka bearing the legend 'vi(ja)ya' but he is not sure about the reading. He offers a suggestion that it may be 'vi(ja)ya or Srija.<sup>5</sup> It can be read clearly in the coin (no. 2) 'vija(ya). However, our new findings show variations among the Samatata type coins of Śaśāṅka. In the above noted pieces, it is observed that no. 2 bears unique legend 'vijaya' in place of 'jaya', and this is a unique feature of the gold coins of Śaśāṅka so far discovered and published. The variation in the posture of Siva sitting or reclining on the bull indicates the artist power of innovation.<sup>6</sup> This coin also suggests that Śaśāṅka issued different type of coins from Samatata.

Banabhatta refers Śaśāṅka as the King of Gauḍa, while Zuan Zang mentions him as a King of Karṇasūvarṇa (at present Nadia District). The Rohatāsgarh seal, the three copper plates of Śaśāṅka (two Midnapur and Egra copper plates)<sup>7</sup>, and the Ganjam copper plate of Madhavavarman II, vassal of Śaśāṅka, are located in ancient Raḍha sub-region. The provenances of most of the published normal coins of Śaśāṅka were in ancient Raḍha and Gauḍa, and no coin of this king has been discovered in the past from Southeast and North Bengal. So, it was thought in the past that Śaśāṅka's kingdom was confined within the areas of ancient Raḍha and Gauḍa.

It is only mentioned in the *Mañjuśrīmūlakalpa*<sup>8</sup> that "there was a king Soma of the Brahman caste. The king *Ra* of the Vaisya caste was as much powerful as Soma. *Ra* was killed by a king of lower caste. *Ha*, the younger brother of *Ra* went to the city of Puṇḍra to fight with Soma. He defeated Soma." Some scholars identify the kings *Ra*, *Ha*, and Soma with Rayavardhan, Harshavardhan and Śaśāṅka respectively. Only on the basis of this fact, it is decided that North Bengal was under the sway of the kingdom of Gauḍa in the Post-Gupta period. But the historicity of this literary text has been questioned. Hence, there was no definite evidence to the scholars in the past to prove that Śaśāṅka could make himself lord of the whole of Bengal. But these above noted coins clearly show that Southeast Bengal as well as North Bengal was within the kingdom of Śaśāṅka as these numismatic evidences may be taken as corroborative source for the description in the *Mañjuśrīmūlakalpa*.

These coins also clearly show that Samatata was within Śaśāṅka's kingdom and he issued gold coins from this place. On the other hand, the legend 'vijaya' of one gold coin apparently suggests that this was issued as a mark of victory of Samatata. It may also imply that Śaśāṅka conquered Samatata and issued gold coins from there as a mark of his victory. The rival of Śaśāṅka may have been Bhāskaravarman, the ruler of Kāmarūpa. It is reported in the *Harsacarita* that Śaśāṅka was antagonist of Bhāskaravarman who made alliance with Harsavardhan, the rival of Śaśāṅka. The Dubi copper plate of Bhāskaravarman reports this conflict and a battle between the kings of Gauḍa and Kāmarūpa.<sup>9</sup>

From the coins reported above, we can substantiate the suggestion of B. N. Mukherjee who assigned this first in the Tripura Museum collection as Samatata designed gold coin of Śaśāṅka. The above-noted coins suggest that Śaśāṅka was the king of the whole of Bengal. However, these coins demand fresh assessment of the history of Śaśāṅka, and these numismatic sources need to be incorporated in the history of ancient Bengal.

#### References

1. Acharjee, Jahar, *History-Culture and Coinage of Samatata and Harikela*, Vol. I, Caxton Printers, Agartala, Tripura, 2006, pp. 1-2.
2. Mukherjee, B. N., 'Art in the Gold Coins of Gauda, Vanga and Samatata of the Post Gupta Age (C.570-750)', *Journal of Bengal Art*, Vol. 3, 1998, pp. 95-99.
3. *ibid*, p. 97.
4. Rhodes, N. G. and Bose, S. K., *The Coinage of Assam*, Vol. I, Pre Ahom Period, Kolkata, 2010, p. 7.
5. Mukherjee, B. N., *Coins and Currency System of the Post-Gupta Bengal*, Munshiram Manoharlal Publisher Pvt. Ltd., Delhi, 1993, p. 11.
6. Mukherjee, B. N., *op. cit.*, p. 38.
7. Majumdar, R. C., 'Two Copper plates of Sasanka from Midnapore', *Journal of the Royal Asiatic Society of Bengal, Letters*, Vol. XI, 1945, pp. 1-9.
8. Sastri, T. Ganapati (Ed.), *Arya-Manjuśrī-Mūla-Kalpa*, text edited by, Sanskrit Series, No. LXX, Trivandrum, 1920; Text edited by Rahula Sankrtyayana, in *An Imperial History of India in a Sanskrit Text*, edited by K. P. Jayaswal, Lahore, 1936.
9. Sircar, D. C., 'Gauḍa-Kamarupa Struggle in the Sixth and Seventh Century', *Indian Historical Quarterly*, Vol. 26, 1950, p. 241.



## Recently Collected Terracotta Viṣṇu Image in the Varendra Research Museum

Md. Manirul Haque

### Abstract

The Varendra Research Museum, under direct control of the University of Rajshahi is known all over the world as the richest repository of Bengal sculptures. Recently a terracotta Viṣṇu image has been added to its list of collections. It is a four armed Viṣṇu image. The lower part of the image is missing. Even the upper part is also partially damaged. Of the four arms the lower two up to elbow are mutilated. The upper two arms hold lotus and conch. The image wears a crown which is well decorated. This off white three dimensional images with a strongly built body looks very attractive. In some respects, it resembles the Viṣṇu and the Sun images found in Bogra, Maldah, Natore, Rajshahi and Naogaon. The newly found Viṣṇu image will perhaps be regarded as a classic example of 5th or 6th century Gupta Sculpture.

Recently the Varendra Research Museum has collected a rare terracotta Viṣṇu image from the village of Deulia or Deula under Raninagar upazilla of Naogaon District in Bangladesh. We have come to know from an enquiry that once Deula was a prominent village. It is also assumed that the word 'Deula' is derived from the Bengali word 'Deul', which means a temple or shrine.

Abul Kalam Muhammad Zakariah, a reputed archaeologist, has mentioned a similar village named 'Deuli' similar to Deula in his *Bangladesher Pratinasampad*,<sup>1</sup> an important book written in Bangla on the archaeological sites and artifacts of Bangladesh. The village he refers to is close to the Parbatipur Railway Station and is also very ancient. Zakariah has noted in his book that there was a Buddhist temple or *vihāra* in the village.

Deula, from where the terracotta Viṣṇu image has been collected is, no doubt, a very ancient village. There is a large tank in this village. The most part of it is now silted up. Yet it can easily be inferred from the debris, which has been discovered at the bank that there was a temple or shrine at the site.

The inhabitants of the adjoining areas established Deula-Manikhar High School on the bank of the tank a few years ago. While digging a part of the tank, the terracotta Viṣṇu image was unearthed by the villagers. Dulal Chandra Pramanik, the Headmaster of the high school, discussed with his colleagues and the

Chairman of the Union Parishad about the image. Then they decided to hand the image over to the Police Station of Raninagar. It was included in the general diary at the police station on 23 April 2008.

It took five days to observe the necessary formalities to bring the image to the Varendra Research Museum from there. With the approval of the Chief Judicial Magistrate of the district of Naogaon, the Varendra Research Museum was allowed to preserve, display and research the terracotta Viṣṇu image (53.5×28×16.5cm).<sup>2</sup> It may be mentioned that two terracotta plaques, which are still preserved in the Varendra Research Museum bearing accession Nos. 3536 & 3537 were collected from the same village of Deula in 1979. One of them was *Kriṣṇa* with *Gopinī* and the other was the image of two warriors.

The recently collected terracotta Viṣṇu image has lost its lower part. Nevertheless, it appears to be an amazing piece of terracotta sculpture endowed with artistic beauty. It originally had four hands. Two of them are already broken. A *padma* (lotus) remains on one hand and a large *Śaṅkha* (conch) on the other. Its colour is grey-white and hands are brownish. Its eyes are open and hair is clotted. It has a large belly, an exalted nose, passionate lips and a slightly elevated crown studded with gem. Its shoulder is broad with a Brahmanical thread (*upavīta*) on the left. There is no halo at the back of the head as is usually the case with other icons.

The sculpture has a tight ribbon round the waist. It wears a *dhoti* (loin-cloth about five cubits long worn by the Hindu and indigenous people of Bengal) folding up to the thigh and its front tuck flows down between the knees (see **figs. 1 & 2** below)



Fig.1. Viṣṇu (front view)



Fig.2. Viṣṇu (back view)

It is to be noted that the characteristics of Gupta art from eastern cult are visible in this piece of splendid terracotta sculpture. We are aware of the fact that the artists of this region enhanced special features the Gupta art. Their variations are obvious in different moulds, transparent clothes, crowns, seats and ornaments. Especially their dress is so much transparent that carves of the body can easily be seen.

The terracotta sculpture found in the village of Deula has a lot of similarities with those of Mahasthangarh. All of them were made during the Gupta regime.<sup>3</sup> Particularly the similarity between the crowns is clearly visible. Another similarity is noticed with the upper part of the three terracotta sculptures of the Gupta period discovered in Mahasthangarh.<sup>4</sup> The image found in Hankrail in Maldah, Singra of Natore, Kumarpur of Rajshahi, Niyamatpur of Naogaon and Narhatta of Bogra also show some similarities with the newly found image of Deula. These are all preserved in the Varendra Research Museum.<sup>5</sup> The image of Hankrail is dwarfish and its limbs are inconsistent.<sup>6</sup> The Viṣṇu image found in Narhatta of Bogra is four armed, the lower right hand holding a lotus and the lower left hand a *Śaṅkha*, while the upper right and left hands, being extended downwards, are placed on *gadā* and *cakra* respectively. The *dhoti* is held at the waist by a cloth band and it hangs in the shape of a twisted rope between the legs. It is probably an image from the 6<sup>th</sup> Century A.D.<sup>7</sup> The Sūrya image of Kumarpur appears to be heavily built.<sup>8</sup> Its long gown together with attendants on both sides and horses with *sārathi* (driver) on the pedestal is worth noting. The Sūrya image of Niyamatpur is the same as that of Kumarpur except that there is no pedestal with horses.<sup>9</sup>

If we closely observe the sculpture found in the village of Deula, we see that this image is one of the forms of Viṣṇu. The image can be observed following the rules of *Siddhānta Saṁhitā*. There it is said that a specific rule to count serially from the right lower hand up to the left hand should be followed. According to this rule, the Viṣṇu image number 22, out of his 24 images, with *padma – cakra – gadā – Śaṅkha* will constitute the image of Viṣṇu in the form of Śrīdhara, while *padma – gadā – cakra – Śaṅkha* will constitute the image of Viṣṇu in the form of *Trivikrama*, which is the 24<sup>th</sup> form among the Viṣṇu images. The weapons of the discovered terracotta image are broken. Hence, it is difficult to come to a conclusion. Yet we can say that the terracotta image is the *Trivikrama* or the Śrīdhara form of Viṣṇu as depicted in *The Sculptures in the Varendra Research Museum – A Descriptive Catalogue* by Mukhlesur Rahman.<sup>10</sup>

In fine, we can say that the Terracotta Viṣṇu image collected and preserved by the Varendra Research Museum is a distinctive instance of Gupta image tradition, which was developed during the 6<sup>th</sup> century in Bengal. It may be noted here that a terracotta Viṣṇu image found in Kichak, Bogra<sup>11</sup> is almost similar to the Deula image. It was damaged at the time of transportation to France in 2007. This image belonging to the 6<sup>th</sup>-7<sup>th</sup> Century A.D. was thought to be the earliest Viṣṇu image. The newly found Deula image seems to have preceded the Kichak image.

### References

1. Zakariah, Abul Kalam Muhammad, *Bangladesher Pratnasampad* (in Bangla), Dhaka, 2007, p. 84.
2. Varendra Research Museum, Rajshahi University, *Accession Register of Antiquities*, No. 4, Acc. No. 2009. 54 (10136).
3. Saraswati, S. K., *Early Sculpture of Bengal*, Calcutta, 1962, p. 107; See also *A.S.R.*, 1934-35, pl. XVIII; 1935-36, pl. XXVII; 1936-37, pls. XV, a, b, d, XVI.
4. Chowdhury, Saifuddin, *Early Terracotta Figurines of Bangladesh*, Dhaka, 2000, pls. 21, 22, 23; See also *An Album of Archaeological Relics in Bangladesh*, Dhaka, 1984, fig. 41.
5. Varendra Research Museum, Rajshahi University, *Accession Register of Antiquities No. 1 & 4*, Acc. No. 21, 644, 1530, 2912 & 2005.33 (9192); Mukhlesur Rahman, *Sculpture in the Varendra Research Museum: A Descriptive Catalogue*, Rajshahi University, 1998, pl. 86, pl. 104, pl. 232, pl. 243.
6. Saraswati, S.K., *Op. cit.*, p. 13.
7. Asher, Frederick M., *The Art of Eastern India 300-800*, University of Minnesota, Minneapolis, U.S.A, 1980, p. 21, pl. 37; Enamul Haque, *Bengal Sculptures: Hindu Iconography up to c. 1250 A.D.*, Bangladesh National Museum, Dhaka, 1992, p. 58.
8. Saraswati, S. K., *Op.cit.*, pp. 12-13.
9. Enamul Haque, *Op.cit.*, pp. 187-188.
10. Mukhlesur Rahman, pl. 1, *Op.cit.*, p. 73, pl. 88 & pp. 95-96, pl. 104.
11. Enamul Haque, *Op.cit.*, pl. 1.

## Earliest Dated Cannon of Medieval Bengal: A Re-evaluation

Sabikun Naher & Pranab K. Chattopadhyay

### Abstract

The history of beginning of the cannons in Bengal is rather important. Normally the historians at large assumed that in 1526 CE, Emperor Babur had used the cannon for the first time in the first war of Panipath. Husain Śāhi dynasty was the golden age in pre-Mughal; from different sources it is clear that the cannons were quite popular in the then Bengal. The present paper discusses the unpublished cannon at the Bangladesh National Museum brought from Naria-Shariatpur. The cannon indicate a date of 945 AH. The cannon under review are quite interesting in the historical context of Bengal. If our identification is correct, then Māhmud Śāha's chronology is extended to 945 AH.

### Introduction

The beginning of the cannon in the Indian subcontinent was not well illustrated. In the context of greater Bengal the case was rather in the dark. Normally, historians at large assumed that in 1526 CE, Emperor Babur, who originated from the Mongols, used the cannon for the first time in the first war of Panipath. However, this concept is not accepted fully. There is enough scope for re-evaluation of this statement. The technology of cannon making is dependent on the origin of gunpowder. The earliest use of the cannon appeared in 1260 CE in the Battle of Ain Jalut, between the Mamluks and the Mongols in the Middle East. The diffusion of gunpowder from China to India took place through more than one route. One of the same was definitely through the Mongols, through Babur. Bengal had direct link with China in Early Medieval period, probably through the trade centre at Bhamo, the site being located in modern Myanmar.

The history of the beginning of the cannons in Bengal is rather ambiguous. Only a few papers are available now that included the overall picture of cannons of Bengal Mia, 1991, Santra, 1998 and Chattopadhyay, 2013.

In Bengal the earliest reference to the cannon is found in the *Rājamālā*, the chronicle of Tripura where it has been mentioned that the Bengal Sultan Husain Śāha (899-925 AH, 1494-1519 CE) used cannons while fighting against Dhanyamanikya, the Chieftain of Tripura in the early part of the 16<sup>th</sup> century CE. According to *Rājamālā*, Husain Śāha fought in 1436 Śaka (1514-15 CE). In the historical context we may briefly discuss the political scenario including the Husain Śāhi dynasty, appearance of Babur, Sher Śāha and arrival of the Portuguese.

### Husain Śāhi Dynasty

Husain Śāhi dynasty was the golden age in pre-Mughal Bengal. In the beginning of his career, Alā-ud-din Husain was an ordinary soldier and rose to the position of *Wazir*, of Muzaffar Śāha of the Habshi dynasty. Alā-ud-din Husain who established Husain Śāhi Dynasty was in the throne of Gauḍa during 899-945 AH (1494-1538 CE) (Hussain 2003: 176).<sup>1</sup> From numismatic and epigraphic evidences Alā-ud-din Husain Śāha began his reign in 899 AH (1494 CE), Husain Śāha of his assumption of power in the very first year. He sent expeditions to Kamrup and Kamta. In the first year of his kingship, Delhi Sultan Sikandar Lodi had attacked Bengal. Husain Śāha sent his son Śāhazāda Dāniyāl to oppose Lodi (Hussain 2003: 147).<sup>2</sup> There was a long battle between Husain Śāha and Dhanya Manikya of Tripura. The present people of Agartala believe that Husain Śāha brought cannons to capture Tripura. It is said that the cannon located at Kaman Choumohani was captured by Dhanya Manikya from Husain Śāha. From different references it is clear that Husain Śāha captured Kamta-Kamrup. Referring to Rājmalā, Hussain further mentioned that Arakānese King Rosanga took advantage of Husain Śāha's preoccupation with Tripura and occupied Chittagong (Hussain 2003: 153).<sup>3</sup> Husain Śāha had also a long term war with Orissa.

Mukhopadhyay (1988:304-05)<sup>4</sup> has referred to Munshi Shyamprasad, who mentioned that Husain Śāha had brought a cannon namely '*Kuchmardan*' from Kamta. Husain Śāha's coin dated 924 AH (1518-19 CE) indicated that he was the ruler of Kamta-Kamrup.

Husain Śāha was succeeded by his son Nusrat Śāha. The date 922-923 AH on Nusrat Śāha coins indicates that these were issued as him as the crown prince (Tarafder 1965:68).<sup>5</sup> During his rule, Hajo of Kamrup was under his possession (Mukhopadhyay 1988: 305).<sup>6</sup> Old Assamese history (*Purani Assam Burunji*) refers that during the rule of Suhung Mung, Muslims first attacked Assam with 20,000 soldiers including cavalry and uncountable boats.

As per the evidence of *Ahom Burunji*, the first Muslim invasion took place in 1527, where Muslims lead not by name but as '*Bara Ujir*'. That invasion seems to be a naval raid, near the river Burai, accompanied by efficient cavalry (Acharyya 1984:92).<sup>7</sup> In that war forty horses were captured by the Ahom soldiers and this was the earliest reference in the Buranjis about cannons; the period is contemporary to Nusrat Śāha.

### Appearance of Bābur and Nusrat Śāha

The appearance of Bābur in India inflicted a crushing blow to the Lodhi (Lūdi) in the battle at Panipath in 1526 CE. In 1527 soldiers of Bābur advanced up to the Ghogra after having plundered Kharid, located at Ballia district of Uttar Pradesh. Subsequently Bābur sent Mullā Muhammad Madhab to the court of Gauḍa with a view to ascertain Nusrat's attitude to his military policy in the east. After the battle of Khanwa in 1527 CE Ibrahim Lodi's brother Mahmud Lodi who fled to Panna in Bundelkhand came to Bihar and formed a powerful anti-Mughal confederacy (Hussain 2003:160). Bābur attacked the Bengas forces and crossed over into Saran via Kharid.

Bhattachali (1922)<sup>8</sup> has referred to the Autobiography of Bābur (*The Bāburnāmā*) as translated by A.S. Beveridge, where it has been mentioned that on 4-5<sup>th</sup> May 1529 Babur had an encounter at Kharid with Nusrat Śāha, the then Sultan of Bengal. Bābur commented on the efficiency of the Bengalese with the use of cannons but their aiming was not proper and had used them at random (Beveridge 1970: 671-672).<sup>9</sup> Abdul Karim (1993:339)<sup>10</sup> further noted that Nusrat Śāha wanted to avoid the war with Bābur. On 5<sup>th</sup> May the fight was held between Bengalees and Bābur's general Usta. Both the facts related to Husain Śāha and Nusrat Śāha clearly indicates that the cannons were quite popular in Eastern India of the then period. Abdul Karim (1993:340)<sup>11</sup> had also accepted the above views of Bhattachali and Beveridge. We can conclude that there was no direct fight with Bābur and Nusrat Śāha thus saved Bengal from the possibilities of Bābur's invasion. The rise of Mughals in Northern India was a direct threat to Bengal. Nusrat encouraged the Afghān settlement in Bihar as a buffer region between Mughals and Bengal.

Next we may discuss Nusrat's activities with Assam. In 1532 CE one general, namely Turbak, fought against Assam with 30 elephants, 1000 horses, many guns, and a good number of cannons and other weapons (Acharyya 1984: 95-96, Mukhopadhyay 1988: 453). Nusrat Śāha expired in 938 AH (1532 CE). In 1533 a naval engagement were made near Duimunisila Ahoms succeeded in the battle by killing 2500 naval personnel, lost twenty ships and a number of big guns.

Next ruler for a short period was Ala-ud-din Bibban Śāha, one of the sons of Nusrat Śāha. Coin of this prince who ruled for one or two months only in 1531 CE is known (Hussain 2003: 164).<sup>12</sup> Next ruler was Firuz Śāha, another son of Nusrat

Śāha who ascended the throne 938 AH (1532 CE). He ruled for about one year in 1532-33 CE (Hussain 2003: 167).<sup>13</sup> Bengal's war with Assam continued althrough.

Ghiyāth-ud-dīn Māhmud Śāha is the last ruler of the Husain Śāhi dynasty who ascended throne by killing Ala-ud-dīn Firuz. He was one of 18 sons of Husain Śāha. That killing of Firuz was not accepted by Makhdum Alam, Governor of Hajipur, who refused to recognize Mahmud Śāha as the Sultan of Bengal. On the other hand Alam allied himself with Sher Khan, the regent of Jalal Khan Lohani and the virtual ruler of Bihar and showed signs of rebellion. The growing power of Sher Khan led to the rise of two parties in Bihar – one under Sher Khan and the other under Jalal Khan. Jalal sought the assistance of Mahmud against Sher Khan.

The last decade of Husain Śāhi rule was rather complicated. The plan of extensive conquests and defense measures against Delhi rulers at the beginning of the dynasty was weakened. Māhmud Śāha created enemies among the high officials and sowed the seed of internal feud in the kingdom. In 1534 the Portuguese arrived in Chittagong. Initially his strictness against the Portuguese was justified but his tact totally failed and he was bound to allow the Portuguese to establish factories in Chittagong and Hoogli.

Khuda Bakhsh Khan, a Governor and general of Mahmud Śāha extended his sway over the region lying between the Karnafuli and the mountains of Arakan; Makhdum Alam, Governor of Hajipur also rebelled against him. Thus Ghiyāth-ud-dīn Māhmud proved himself a weak, pleasure-loving and easy-going ruler. He had neither diplomatic foresight, nor any practical approach to the political problems in Bengal.

#### Rise of Sher Śāha at the end of Husain Śāhi period

Sher Śāha (initially named as Farid, later known as Sher Khan) took service under Bahar Khan Lohani, Sultan of Bihar, who gave him the title of *Sher Khan* (meaning *Tiger Lord*) for his courage and valor. Later he became a *Jaigirdar* of Sasaram. After death of Lohani, Sher Khan became the reagent of Lohani's son Jalal Khan. Other courtiers of Jalal allied with Māhmud Śāha who was trapped in sending an army against Sher Khan. The battle took place in 1534 CE at Surajgarh where Sher Khan won that battle.

### End of Ghiyāth-ud-dīn Māhmud Śāha: Fall of Gauḍa

The reign of Mahmud Śāha faced turmoil when Bengal became a centre of triangular struggle of the Afghāns, the Mughals and the Portuguese (Hussain 2003:168).<sup>14</sup> Māhmud was bound to take help from the Portuguese against Sher Khan, who attacked Gauḍa to resist the Portuguese. Māhmud sent Qutb Khan, Governor of Munger against Sher Khan. In 1533 battle took place near Nurpur in Begusarai district. Māhmud's brother-in-law Makhdum Alam was the Governor Hajipur who betrayed Māhmud and did not extend any help to Qutb Khan who was killed in the battle field. Māhmud sent a fresh force against Makhdum. Māhmud sent fresh attack against Sher Khan. Sher Khan defeated Ibrahim Khan near Ghiyaspur. This battle was a decisive one in medieval history of Eastern India. Sher Khan gained the fort of Surajgarh from Māhmud Śāha. Māhmud deployed a large army at Teliagrahi with Portuguese support. In that time Humayun was engaged in a battle in Gujarat. Sher Khan proceeded to Gauḍa for first invasion in Bengal in 1536 (942 AH). Māhmud had to face a defeat and was compelled to agree to a treaty with Sher Khan. At this time Sher Khan published his coin in 942 AH, calling himself as Sultan Sher Śāha. Humayun came back to Agra in August 1536 and Sher Śāha moved to Bengal in 1537.

The turmoil of Gauḍa was for six months during October 1537 to March 1538. In 1537, Sher Śāha besieged the capital of Bengal at Gauḍa. At this stage, Humayun marched towards the east with a view to capture Chunar.

Mahmud Śāha came out of the fort of Chunar and fell upon the enemy. In the battle, he was wounded and defeated and consequently fled towards Hajipur in north Bihar. Gauḍa fell into the hands of the Afghans on 6 April 1538.

Sher Śāha Suri and his Afghans defeated Ghiyāth-ud-dīn Māhmud Śāha and his Portuguese ally on 6<sup>th</sup> April 1538. Mughal Emperor Humayun had not extended his support to Māhmud Śāha. Chunar fell into the hands of Humayun. Sher Śāha occupied fort of Rohtas. Māhmud Śāha fleeing from Gauḍa met Humayun at Darveshpur, near Maner, with a request to continue his march to Gauḍa. Sher Śāha looted all treasure from Gauḍa towards Rohtas. Humayun along with Māhmud Śāha tried to come back to Gauḍa. Reaching Kahalgaon Māhmud Śāha got the news of assassination of his two sons by the Afghans, which shocked him and led to his death 945 AH. The Mughal army occupied Gauḍa without any resistance. During the stay of Humayun in Gauḍa, he never engaged in a war in Bengal. Later

Sher ŝāha defeated Humayun, driven him out of India and captured throne of Delhi.

#### The description of the cannon

Recently the Bangladesh National Museum has observed its centenary. Scholars were invited to an International seminar organized to grace the occasion. During this time we first noticed a cannon being exception from the others displayed in front of the museum building. There are a number of cannons; most of those were of 18<sup>th</sup> century collections, made of iron, collected from different parts of Bangladesh but this particular cannon was the exception in the series, it was a brass/bronze cannon of Bengal Sultans, which was brought from Nariya-Shariatpur (21°27'30"N, 92°06'00"E / 21.4583°N, 92.1000°E (**Fig.1**). The place is under Shariatpur district of Bangladesh. The accession number of the cannon under review of the Bangladesh National Museum is J-2003-250.



Fig. 1: The brass cannon of Bangladesh National Museum collected from Nariya Sariatpur

The total length of the cannon is 172 centimeter, circumferences while of the muzzle face is 39 centimeters, diameter of the muzzle face is 17.8, centimeters, bore of the cannon is 7 centimeters, and diameter of the vent is 2 centimeters. The cannon is attached with a set of trunnion's – whose length is 7 centimeters and diameter is 5 centimeters. The tail-end of the cannon indicates that there was definitely an attachment or handle at the back plate for vertical movement of the barrel. The Table-1 indicates the measurement of the cannon at a glance. The Figs. 2 to 3 indicate the different views of the cannon. Fig. 2 is the muzzle face. Fig. 3 is the breech of the cannon showing the vent. The engineering drawing of the cannon is shown in Fig. 4.

Table 1: Measurements of Cannon at a glance

Length	
Total length	172 cm
Barrel	166 cm
Back Plate to Trunnion	78 cm
Trunnion	7 cm
Trunnion to Muzzle	73 cm

Diameters	
Muzzle face	17.8 cm
Bore	7 cm
Back Plate	18 cm
Trunnion	5 cm
Vent	2 cm
Knob	4 cm

Circumference	
Muzzle face	39 cm



Fig. 2: The Muzzle Face



Fig: The breech of the cannon showing the vent

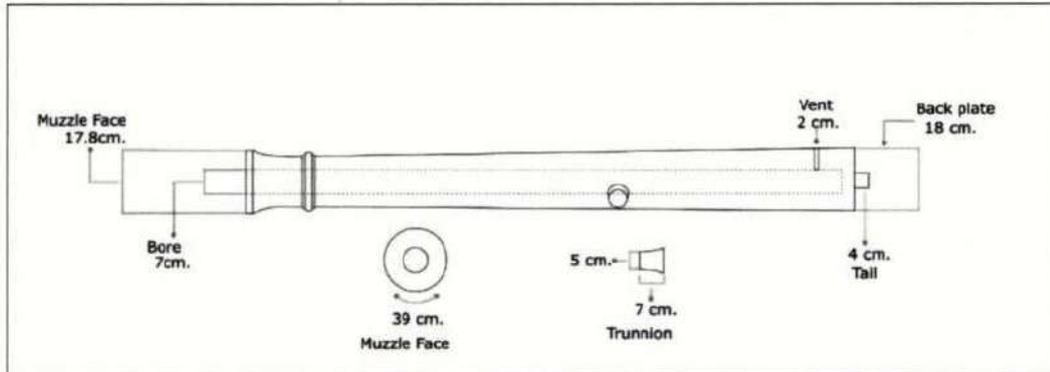


Fig 4: The engineering drawing of the cannon

### Inscriptions

This unique cannon bears a number of inscriptions. The major Arabic inscription is written on the barrel of the cannon in of *Thulth* type, '*Farmaish Islam Sāhaen Sāha Al- Sultan Shana 945*' (Fig: 5). In Fig. 6 and Fig. 7 especially reveals the inscription. The cannon further include a few more inscriptions: i) one on the muzzle face, ii) transverse of the major one and the three minor inscriptions at the muzzle swell. Except the major one, all are written in *shi-kas-teh*; scripts. Because of non availability of diacritical marks it is rather difficult to read those legends. The second line of incomplete *shi-kas-teh* inscription reads as '*... hazam one dan Akbar*'. It may be pointed here that the word Akbar is definitely not representing the Mughul emperor Akbar. We are not yet able to decipher those minor scripts; perhaps those indicate the operating procedures of those cannon. Fig. 6 indicates the inscription as deciphered. Fig. 8 indicates incomplete "*shi-kas-teh*" inscription.



Fig. 5: The inscription on the muzzle of the cannon, reading '*Farmaish Islam Sāhaen Sāha Al- Sultan Shana 945*'.



Fig. 6: The barrel of the cannon highlighting the Inscription.



Fig. 7: The barrel of the cannon deciphering the Inscription.



Fig. 8: The close up views of inscription at muzzle swells. The second line of incomplete “*shi-kas-teh*” inscription reads as ... *hazam one dan Akbar...*

We have also some comments regarding the cannon’s major inscription. In this inscription we read the first Arabic word as *Farmaish*, this word is very common meaning – ‘by the order of’ and in Bangla this word has been absorbed. The Arabic alphabet alphabet  $\dot{f}$  (*fā*’) normally used one nukta. On the other hand alphabet  $r$  (*rā*’) normally does not use any nukta whereas the alphabet  $z$  (*zāy*) uses one nukta and the alphabet  $q$  (*qāf*) uses two nuktas. The beginning of word of the inscription there are two nuktas then one may read the first alphabet as *fā*’ and second alphabet as *zāy*, and the word would be *Fazmaish*, or one may read the first alphabet as *qāf* and second alphabet as *rā*’, and the word would be *Qarmaish*. Unfortunately we could not match any word as *Fazmaish* or *Qarmaish* in Arabic dictionary. Thus we prefer to read this first word as *Farmaish* and detect this anomaly in script and suggest that as calligrapher’s fault.

The major inscriptions clearly indicate the date (AH) 945 – that is 1538 CE. The date is rather crucial in the history of Bengal, and that highlight the date of kingship of Ghiyāth-ud-dīn Māhmud Śāha and end of independent Sultans of Bengal. In his coin he used his epithet as *Al Sultan Al Adil Farid Arduniya Abul Muzaffar Sher Śāha Sultan*. That epithet of Sher Śāha is different to the epithet

used in the cannon under study. The muzzle in cannons of Sher Śāha found in Eastern India and Bangladesh are tiger-faced. Thus we cannot accept that our present cannon belonged to Sher Śāha from its physical appearance, and neither had it belonged to Humayun. The available historical documents clearly suggest that it belonged to Ghiyāth-ud-dīn Māhmud Śāha.

### Conclusion

The cannon under review is quite interesting in the historical context of Bengal. If our identification is correct, Māhmud Śāha's chronology is extended to 945 AH. Sher Śāha reoccupied in Bengal 1539 (Tarafder 1965: 88).<sup>15</sup> Ghiyāth-ud-dīn Māhmud Śāha expired sometimes in 1539 in utter mental affliction. The cannon was perhaps ordered by Māhmud to the cannon founders earlier and after manufacturing it Māhmud's troops utilized that but could not survive the dynasty. Perhaps that was the reason for the confusion of 945 AH to the end of his kingship on 944 AH.

We do not know exactly who the first ruler of Bengal was possessing cannon. We could neither locate those earliest cannons physically. We want to draw the attention of historians that the present one is so far the earliest dated cannon of Bengal. We have studied the cannons of Sher Śāha at the National Museum of Bangladesh and Varendra Research Museum, Rajshahi. Those cannons are not identical to the present ones. The cannons of Sher Śāha are normally tiger-faced and clearly indicated the name of Ahmed Rumi who built those cannons for Sher Śāha. Those were made by casting and our present cannon were also made by the same.

We may assure that Māhmud had ordered '*Farmaish*' to the Cannon-caster when he was in power. The proposed date of delivery could be 945 AH. We could not find any clue whether it was at all used in battle. A few months time was definitely needed for procuring of metal and finishing of the cannon after trial blasting.

### Acknowledgment

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for their support on the inscriptions of the Cannon. Jasmin Nahar Jhumur has elaborately drawn the inscription. We are thankful for their support and valuable discussions for preparation of this paper.

## References

1. Hussain, Syed Ejaz, *The Bengal Sultanate: Politics, Economy and Coins*, Manohar, New Delhi, 2003, p. 176.
2. *Ibid*, p. 147.
3. *Ibid*, p. 153.
4. Mukhopadhyay, S., *Banglar Itihaser Dusho Bachhar: Swadhin Sultander Amal*, Bharati Book Stall, Kolkata, 1988, pp. 304-305.
5. Tarafdar, M. R., *Husain Śāhi Bengal 1494-1538 A.D. A Socio-Political Study*, Asiatic Society of Pakistan, Dhaka, 1965, p. 68.
6. Mukhopadhyay, *Ibid*, p. 305.
7. Acharyya, N. N., *The History of Medieval Assam*, Omsons Pulications, Gauhati and New Delhi, 1984, p. 92.
8. Bhattasali, N. K., *Nutan BadShāhi Amaler Kaman*, Prabashi, Paush, 1922, pp. 313-18.
9. Beveridge, A. S., *The Bābur-nāmā*, Oriental Books Reprint Corporation, Delhi, 1970, 671-72.
10. Karim, Abdul, *Banglar Itihash (Sultani Amal)*, ( in Bangla), Bangla Academy, Dhaka, 1993, p. 339.
11. *Ibid*, p. 340.
12. Hussain, Syed Ejaz, *Ibid*, p. 164.
13. *Ibid*, p.167.
14. *Ibid*, p. 168.
15. Tarafdar, M.R., *Ibid*, p. 88.

## An Archaeological Monument of Mymensingh: An Unnoticed Temple

Bijoy Krishna Banik

### Abstract

The head-broken *thanaghat shiva* temple is one of the oldest archaeological living monuments in Mymensingh district town. The Buddhist, Hindu and Muslim arts and architectures developed on their religious perception. Mainly, Hindu arts and architectures developed through their *math*, temples and images of god and goddess. The charming and beautiful architectural features of religious buildings add a new dimension to our architectural style in Bengal. This beautiful temple can be classified as *Rekha or Shikhar Deul*. The ornamentation of the temple is plain and very simple. Nothing is known about its construction. But the Sultani and Mughal influences are observed in this beautiful and historic temple. The structural feature, architectural style, constructional technology, wall thickness, building material and ornamentation of the temple indicate that it was probably constructed in the late Mughal or early British period. This unnoticed, beautiful and archaeological living temple needs urgent protection, conservation and preservation to save our cultural heritage.

### Introduction

The head-broken *thanaghat shiva* temple is one of the oldest archaeological living monuments in Mymensingh district town. It is located near about 50m from Mymensingh sadar *thana* on the bank of the river Brahmaputra. It comprises 0.05 hectares of land in *khatiyān* no 1350 ROR of *sahar mauza* bearing plot nos 7898, 7899 and 7900.<sup>1</sup> Nothing is known about its building or the period of its construction.

### Historical Background and Importance

Monastery-temple, stupa, vihara, sculpture and temple ornamentation are the art and architectural history of ancient Bengal. It has been mentioned in *Bodhayan Dharmasuttra* that the Aryans came to Bengal on pilgrimage. The places for pilgrimage indicate that there was a temple or temple complex in Bengal. So, there is no doubt that in pre-Aryans period, there were a number of temples in ancient Bengal.<sup>2</sup> In ancient time, Buddhist, Hindu and Muslim arts and architectures developed on their religious perception. The best and beautiful arts

and architectures of the Buddhist were vihara and stupa and those Muslims were mosques and mausoleums. Mainly, Hindu arts and architectures developed through their *math*, temples and images of god and goddess.<sup>3</sup> Above all, ancient temples of Bengal were destroyed over a long time due to building materials and political unrest.<sup>4</sup> Most of the temples, mosques and mausoleums, in middle age, were made by bricks in Bengal.<sup>5</sup> Lime and brick-dust were used as mortar of those structures. Religious buildings were decorated by the beautiful terracotta plaques and moulded bricks. Some plaques were designed on the themes of the *Ramayana* and the *Mahabharat* and some were designed through geometrical and floral motifs. The charming and beautiful ornamentation of religious buildings add a new dimension to our architectural style in Bengal. We get some structural conceptions on ancient temples of Bengal from a number of books, ancient manuscripts and inscribed temples portrait on stone images.<sup>6</sup> From an analysis of structural features, characteristics and pictures of the temples, we can make a conclusion that the style and structural features did not depend upon the base plan of the temples. Most of the base plans and arrangements of the ancient temples were nearly same. The variety of the temples mainly depends upon the upper portion of the sanctum or structural design of thatched roof.<sup>7</sup> The shape and structural design of roofs or thatched roof of the temples are divided into four types.<sup>8</sup> The types of temples were as follows:

1. *Bhadra or Pir deul*
2. *Rekha or Shikhar Deul*
3. *Stupajukta Pir or Bhadra Deul* and
4. *Shikharjukta Pir or Bhadra Deul*.

But it is to be noted that at present, every type of temples is not found in Bangladesh. Specially, third and fourth types of temples are not found till now but second types of some temples are traced in Bangladesh scattered.<sup>9</sup> Such types of temples were made of stone, bronze or brick in ancient or mediaeval period. Brick-made *Jatar Deul* at the Sundarbans, stone-made temple at Rajshahi and bronze-made temple at Chittagong were found in Bangladesh.<sup>10</sup> The characteristics of these temples are found in as follows:

1. An anteroom on the line drawing
2. Niches in internal four walls of the anteroom



Thanaghat Shiva Temple Photo : *Saranika* (1869-1969), Mymensingh Paurosabha

3. *Shikhara* like a tapering structure in the form of a tall cone rising from the tower top

4. Short neck on *shikhara* and

5. *Amalak* on short neck.<sup>11</sup> The ornamentation of the temples was found to be very simple and not pompous condition in the middle age. The best comparison is to be found between Siddheshwar temple and Harmasasar temple.<sup>12</sup> The structural features and styles of the temples had been changed due to political and social influences, economical crisis and the span of time. The art and architectural features of Bengal can be noticed in this historic and beautiful head-broken *thanaghat shiva* temple.

#### Characteristics of Bengal Temple

According to the characteristics of Bengal temples, this one contains three main parts in its structural feature i.e. 1. Platform, 2. Anteroom and 3. Spire. The

ornamentation of the temple is plain, very simple and not pompous. It seems that the distinguished place of the temple was decorated by a symbolic pitcher and its highest top, by a trident. But, at present, the highest top is not present.

### Archaeological and Architectural Analysis

#### 1. Platform of the Temple

Top of the platform of the temple is about 01m high from the surrounding plain level or the passing metalled road. The facade of the temple is to the eastward. Most probably, the plinth level was square in shape, because top of the platform of the temple is now externally 5.95m in length and 5.77m width. In ancient time, such type of temple was usually built square in shape on plinth level.



Thanaghat Shiva Temple in 2006

#### 2. Anteroom of the Temple

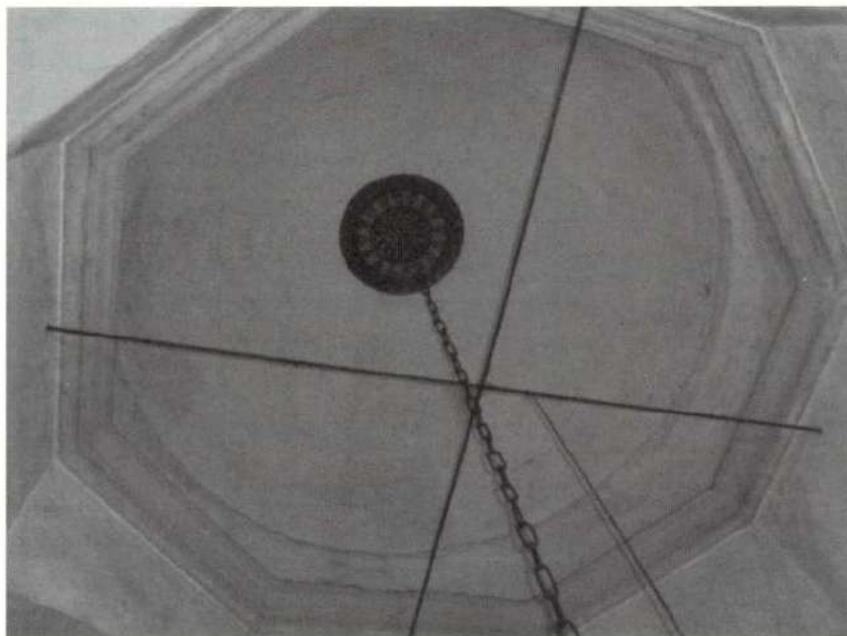
The only one entrance is noticed to be eastward of the anteroom of the temple. It is externally 168 cm and internally 165 cm high and 117 cm wide. The thickness of the wall is 119 cm. The arch of the entrance is traced as bow shape. The internal wall is 3.60m in length to north-south and 3.40m in wide to east-west now. Most probably, the walls were of the same length. But, different lengths are found due to its repairing again and again. There are three niches observed on

west, north and southern internal wall. All three niches are in panel decoration. The rectangular panel is 109 cm high and 74 cm wide. The measurements of three niches are same i.e. 79 cm high and 43 cm width and 30 cm deep. Totally, square shape anteroom's wall is 4.73 cm high from the floor level. An incurved triangular motif decoration is found in every internal wall's top corners of the temple. An octagonal shape wall is observed on the square shape wall of the anteroom. A series of lotus petal motif decoration, in the panel, is on the octagonal shape wall. It is also like a snake hood ornamentation, which is going to fade away. The edge of the wagon vault is imposed on the octagonal shape wall. The internal roof consists of eight parts in total also. A 43m long iron-made thick chain comes down from the centre of the wagon vault roof and a bell, made of bell-metal, is found having from with it.



Incurved triangular motif decoration of Thanaghat Shiva Temple

The dorsal surfaces of the western and northern external walls of the anteroom are decorated by two panels. There are four half-interred vertical pillars in each panel and two pillars are together in one side. A semicircular arch makes a bridge on the top of both the half-interred pillars in one panel. Southern external wall is covered by a new wall of residence.



Wagon vault roof of the Thanaghat Shrine Temple

Most probably, this wall was also decorated by the same features. Same ornamentation is also traced on both sides of the entrance of the eastern wall. But, now it is covered by new repairing. The sanctum head is covered externally by a slightly projected horizontal cornice. There is traced dental motif ornamentation under the cornice. Now, the sanctum head of the temple is bounded by an iron sheet of 10cm width for saving the temple.

### 3. Spire of the Temple

There are three steps on the roof of the sanctum of the temples. All three steps are octagonal in shape. Horizontal cornices relieve the space between the first and second steps and again second and third steps. Every step of the middle two steps is about 3.96m long and ornamented by panel decorations. There are two half-interred vertical pillars in each panel. A semicircular arch makes a bridge on the top of both two half-interred pillars of the first step. Same ornamentation is found on the dorsal surface of the second step but all the arches are of leaf motif. Every diagonally connecting line of two panels of second step is straightly situated on the middle of the first step panel. Every diagonally connecting line of the first and second step is parallel. The third step is crowned with a tapering single spire. The dorsal surface of the third step is plain and every diagonally connecting line is straightly situated on the middle of the second step panel. But the diagonally

connecting lines of the third step are not parallel. Every diagonally connecting line of the third step is going upward gradually for meeting at a point like the pyramids. It can be assumed that all the lines met at the bottom of a pitcher (like *amalak*) and at the top were decorated by a trident. The diagonally connecting lines of the first and third steps are in a same straight line, and the surfaces are on same level except the second steps. Such surface and line arrangement enhance the aesthetician style of the temple.

### Classification of the Temple

Exact similarity in structural and ornamental styles was not found between the temples of latest period and the temples of ancient and mediaeval period. Some changes are also noticed in this temple. This temple can be classified as *Rekha or Shikhar Deul*.

### Archaeological Findings

A phallic symbol of Shiva (*Shiva Linga*), made of black stone, is under the bell. It measures 60 cm high and 60 cm wide. There is another small phallic symbol of Shiva, made of black stone, by the side of the big one, and is 36 cm high and 28 cm wide. The chief attendant of Shiva (*Nandi*), made of black stone, measures 56 cm long, 20 cm high and 38 cm width, is near to the *Shiva Linga*. All these symbolic images were thrown to the river Brahmaputra in 1971 of the time of the Liberation War. The images were recovered after the war and reestablished in the temple again.<sup>13</sup>

### Building Material

Four types and sizes of bricks were used to build the temple. The average measurements of the bricks are as follows: 1) 30.48cm × 17.78cm × 5.72cm, 2) 22.86cm × 17.78cm × 2.54cm, 3) 20.32cm × 13.97cm × 3.81cm and 4) 19.05cm × 13.97cm × 5.08cm. Lime and brick-dust were used as mortar. It is also observed that lime and brick-dust coating were used on the external surface of the temple. It is not clear what is used as coating on the internal surface due to repairing.

### Earthquake and Repairing

This temple was badly affected two times and its head was damaged its head in 1885 A.D. and 1897 A.D., due to a very high scale earthquake in Mymensingh area.<sup>14</sup> The pinnacle of the temple was broken down on 12 June in 1897.<sup>15</sup> The upper portion of the temple, which measures 2.13m, broke down and was repaired in 2001 A.D. The *Shikhara* of the temple is not solid. It is empty internally. The top of the temple was covered through plaster with sand and

cement to protect it from rain water.<sup>16</sup> The present height of the temple is almost 18.5m. Now, it is known to local people as *Thanaghat Mathabhangha Shiva Mandir*.



A phallic symbol of Shiva (*Shiva Linga*) in Thanaghat Shiva Temple

It is certainly observed that the temple was repaired many times and never got archaeological conservation and preservation. Recently, it has been repaired and got plaster all through the temple. The floor and the internal surface of the anteroom were decorated through modern tiles. Due to this repairing, the temple has got a modern look on the old structure. Such type of temple is found in Kishoreganj district named *Kabi Chandravati* temple. But it is older than that.

#### Conclusion

From the study and above-mentioned observation of the temple, some points can be noted. Those are as follows:

1. The sizes of the bricks are not uniform. Modern bricks and sand-cement as mortar were not used in the temple.
2. These type of bricks were used in Sultanate and mediaeval period buildings.

3. Lime and brick-dust were used as mortar which were used in Sultanate, mediaeval and early British period buildings.
4. Such type of wall thickness is found in buildings of Sultanate, Mughal and early British periods.
5. Geometrical design is observed as ornamentation, and it is plain and not pompous.
6. Two types of arch, i.e. leaf motif and semicircular, are found in the temple. Leaf motif arch was observed in late Sultanate period and Semi-circular arch was observed in Mughal periods buildings.
7. Half-interred pillars ornamentation was found in sultanate and Mughal period buildings.
8. Lime and brick-dust coating is traced on dorsal surface of the temple.
9. Upper structure of the ante-room is divided into three steps.
10. The head of the temple was broken in 1897.

The above-mentioned points lead us to the conclusion that the Sultanate and Mughal influences are observed in this beautiful and historic temple. The structural features, architectural style, constructional technology, wall thickness, building material and ornamentation of the temple indicate that it was probably constructed in the late Mughal or early British period i.e. in between 18<sup>th</sup> – 19<sup>th</sup> century A.D. by any local landlord, and dedicated to lord Shiva. However, the provisional interpretation has been made on the basis of literary sources and archaeological consideration. For its absolute date and the precise identification of the nature of the temple, we need further support.

A large number of decayed unnoticed monuments are the precious cultural heritage of the nation which cries out for their protection and preservation. With the progress of time, many relics of our heritage have already disappeared. This unnoticed beautiful and archaeologically living temple needs urgent protection and preservation to save our rich cultural heritage.

### Notes and References

1. Dulal Chandra Chakrovarti, the priest of the temple said the author about the land and its situation.
2. Sur, Atul, *Bangla O Bangalir Bibartan* (in Bangla), Kolkata 1994, p. 158.
3. Majumder, R.C., *Bangladesher Itihas* (Middle age) (in Bangla), August, 1987, p. 444.
4. Majumder, R.C., *Bangladesher Itihas* (Ancient age), 1988, p. 240.

5. Majumdar, R.C., *op. cit.* (Middle age), p. 445.
6. Atul Sur., *op. cit.* p. 160.
7. Roy, Niharranjan, *Bangalir Itihas*, Adiparva, Kolkata 1993, p. 679.
8. Majumdar, R.C., *op. cit.* (Ancient age), p. 240.
9. Roy, Niharranjan., *op. cit.*, p. 679.
10. Atul Sur., *op. cit.*, pp. 160-161.
11. Roy, Niharranjan., *op. cit.*, p. 680.
12. Majumdar, R.C., *op. cit.*, p. 446.
13. Narayan Chandra Dey, Member of the Temple Committee, gave a description to the author. The images were recovered by Biswanath Chandra Dey and Vickyram Kanu from the adjacent Brahmaputra River.
14. Darji Abdul Wahab , *Moymonsingha Anchanler Nidarshan*, 2003, p. 29.
15. Jatin Sarker Sankalon, Bangladesh Shishu Academy, Dhaka 2002, p. 21.
16. Dulal Chandra Chakravarti, the priest of the temple said to the author.

## Conservation of Ethnographic Objects: Polychrome Sculpture and 'Dhol' of Organic Origin

Md. Shafiqul Alam

### Abstract

The degraded polychrome sculpture and a tribal musical instrument 'Dhol', basically made of wood, multilayer of paints and leather have been taken under experimental scrutiny like stereomicroscopic study, compound microscopic study, measurement of  $p^H$  and moisture-content of leather, wood and paints, to identify the kind and degree of their deterioration. The data show the presence of fungus and strong acid in leather, loss and flake of paint layers, rust ( $Fe_2O_3 \cdot H_2O$ ) and its migrated area over the sculpture, normal moisture-content of wood etc. Conservation and restoration treatments are applied to both the objects and are kept under observation. No physical and chemical changes occur and thus, both the objects.

### Introduction

Bangladesh is rich in ethnographic objects because of its long history. These classes of object include the household utensils, dresses, materials related with the daily activities and religious festivals. These materials are divided into two broad classes from a conservation view- point: organic and inorganic. In this article, deterioration and chemical conservation of the degraded tribal polychrome sculpture and musical instrument 'Dhol' have been discussed. Dhol is a percussion instrument like the drum with a wooden shell and two open mouths that are covered with leather that emits sound when hit with hand or stick.

### Material

**Polychrome Sculpture:** The polychrome sculpture belongs to the replica of Arakan Raj Kumar, was received from the Tribal cultural institute of Chittagong-hill tract, for conservation treatment. The highly decorated sculpture made of wood is painted over in several layers of colors, such as black, white, yellow and some mixed colors. For this reason, it is called a polychrome sculpture. It is 51cm.in height and 21cm.in width. Due to lack of proper preventive measure, some paint- layers have flaked off; some have begun to separate from the wooden support. A portion of nose and left hand of the sculpture has been lost. Three iron

nails behind on the shoulder and right leg have been rusted. The rust has migrated to the surrounding areas, which has degraded paint layer and wooden support. Cracks developed in the paint- layers and wooden support which are situated on lower limb, chest and backside of the sculpture. It was also affected by insects and covered with dirt layer and floating dust. Over all, the sculpture looked quite ugly.

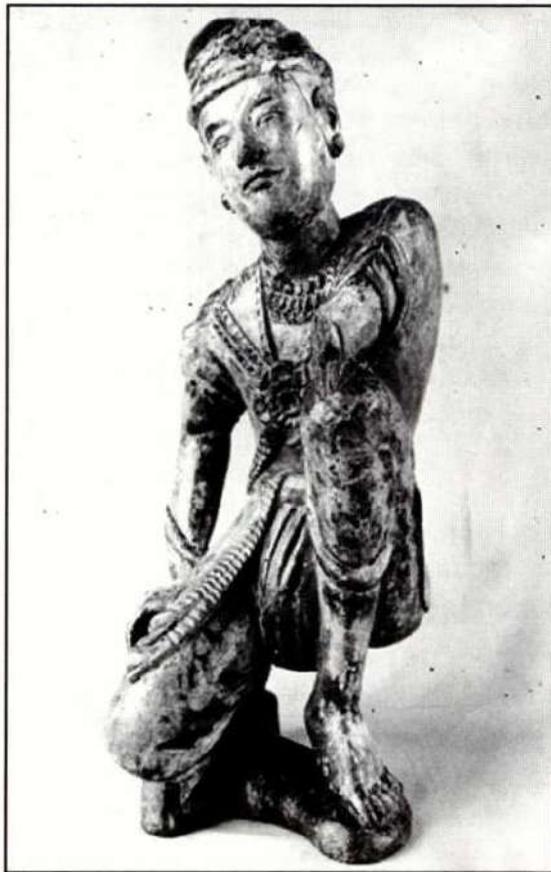


Fig.1: Replica of Arakan Raj Kumar

Tribal Musical Instrument, "Dhol": The Dhol was received from the Department of Ethnography and Decorative Art, Bangladesh National Museum, in the Conservation Laboratory for treatment. This Dhol is 90 cm. in length and has a wooden shell and is covered with leather. Some portions of the leather were very much damp and affected by fungi. The leather bands that remained on the shell were very hard and broken into pieces. The wooden shell leather bands and leather on the two mouths were covered with dirt layer and dust.



Fig. 2: Tribal Musical Instrument, 'Dhol', BNM Acc. No. J-88.3069

### Experimental Methods

To determine the degree of deterioration the following methods were applied,

1. Observation with Magnified Glass: The objects were placed on a glass-top-table and examined with high power magnifying glass. The obtained results were as follows:

For the polychrome sculpture:

- a. A thick dirt-layer was present
- b. Many macro-cracks on the paint- layers had reached to the wooden surface and penetrated inside the wood.
- c. The areas surrounding the three iron nails had discolored and turned deep brown.

For Dhol:

- a. Thick dirt-layer and floating dust were present both on the shell and leather
  - b. Fungus stains were found.
2. Stereomicroscopic Examination: The objects were placed separately under stereomicroscope and examined one small area after another until the full surface area was completed. The results are given below:

For Polychrome sculpture:

- a. Some micro-cracks had developed inside the paint layers.
- b. Some small holes were found in the wooden support.

For Dhol:

- a. Black and white fungus spores were found in the staining area of leather.
  - b. Floating micro dust particles and dirt layer were found both on the shell and the leather.
3. Identification of Fungus Species by Microscopic Method: For identifying the species of fungus, slides were prepared with the collected and standard samples and examined under the lens of a compound microscope. The experimental sample indicated the presence of penicillium species as compared with standard sample.
  4. Determination of  $p^H$  by  $p^H$  Meter: Some samples of broken leather band, fungus affected area and other portion of leather were immersed separately in distilled water contained in 250ml beaker and were kept there for 24 hours for leaching the acid out. Then  $p^H$  of these samples was measured. The results are shown in Table 1.

Table 1:  $p^H$  of various parts of leather:

Object	Average $p^H$ of broken band of leather	Average $p^H$ of fungus affected area of leather	Average $p^H$ of unaffected leather
Dhol	3.2	3.6	6.4

4. Determination of Moisture- Content of the Wooden Part of Objects by Photometer: The moisture-content of wooden portions of sculpture and Dhol was measured at 65% R.H. by protimeter, a portable instrument. The obtained results are given Table 2.

Table-2: Shows average moisture- content of wooden supports:

Object	M.C. of 1 <sup>st</sup> position	M.C. of 2 <sup>nd</sup> position	M.C. of 3 <sup>rd</sup> position	Average M.C.
Sculpture	13.4	13.2	12.5	13.06
Dhol	14.5	13.7	14.2	14.13

Legend: M.C. represents moisture-content.

**Conservation Treatment:** The conservation treatment includes the several methods described below:

1. **Control of Insects, Fungus and Removal of Dust:** Fumigation is the best way of controlling the insects and fungi which is done in air-tight chamber with a lethal gas. Before placing into the chamber the objects (Sculpture and Dhol) were cleaned physically with a sable hair brush and soft cotton cloth. Then the objects were placed into the fumigation chamber with 50 gm. 1, 4 dichlorobenzene, a kind of fumigant kept there for 7 days. At the end of time these objects were removed from the chamber and again cleaned.

2. **Fixing Loose Ground and Paint Layer:** Before applying wet chemical treatment, the ground and paint layers, that are detached from the support (figure) were fixed with the melted wax-resin mixtures applied with a water color painting brush no. 1, under the loose and flake paint layers, and pressed mildly over the loose paint layers for sending them to proper place. In this process all the loose paint layers were fixed.

3. **Removal of Dirt Layer:** A dirt layer on any object is produced by deposition of floating dust by the effect of fluctuating relative humidity and gradually become thick and harmful for the object if it is not removed as early as possible.

Thick dirt layer that covered the surface of the polychrome sculpture was cleaned by treating it with 2% solution of 'Teepol' a neutral detergent<sup>2</sup>, followed by washing with distilled water. Application of the detergent and wash water was done by using cotton swabs and was limited to minimum necessary on account of the invariable organic nature of the material. After completing the removal of dirt layer the sculpture was allowed to dry in laboratory temperature. The same process was used for cleaning the dirt layer from the 'Dhol'.

4. **Treatment of Rusted Area:** First, the nails were removed and the stains were cleaned by the treatment of 5% oxalic acid<sup>3</sup> in water then the action of acid on wood was neutralized by ammonium hydroxide and was washed with water. Application of acid, ammonium solution and water was done by using cotton swabs and was limited to where necessary. These wet areas as soon as possible were dried by blowing air from an air-blower. After the removal of stains, the areas were consolidated with 5% PVA in toluene.

5. **Filling the Cracks and Insect-holes:** The cracks on the paint-layers were filled with wax-resin mixture which was applied with a surgical needle and the surface was smoothed with electrically heated spatula. The large crack and insect holes on the wooden support were filled with a paste, made of 60 mesh saw-dust and Aica.

Application was done by using a surgical needle. For drying the paste in the cracks, the object was kept for 24 hours at laboratory temperature.

6. Treatment of Leather: The dirt layer on the leather of 'Dhol' was cleaned by washing with 2% solution of 'Teepol'. Water was applied and worked up to a froth using a sable hair brush for removing dirt layer. The excess of detergent was removed with cotton swabs dipped in distilled water. The wet-leather was then dried for 24 hours at laboratory temperature.

7. Neutralization of Acid: Considering the nature and condition of leather detached from the Dhol. Non aqueous method of deacidification<sup>4</sup> was applied to the fungus-affected area of the leather. In this method 1% solution of Barium hydroxide in methanol was prepared and the affected areas were brushed with this solution. The leather was then hung up to dry and excess Barium hydroxide was converted by the reaction of atmospheric CO<sub>2</sub> into Barium carbonate providing final p<sup>H</sup> of nearly 8 .

8. Removal of Fungus and its Stains: The fungus –stained areas were washed with methanol. Application was done by using cotton swabs dipped in methanol and rubbed on the stain area. The process was continued until the stains were removed. Then 0.25% alcoholic solution of pentachlorophenol<sup>3</sup> was applied over the staining area for future protection against fungal attack.

9. Softening Leather: Leather that was detached from mouths of the Dhol was softened by applying British Museum Leather-dressing<sup>5</sup> which is a yellow cream. The ingredients of the cream are Lanolin (anhydrous) 200gm, Cedar wood oil 30ml, Beeswax 15gm and Hexane 330ml these have been mixed together to form a compound which is a cream. It is very much suitable for softening leather. In the process this cream was rubbed on the surface of the leather with a soft cloth and which was dried at laboratory temperature.

Restoration: The two mouths of the Dhol were covered with the treated leather and were bound with leather as before. Ercalene clear lacquer, a protective coating was applied with a flat brush over the surface of the wooden shell.

Linseed oil as a protective-coating was applied over the surface of polychrome paint layers. Then both the objects were allowed to dry at room temperature.

### Result and Discussion

From the experimental results, it is assumed that the wooden support of polychrome sculpture and 'Dhol' are now in good condition because the measured

moisture-content of the experimental objects 13.06-14.1% at 65% R.H. the same as that of seasoned wood or wooden furniture. The macro and micro cracks that developed on the paint layers, loose paint and detached paints, discoloration of paint etc. represent major degradation in the polychrome paint layer which probably happened due to expansion and contraction of paint layers and support with the effect of fluctuating relative humidity (R.H.) and temperature. The measured  $p^H$  of three positions of leather are 3.2, 3.6 and 6.4  $p^H$ . The first and second position show the presence of strong acid and third position shows weak acid. These acids were neutralized by washing with distilled water and lastly de-acidified with Barium hydroxide solution in methanol. As a result,  $p^H$  was raised to 8 which is very weakly alkaline. The accumulation of dust and dirt layer was cleaned by detergent and distilled water. Paint layers were cleaned with linseed oil. A protective coating against relative humidity was applied on the surface of the objects. But in the absence of proper instruments, paint analysis is not possible in our conservation laboratory. After applying conservation and restoration treatment these objects were kept under close observation for three months in the laboratory environment. No problem was found.

### Conclusion

In our country, polychrome sculpture is a rare object. So its conservation treatment is also rare. However scientists of Bangladesh National Museum Laboratory have been able to develop a conservation method which they applied successfully with very good results. It will stand for future. It is hoped that the objects will stand the test of time.

### Acknowledgement

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### References

1. Kuhn, Herman, *Conservation and Restoration of Works of Art and Antiquities*, vol.1, Butterworth's, London, 1986, pp. 30-36.

2. Harinarayana, N., *Conservation of Cultural Property in India*, vol.vi, Indian Association for the study of Conservation of Cultural Property, Navcheton Press, New Delhi, 1973, pp. 82-85.
3. Plenderleith, H. J. and Werner, A.E.A., *The Conservation of Antiquities and Works of Arts*, Oxford University Press, London , 2<sup>nd</sup> Edition, 1971, p. 29.
4. *Ibid*, p. 57.
5. *Ibid*, p. 372.

## Some Observations on Buddhism in Samatata and a Note on the Unique Vajrasattva Image from Mainamati

Najma Khan Majlis

### Abstract

Bengal, the last stronghold of Buddhism in South Asia, carved a golden niche in the history of Buddhist religion. Mahayana sect of Buddhism was introduced in Bengal as early as sixth century A.D. from which it assumed a new character of mysticism known as Vajrayana and Tantrayana. New Buddhist gods and goddesses were visualized and were added to the Mahayana pantheon. Under the Palas and the Chandra's, Mahayana sect of Buddhism in Bengal introduced Vajrayana, a form of Tantric Buddhism, with the ritualistic worship of female energy of Sakti. In Samatata many ruined viharas, temples, and palaces revealed Buddhist relics, terracotta and metal sculptures etc. Copper plates and inscriptions discovered in those sites also testify the presence of rich cultural heritage and history of Samatata during the pre-modern period. The unique Vajrasattva Image from Mainamati discovered at Bhojapura Vihara is an evidence of rich tradition of sculptural art during Buddhist rule in Samatata which played a significant role in disseminating Buddhist religion and art in Tibet, Thailand, Cambodia, China, Japan and Korea.

Bengal, the last stronghold of Buddhism in South Asia carved, a golden niche in the history of Buddhist religion. Archaeological sites in the erstwhile Samatata, Harikela, Pundrabardhana, Visaya in Northern and Vyagratati Mandala such as Mainamati, Lalmai, Mahasthangar, Paharpur, Jhewri (presently Chittagong) were great centers of Buddhist religion and art during the pre-modern period.

According to Buddhist anecdotes, Buddhism was preached and established as a religion in Bengal even before the advent of the Mauriyan emperor Asoka (c. 272 – 232 B.C.). Buddha came in person and preached in Pundrabardhana, Samatata and Karnasuvarna. His visits were very short i.e. of few days. But this fact is untenable due to the absence of archaeological and literary evidences.

Under the Palas who claimed themselves *Paramasaugatas* (great followers of Buddha) and the Khadgas and the Chandra rulers of Samatata, Buddhism reached to its zenith; so much so that it crossed the boundaries of the sub-continent. From the accounts of the Chinese travelers, Fa-Hien (5th Century A.D.), Shen Chi (7th Century), Hiuen Tsang (7th Century A.D.), I-Tsing (later half of 7th Century A.D.) it seems that Buddhism was a recognized religion in Bengal since the Mauriyan period (c. 560 to 200 B.C.) and became one of the dominant religions in Bengal under the Khadgas (7th – 8th Century), Palas (8th – 12th Century) and the

Chandras (900-1050 A.D) dynastic patronage. During this period Buddhism disseminated to Asia, especially in Tibet, Thailand, Comodia, China, Japan and Korea.

Mahayana sect of Buddhism was introduced in Bengal as early as sixth century A.D. from which it assumed a new character of mysticism known as Vajrayana and Tantrayana. New Buddhist gods and goddesses were visualized and were added to the Mahayana pantheon. Under the Palas and the Chandra's Mahayana sect of Buddhism in Bengal introduced Vajrayana, a form of Tantric Buddhism, with the ritualistic worship of female energy of *Sakti*.

Mainamati-Devaparvata in the Samatata provenance of Bengal formed a very important center of Mahayana Buddhism.<sup>1</sup> The area now known as Mainamati (situated some ninety kilometers from Dhaka) derived its name from a legendary queen named Mainamati. This extensive Buddhist archaeological site was discovered during the British colonial period (1757-1947). Excavations are still going on in this site spotted along the eighteen kilometer large isolated Lalmai-Mainamati ridge near the present Comilla town. It was the capital of Samatata in the later part of 7th Century A.D. It is in this area that the famous Vajrasattva bronze image of Buddha was discovered on 12th March 1995 which will be the theme of our discourse.<sup>2</sup>

The above-mentioned Vajrasattva bronze sculpture in seated pose is now housed in the Mainamati Archaeological Site Museum [Acc. No. 1165]. The size of this image is approximately 140x120x75 cm (55.1x47.2x28.3 in)\*. According to Gouriswar Bhattacharya, 'Perhaps this is the largest, seated bronze image so far found in the Indian sub-continent'.<sup>3</sup> This metal Vajrasattva sculpture has aroused discrepancy of opinion among the archaeologists and art historians. While a renowned Bangladeshi archeologist M. Harunur Rashid and Indian archeologist Asok K. Bhattacharya have assigned its date to 11th century A.D, two other renowned art historians of the Western world – Claudine Bautze Picron<sup>4</sup> and I. C. Huntington-placed its date between 7th-8th century A.D. Picron is of opinion it was donated to the Bhoja Vihara in Mainamati by queen Pravabhata, wife of Raja Deva Khadga of the Khadga dynasty. Other eminent writers from Bangladesh – Bhikkshu Sunithanando<sup>5</sup> and Md. Mosharraf Hossain<sup>6</sup> (of the Directorate of Archaeology, Bangladesh)-have suggested the date between 9th and 10th century A.D.

The bronze Vajrasattva image under discussion is an exquisite colossal piece of Buddhist sculpture from Bangladesh. From its beautiful chiseling, perfect proportion and appropriate canonical iconographic details, it may be surmised that

Mahayana Tantric form of Buddhism was in vogue in Bengal during the period it was modeled. On stratigraphic evidences of the cell in Bhoja Vihara where it was discovered and also the characteristic style of the image, archaeologist M. Harunur Rashid is of the opinion that it may have been commissioned by any Chandra ruler of Samatata who consecrated this deity to the above mentioned Vihara.<sup>7</sup>

This deity exhibits ideal anatomical proportion of the body, smoothness in bodily stance, rounded limbs, single oval face with perfectly lotus shaped half-closed eyes and two hands. He is seated in the meditative pose of the Dhyani Buddha but possesses the iconographical symbols of the Vajrasattva of the Tantric Buddhist denomination.<sup>8</sup>



**Figure:** Vajrasattva Metal Image from Mainamati Site Museum

Adalbert J.Gail is of opinion that this Vajrasattva is an Adibuddha and the priest of the five *Jinas* or *Tathagatas*.<sup>9</sup> The Vajrasattva is seated on an almost flat cushion in a cross-legged pose carrying a 'double *Vajra*' in his clenched right hand against his right chest and a *Vajra*-marked bell in his left hand placed against his left thigh. He wears a rich fine *Dhoti* (of *muslin*) as a lower garment

(*antarvasa*) tied with a jewel-studded metal belt (*mekhala*). He is adorned with precious and gorgeous ornaments, including the crown. He has long pendent like earrings, necklace with amulet, jewel studded armlets, round shaped single bangle in each hand and single anklet in each feet. On the upper part of his body (torso) is a pearl studded sacred thread (*muktahara-yajnopavita*). The upper right sole of his foot bears a *cakra* symbol. The elaborate three tiered *stupa*-like crown bears five miniature figures of *tathagatas*. The Vairocana is surmounted above in the centre of *Vajrasattva*'s headgear. The upper part of the right side of his shoulder is bare, but his left shoulder is covered with *shanghati* (covering of the shoulder). He has single lock of hair hanging over each shoulder and a dot (*urna*) on his forehead in between the two arch-like eyebrows. The deity is in a straight sitting posture unlike other *Vajrasattva* figures but depicts a meditative pose.

This unique *Vajrasattva* image from Mainamati-Lalmai arouses many puzzling questions regarding the state of Buddhism during the period under review as well as the artistic style of the provenance from where this unique image originated. As stated earlier, Bengal was the last stronghold of Indian Buddhism. This religion flourished in Bengal as early as 6th century A.D. and had its heyday till early 12th century. From 7th century A.D. Bengal became the haven of *Mahayana Vajrayana Tantric* Buddhism. This is corroborated by some archaeological evidences cited below.

Among the 23 copperplate inscriptions and two inscriptions on the pedestals of two images discovered from Mainamati-Lalmai site, two copperplates of Maharaja Vainyagupta of Gupta dynasty bear the testimony that *Vajrayana Tantrayana* form of Buddhism was practiced in Mainamati-Devaparvata (i.e. The Samatata provenance of Bengal).<sup>10</sup> The copperplate text reveals that on the request of *Samanta* (feudal chief) Maharaja Rudra Datta, Maharaja Vainyagupta made a grant of 11 *Patakas* (ancient measurement of land) of land from Uttra Mandala for a Buddhist Vihara built by Rudra Datta. This Vihara was called *Asrama* Vihara and was dedicated to Avalokiteshvara. The grant was made by Vainyagupta from his capital at Kripura on the 24th day of *Paush* of the 188 of the Gupta era corresponding to December-January 507-508 A.D. The aforesaid inscription also tells us about the existence of two other Buddhist Viharas *viz.* the Rajavihara and Jitsenavihara in the same provenance.<sup>11</sup>

Another inscriptional evidence from Deulbari also gives valuable information about the Khadga dynasty at Samatata (the first independent Buddhist dynasty) in Bengal during the 7th-8th Centuries A.D. Shen Chi, a Chinese Buddhist monk who visited Samatata during the aforesaid period, has left a valuable account of

the state of Buddhist religion under its King Rajabhatta who was an ardent worshiper of Triratna (Buddha, Dhamma and Sangha). He also wrote that there were about 30 Buddhist Viharas with over 4000 monks.

The Pala Dynasty ushered in the golden age of Buddhism in Northern Bengal. The Palas were *Parama-Saugata* i.e. devout Buddhists. From archeological and epigraphic evidences it is known that the Pala rulers were great patrons of Buddhism. According to the 17th century Tibetan Buddhist Kalcakrayani monk and teacher Lama Taranath, King Gopala built the famous Buddhist monastery at Nalanda. Gopala's son Dharmapala was also a great supporter of Buddhism who built the magnificent Sompura Mahavihara at Paharpur (presently in the Naogaon district, Bangladesh). Dharmapala established over 50 Buddhist religious schools of philosophy. He patronized many Buddhist distinguished writers like Purnavardhana, Prabhakara, Kalyangupta and others. During the reign of Dharmapala and Devpala Bengal gave rise to a distinct school of sculpture and painting headed by two master artists – Dhimana and Vitapala – father and son respectively. The former was a master of painting while the latter was a master of sculpture. We also hear of other famous contemporary artists in Bengal such as Jaya, Prajya and Vijaya.<sup>12</sup>

Buddhism also flourished under the Chandra dynasty in Harikela i.e. Eastern and South-Eastern Bengal where ruins of innumerable Buddha Stupas and Viharas in the Devaparvata and Mainamati bear its testimony. Buddhism saw its disintegration and decline during the rule of the Sena dynasty (1097 – 1223 A.D.) who were staunch followers of *Saivism*. But this decline did not mean the total disappearance of Buddhism at that time and also in the present day Bangladesh. On the other hand, being a great stronghold of Buddhism Bengal gave rise to a distinct school of art as testified by Taranath. During the heydays of Buddhism, Buddhist sculptures were modeled in stucco, terracotta, stones, wood and various metals like, gold, silver, bronze and copper etc.

The colossal bronze Vajrasattva image from Mainamati-Devaparvata under our perusal is undoubtedly a master piece of iconographic sculptural art. But surprisingly, it neither bears the signature of its master sculptor nor of the patron who commissioned it.<sup>13</sup> However, from the writings of the past and from contemporary writings of archaeologists as well as art historians, it is evident that there was paucity of bronze in Bengal. The writers are also silent about its sources. Though bronze Buddha sculptures have been found in various areas of northern part of Bengal, during the period under review, the important centre of its appearances are in the Samatata and Harikela. On the other hand, Jhewari, a

village situated 16 kilometers south-southeast of Chittagong under Anwara Upazila, is famous for its hoard of bronze images, especially of Buddha, dating from 7th-11th centuries. The Jhewari bronze Buddha and bronze Buddha images from Mainamati-Devaparvata represents two distinct styles, the style of representing standing Buddha without a back support and pedestal in the former and the placement of the seated Buddha on a cushion in the latter. There are also differences in the treatment of figures, dress and costumes in both. The Jhewari Buddhas have horizontal lines, a feature akin to the Myanmar bronze sculptures. On the contrary Mainamati-Devaparvata bronze images of the same period, particularly the Vajrasattva image under review, exhibit features of Gupta classical art—smooth and rounded form, balanced anatomical proportion of the body etc.<sup>14</sup>

The geographical contagiousness of Myanmar to Harikela-Samatata may be the right answer for the procurement of bronzes for the modeling of the Hindu and Buddhist bronze sculptures during the period under review. Mainamati sculptors mastered the hollow casting (*cire perdue*) technique which is evidenced from the unique Vajrasattva image from Mainamati.<sup>15</sup> The same technique was followed in modeling the newly discovered Vajrasattva metal image from the above mentioned provenance.

The royal patronage Buddhism received under the Khadga, Pala and Chandra dynasties in Bengal from 7th to 13th century accrued to the flourishing school of sculptural art. The technique and style of Hindu-Buddhist sculptural art that Bengal heralded in the pre-modern period left a permanent impact on the near contemporary and contemporary sculptural art of Myanmar, Thailand and Indonesia.

## References

1. Rashid, M. Harunur, 'Site and Surroundings', in *Mainamati-Devaparvata* (ed. A.B.M Husain, et al), Asiatic Society of Bangladesh, Dhaka 1997, p.1.
2. Bhattacharya, Gouriswar, 'The Magnificent Bronze Image of Vajrasattva from Mainamati, Bangladesh', in Enamul Haq (Ed.). *Essays On Buddhist Hindu Jain Iconography & Epigraphy* [Studies In Bengal Art Series: No. 1] Dhaka: The International Centre for Study of Bengal Art (ICSBA), 2000, p.131.
3. *Ibid.*
4. Claudine Bautze-Picon, 'Bronze Sculpture' in Sirajul Islam (ed.) *Banglapedia* (National Encyclopedia of Bangladesh), Vol. 2., Asiatic Society of Bangladesh Dhaka, 2003, p. 287.
5. Sunithananda, Vikkshu, *Bangladesher Bouddha Vashkarya*, (in Bengali), Asiatic Society of Bangladesh, Dhaka, 1999, p.100.

6. Hossain, Md. Mosharraf, *Hindu Jaina Bouddha Murtitattvik Vibaran*, (in Bengali), Dibyaprakash, Dhaka, 2006, pp.250-251.
7. Rashid, M. Harunur, *ibid*, Vol.2. p. 287.
8. Bhattasali, N. K, *Iconography of Buddhist and Brahmanical Sculpture in the Dacca Museum*, Dhaka Museum, Dhaka, 1929, pp. 30-31.
9. Gail, Adalbert J.. 'Bengal Sculpture: Syncretic Images' in Vincent Lefevre (ed.), *Art of the Ganges Delta-Masterpieces from Bangladeshi Museum* [A Descriptive Catalogue]. Guimet Musee National des Arts Asiatiques, Paris, 2008, pp. 79-80.
10. Rashid, M. Harunur, *op.cit.*, pp. 207-214.
11. *Ibid*.
12. Bhattachariya, Ashok, *Banglar Chitrakala*, (in Bengali), Paschim Vanga Bangla Academy, Kolkata, India, 1994, p. 14.
13. Hossain, Md. Mosharraf & Ahmed, Dewan Tofail, *Mainamati Lalmai (A Guidebook)*, Dept. of Archaeology, Dhaka, 2004.
14. Alam, A.K.M Shamsul, *Sculptural Art of Bangladesh*, Dept. of Archaeology, Dhaka, 1985, p. 3.
15. Bhattacharya, Asok K, 'Sculpture' in Sirajul Islam (ed.) *Banglapedia* (National Encyclopedia of Bangladesh), Vol. 9. Asiatic Society of Bangladesh, Dhaka, 2003, p. 126.

\* The measurements of the bronze Vajrasattva of the Mainamati Archaeological Museum (Acc. No. 1165) is from the courtesy of the descriptive catalogue of *Art of the Ganges Delta-Masterpieces from Bangladeshi Museum*, Guimet Musee National des Arts Asiatiques, Paris, 2008.



## Present Status of Buddhist Religion and Culture in Bangladesh

Suman Kanti Barua & Kankan Kanti Barua

### Abstract

The land of Bangladesh is the treasure-house of Buddhist heritage and culture. There is difference of opinion among researchers as regard to the spread of Buddhism in Bangladesh. The Buddhist devotees believe that lord Buddha had visited Bangladesh (Samatata) while preaching his doctrine. According to Myth, there are some historical places in Bangladesh where Lord Buddha visited. Bangladeshi Buddhist followers belong to Theravada Buddhist culture and philosophy from its very inception. There are many different communities among the Bangladeshi Buddhists. They are Barua, Chakma, Tanchangya, Marma, Rakhain communities etc. In synch with modern time and situation, the rites and ritualistic culture have become diverse. According to heritage and cultural point of view, there are two kinds of Buddhist religious culture running in Bangladesh. Both are based on Theravada school of Buddhism. There are many historical places of Buddhist heritage in Bangladesh. Many of them were designated by World Heritage Site of UNESCO. Sompura Mahavihara in Paharpur, Naogaon district of Bangladesh is one of them. These are the witnesses of ancient Buddhist heritage and culture. The present-day rites and rituals of Bangladeshi Buddhists are the cultural wave of ancient Theravada Buddhism. Though these are taken in various shapes, but could not lose its origin. Efforts have been made to discuss with different aspects of socio – cultural views in this article.

### Introduction

Bangladesh is a multi-religious country with a rich cultural heritage. The name 'Bangladesh' designated in 1971 an independent and sovereign country which was achieved at the cost of innumerable lives and violation of chastity of women. Its ancient name was Bengal. Bengal had two wings: East Bengal and West Bengal. The area of present Bangladesh was called East Bengal, which during the Pakistan regime was known as East Pakistan (1947-1971). Between 1765 and 1947, the region was ruled by the British. These political rulers brought different religions to the land. The rulers of various religious faiths had ruled this country in various periods: the Gupta dynasty (4th–6th A.D.) who was the followers of Hinduism; the Pala dynasty (750-1161) of Buddhist rulers; the Bakhtiar Khilji (from 12th A.D.) and the Moghal dynasty. The presence of all these foreign

cultures contributed to a vast and multifarious socio culture where every religious society can observe their own religion and customs with dignity.

Considering the number of people Buddhists are one of the smallest communities in present Bangladesh. Besides it, it is the third among the four major religions in Bangladesh. Mainly the Pala dynasty spread the Buddhism in ancient Bangladesh (Bengal) during their rule of the region for almost 450 years.<sup>1</sup> They also introduced some inclusive moral rules for the country. The first Pala king was Gopala. He was a unanimously selected king.<sup>2</sup> The Pala dynasty established democratic system in Bengal and they were the first independent and sovereign rulers in Bengal. It is said to be the golden age of Buddhism in Bengal or present Bangladesh during Pala rulers. Among all glorious heritages of Bangladesh, the Buddhist heritage is considered as the most significant. So, Buddhism and Buddhist heritage and culture are inseparably related to Bengal or Bangladesh for the last few centuries. Ancient Buddhism of Bengal passed through generations to the present Buddhism in Bangladesh.

Historically and traditionally Bangladesh is a land of religious harmony and co-existence. Four major different religious followers - Buddhist, Hindu, Muslim and Christian-ruled this country at different periods in the past. Inter-community or inter-religious harmony and friendship is an inherent characteristic of this soil. Now Bangladesh is well known as a moderate Muslim state, but people of other religions are also living here with their dignity and social rights. State constitution also guarantees these rights. Constitutionally Bangladesh is a secular state, though Islam is the state religion.

#### How Buddhism was introduced in Bangladesh

There are two types of opinions prevailing in society about the introduction of Buddhism in Bangladesh. Among those opinions, one is myth and another is history or legendary. According to history, Buddhism was introduced to Bangladesh during Emperor Asokan period in 3rd Century B. C.. From Buddhist scripts Mahavamsa<sup>3</sup> and Dvipavamsa<sup>4</sup> we learn that Emperor Asoka sent Dhammaduta to nine countries for propogating Buddha's welfare message. It was called Asoka's Dhamma Mission led by the then most senior monk Ven. Moggaliputta Thera.<sup>5</sup> Under this Dhamma Mission two prominent monks named Ven. Sona Thera and Ven. Uttara Thera was sent to Subarnabhumi that indicates modern Thailand, Myanmar and their attached area. It is said that on their way to

Myanmar the two noble Theras stayed in Bangladesh for some days and they played pioneering role in introducing Buddhism in this land.

According to myth, there are some historical places in Bangladesh where Lord Buddha visited. According to Chronicle of Sri Lanka, the Lord Buddha visited the then Bengal thrice. Similarly, it is mentioned in the traditions of Arakan and Myanmar that Buddha visited the lands two times. It is also known that Buddha sojourned at Cakrasala of Patiya Police Station of Chittagong, while He went to Arakan and Myanmar.<sup>6</sup> It is said that, Lord Buddha had a short rest at 'Chakrashala', the present Haidgaon union of Patiya, Chittagong while he was visiting the different places of 'Jambudvipa' (ancient greater India). In the travel account of Hiuen Tsang,<sup>7</sup> an illustrious tourist from China mentions that Buddha stayed seven days at Karnasuvarna, Pundravardhana for three months and seven days at Samatata. The name of Pundrabardana (now Bogra district of Bangladesh) is very worth-mentioned in this fact, that Lord Buddha came here on an invitation by a pious lady named Sumagada, daughter of well known Sresti Anathapindika of Sravasti (now in Uttar Pradesh of India). Sresti Anathapindika was prominently a notable figure in the history of Buddhism for his benevolence. His daughter Sumagada was married to a Sresti of Pundrabardana. This is revealed from Avadanasataka<sup>8</sup> and Divyavadana<sup>9</sup>, the renowned book of Buddhist legendary. This sort of perception approves that Buddhism flourished in this soil in the life time Lord Buddha. Emperor Ashok had enhanced this flow of Buddhism. So, it may be said that Emperor Ashok had revived Buddhism in this country. Emperor Kaniska, the great king Harshabardhana, King Gopal, Dharmapala and Devapala patronized Buddhism successively.<sup>10</sup>

#### The followers of Buddhism in Bangladesh

There are many different communities among the Bangladeshi Buddhists depending on their dwelling environment. They are Barua, Chakma, Tanchangya, Marma, Rakhain communities etc. Buddhists mainly live in Dhaka, Chittagong, Comilla, Cox's Bazar and Chittagong Hill Tracts. In fact, the majority of Buddhists live in the three hill-districts of Chittagong. Basically Barua Buddhists are called plain Buddhists, bearing the title Barua, Chowdhury, Mutsuddhi, Talukder, Singha who generally live in the plain areas of Bangladesh. Chakma and Tanchangya communities live in Rangamati and Bandarban of hill district. Marma and Rakhain communities live in Khagrachari and Bandarban of hill district, Cox's Bazar, Barisal, Patuakhali and in some other parts of Bangladesh.

Some ethnic groups such as Tappa, Khappa, Khiyang from northern side of Bangladesh are also added to the Buddhist community. They are known as the new Buddhists. They are mainly from Naogaon, Rangpur, Dinajpur. However, they are not converted Buddhists, as they had been the latent practitioners of Buddhism. Now they have joined in their desired society as Buddhists.

### Nature of Bangladeshi Buddhism

Followers Bangladeshi Buddhist belongs to Theravada Buddhist culture and philosophy from very inception. Though Mahayana and Tantrayana Buddhism entered into this country long time ago, their followers, patronization and existence are not to be found now a day due to the flourishing waves of Theravada doctrine here. Especially from 7th to 12th century, many streams of Buddhist culture were practiced in this country. The Siddhachariyas (Saint Scholars) like Luipa, Kanupa, Tilupa, Haripa are the pride of ancient Bengal. Through their literary practicing, Bengali language was gradually invented. This was their extraordinary contribution towards the Bengali nation. The Siddhachariyas used to practice the esoteric Buddhism which was based on Tantrayana, Mantrayana, Sahajayana and Kalacakrayana steams of Buddhism. This sort of mixed Buddhist faith was called Buddhist mysticism by many scholars. Though, the main stream of Buddhism was Theravada, some other attachment of practicing was prevailed. These did not cause any interruption for the main stream of Buddhism, but inspired to practice Buddhism properly.

The great glorious Buddhist scholars of ancient Bangladesh like Pandit Santarakshit, Pandit Atish Dipankar Srijnana, Pandit Silabhadra and pandit Chandragomin were competent to practice in all the branches of Buddhism including school of Theravada and Mahayana. Because they were the teachers of Buddhism. But, generally Theravada Buddhism was always practiced by the followers. So, Theravada school of Buddhism is the root of Bangladeshi Buddhism. Lord Buddha said-

Maggan atthngika settho - saccanam caturro pada,  
Virago settho dhammanam- dipadanan ca cakkhuma.  
Eso'va maggo natth' anno- dassanassa visuddhiya,  
Etamhi tumhe patipajjatha- marassa etam pamohanam.<sup>11</sup>

It means the best path is the Eightfold Path, the best truths are the Four Noble truths, Non-attachment is the best of states. The best of bipeds is the Dhamma that are the rules of Lord Buddha. This is the only way. There is no other way for the purity of vision, which follows this path and for the bewilderment of Mara. Bangladeshi Buddhists have been cultivating those basic rules of Buddhism from the very early period of Buddhism in Bangladesh. Till today they follow the school of Theravada Buddhism.

#### Variation of Buddhist ritualistic culture in Bangladesh

With the accommodation of modern time and situation the rites and ritualistic culture have turned to variations from one area to another in Bangladesh. According to heritage and cultural point of view, there are two kinds of Buddhist religious culture prevailing in Bangladesh. Both are based on Theravada school of Buddhism. One is 'Plain Buddhist Culture' and another is 'Tribal Buddhist Culture'. But, both the religious scripts are the same, only rituals and language are different to some extent. Especially marriage and funeral ceremonies are quite different between plain Buddhists and Tribal Buddhists. The Tribal Buddhists are known as '*adivasi*' or indigenous. They used to perform some traditional activities like Bamboo-dance and dance with the bier before the cremation. On the other hand, the Plain Buddhist has no such kind of exclusive culture. In fact, it is the influence of local culture. Because the *adivasi* Buddhists are living in hilly areas. They have to perform some traditional culture according to their belief and heritage. So, sometimes some religious and social customary rules made difference between plain and tribal Buddhists.



Photo.1 Tribal Buddhists observing 'Biju' (New year) festival by sprinkling water



Photo. 2 Tribal girls offering puja during new year festival

At present, the Plain and the Tribal Buddhists are jointly performing many Buddhist religious programmes. It is a good sign for religious unity and social development. Lord Buddha said-‘Sammaganam tapa sukha’<sup>12</sup> which means happiness lies in peaceful co-existence.

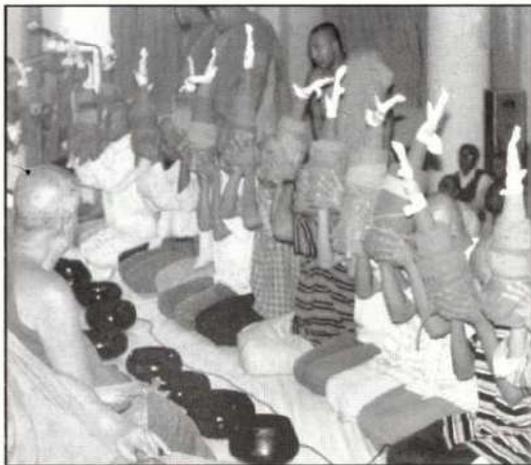


Photo. 3 Ordination as Samaneras (ovice) and Bhikkhu (monks)

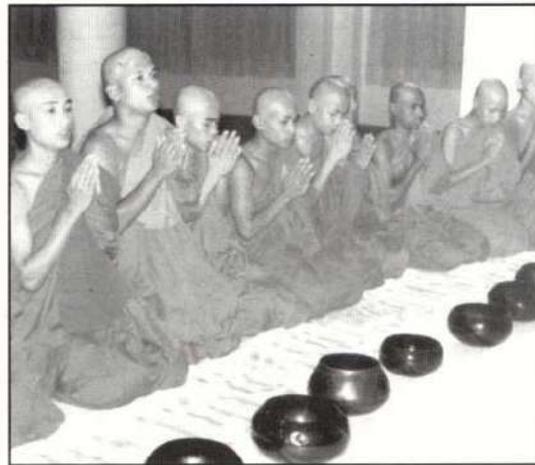


Photo. 4 Ordination as Samaneras (ovice) and Bhikkhu (monks)



Photo 5 The monks are on the way to begging alms from laities



Photo. 6 Monks are performing their amma Vaca in special enclosure called Sima Ghar

### Common aspects in Buddhist ritual

Buddhists of the plain area and adivasi both are have some common ritual aspects. They usually start their socio-religious ceremonies with receiving the five-

precepts. It is a very common custom in Buddhist society. Although in purnima day, many Buddhist devotees observe the uposatha with receiving eight precepts (Astasila). To be committed to the precepts, refuge to Buddha, Dhamma and Sangha is compulsory. Here Buddha is Samma Sambuddha, which means 'Perfect Enlightened One'. Dhamma or Dharma means Doctrine of the lord Buddha and the Sangha means Community of Buddhist Monks. As a whole to recall the Buddha, Dhamma and Sangha, means to acknowledge the Buddha and his teachings and ideals. It is also customary for every Buddhist to accept the life of Pabbajja once in whole life time. Pabbajja is admission to Buddhist Monastic discipline as novices. The recipient of Pabbajja known as 'Samanera'. Ten precepts are prescribed for Samanera in the 'Monks' Book law i.e. Vinaya.

#### Purnima Festival in Buddhist Society

Purnima means fullmoon. Traditionally Buddhists used to observe many Purnimas, specially the Purnima related to the main events of the Lord Buddha's life. Not only in Bangladesh, but also in the Theravada Buddhists society across the world observe many Purnimas. Although Buddhist festivals vary from country to country with tradition and culture, some Purnimas are observed with the very festive mood. They are Buddha Purnima, Asalha Purnima (Ashari Purnima or Dhamma Day), Magha Purnima (Maghi Purnima or Sangha Day), Madhu Purnima (Bhadra Purnima) and Pravarana Purnima (Ashvini Purnima).



Photo. 7 The devotees are seen carrying various Puja articles on their heads

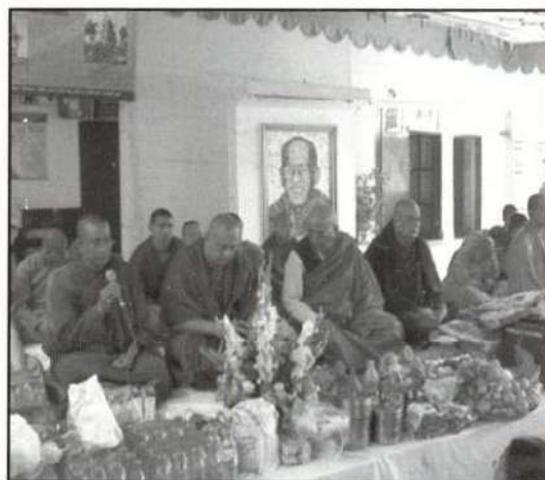


Photo. 8 Sanghadana Festival at Kamalapur Buddhist Monastery, Dhaka



Photo.9 The devotees are seen during Buddha Purnima prayer



Photo. 10 Flying 'fanus' during Pabarana Purnima

Among these purnimas, Buddha Purnima is considered to be the most significant. Because this Purnima coincides with three important events of Lord Buddha's life. Those are birth, enlightenment and mahaparinibban (demise) of the Buddha. Bangladeshi Plain and 'Tribal Buddhists' observe this auspicious day on the same day with their local culture. They celebrate this occasion with deep reverence and sanctity. It is usually held in Bangladesh in the month of May. Other Purnima festivals are also observed with due solemnity. Buddhists used to practice the Uposatha, an important factor of thier religion and culture, in every Purnima day.

### Uposatha

According to Buddhist terminology Uposatha means to fast, maintaining the purity of both body and mind. We take food regularly every day, without thinking what it means to us. By fasting, Buddhists try to realize the weakness of the body, which is the basic cause of desire. Desire means in Buddhist terminology 'Tanha'. The 'Tanha' is the main source of all unwholesome activities. Uposatha raises consciousness. Uposatha is considered as a means of developing good morale's and justice. Certain days of a month, are fixed for the fasting by the ordinary Buddhists community.

According to Buddhist script Mahavagga<sup>13</sup>, one who wants to observe the Uposatha has to maintain eight- precepts. So, it is not merely fasting. On the day of Uposatha, Buddhists go to the local monastery; worship the Buddha with flowers, foods and various fragrances. They take refuge in three Jewels, that are the Buddha, Dharma and Sangha, thereafter take vow of eight noble precepts, and offer charity and entertain the monks with foods. Usually, they spend the whole day at monastery and take part in various religious discussions and meditation. The eight precepts or 'Asta-Sila' are—(1) abstaining from killing any living being; (2) Abstaining from stealing; (3) Abstaining from sexual abuse; (4) Abstaining from lying; (5) Abstaining from the use of any intoxicants; (6) Abstaining from eating after midday; (7) Abstaining from dancing, singing, music, shows and use of garlands, scent, cosmetics and adornment etc.; and (8) Abstaining from luxurious beds.

The Upasatha day generally observed on full and new moon days, and on the first and last quarter of the moon of the month. According to Pali commentary,<sup>14</sup> a year is divided into three seasons winter, rain and summer, each of four months duration. In every month, there are four Uposathas which fall on the days of dark and bright fortnights of the month. In all, there are forty-eight ( $4 \times 12 = 48$ ) Upasathas in a year. Most of the Buddhists observe Uposatha ceremoniously during the rainy season, while Buddhist monks observe their three months long holy 'Vassabasa'. Though, Upasatha is the regular procedure of Buddhist householders. Particularly aged persons who are free from domestic works or professional duties observe Upasatha days with enthusiasm and zeal. In addition, the Theravada Buddhist community observes the Kathina Cibar Dana (yellow robe offering ceremony) and New Year as per their local calendar.

### Kathina Cibar Dana Festival in Buddhist Society

It is a common annual Buddhist festival in Bangladesh. Cibar means the yellow robe which is used as the wearing apparels of the Buddhist monk. It is offered to the Buddhist monks ceremonially and is called 'Cibar Dana Festivals'. Later the Council of monks make 'Kathina' according to the rules of Vinaya. This sanctification program is exclusively on the monks. But the devotees offer the Cibar with the intention of making Kathina. The whole program is called 'Kathin Cibar Dana'.



Photo. 11 Weaving the Cibar (yellow robes for monks) for yellow robes offering ceremony



Photo. 12 Offering Cibar (Robes of monks) to the Monks during Kathin Cibar Dana Festival



Photo.13 Scenes from Kathin Cibar offering ritual

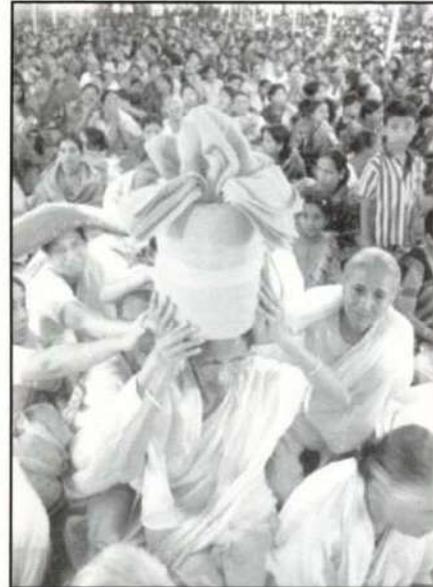


Photo 14 Cibar being carried for offering to monks

Hence, the Kathina Cibar Dana is very much related with some other sanctioned factors or religious customs. This cibar offering program has to be completed by the period of one month, that is Prabarana Purnima (Full moon day of October) to Kartik Purnima (Full moon day of November). Now a day, the Cibar Dana occasion has occupied a distinctive position in socio-religious perspective. According to Buddhist scriptures, the ultimate result of the merit of offering Kathin Cibara cannot be expressed in words cannot be measured by imagination, it is so uncommon, unusual, invaluable and it is also beyond in any form of expression.

The merits of the Kathina Cibar Dana cannot be compared with other sacrifices or Danas. On the part of the donor too, the Kathina Cibar Dana is the best of sacrifice. It is mentioned in the scriptures that all other sacrifices or offerings, including all kinds of valuable ornaments and kingdom cannot have one sixteenth of the merits that acquire from the Kathina Cibar Dana<sup>15</sup>. It is also known that the donor and receiver acquire five special boons in this life and in the afterlife. Another noteworthy aspect of this Kathina Cibar Dana is that, this must be done on a particular day in a particular month, though other robes may be offered on any day of the year.

### The Buddhist Historical Places

There are many historical places of Buddhist heritage in Bangladesh. Many of them were designated by World Heritage Site of UNESCO in 1985. Sompura Mahavihara in Paharpur, Naogaon district of Bangladesh is one of them. It is a Buddhist historical place which was discovered for the first time in Bangladesh. It is one of the most important archeological sites in the Subcontinent. Vasu Vihara of Mahasthangar, Bogra, Shalban Vihara in Comilla, Sitakot Vihara in Dinajpur are other famous Buddhist heritage and archaeological sites in this country. Apart from this, there are many small and non-popular Buddhist archaeological sites also have in this country. These valuable archaeological sites bear ample pride, glory and honour not only for the Buddhist community of Bangladesh, but for the entire nation as a whole. Every year many visitors from home and abroad come to see these places. Government also earns revenue through historical sites. These are the witnesses of ancient Buddhist places where Buddhist culture would be practiced.<sup>16</sup>



Photo. 15 Aerial view of Sompur Mahavihara, greatest university of the world at Paharpur, Nowgaon, 9th century A. D.



Photo. 16 Monks abode adjoining monastery wall of the Shalban Vihara 8-9th century A. D. at Mainamati, Comilla

### Conclusion

The present-day Buddhism in Bangladesh falls into the tradition of Theravada Buddhism. The rites and rituals of the Buddhist are the cultural wave of ancient Theravada Buddhism. From time to time some religious cultures or religious activities have been associated with the main stream of Buddhism of Bangladesh. But these could not deteriorate Theravada Buddhist culture; they were conducive to the main stream of Theravada Buddhism.

In an age of gradual development of science, free market economy system and globalization, human beings practice logic and reality in every aspects of life. From this perspective we can consider Buddhism a very useful religion or philosophy or culture in the present age. Bangladeshi Buddhists are habituated with this logical thought of Buddhism as belongs to Theravadas Buddhist heritage. Buddhist religious thoughts and culture in Bangladesh are integral part of our society and nation.

## References

1. Majumder, R. C. *History of Bengal*, Vol. 1, University of Dhaka, 1943. p.416
2. Chowdhury, Abdul Momin, *Dynastic History of Bengal*, The Asiatic Society of Pakistan, Dhaka, 1967, p. 9.
3. Geiger, W. (ed.), *Mahavamsa*, Pali Text Society of London, 1980, pp. 26-50.
4. Law, B. C. (ed.), *Dvipavamsa*, Ceylon, 1959, p. 164.
5. Barua, Beni Madhab, *Asoka and His Inscriptions*. Part – 1, New Age Publications, Kolkata. 1968, p. 301.
6. Sthavir, Badanta Prajnananda, *Paschim Banger Bauddha Dharma o Sanskriti* (in Bengali), Kolkata, 1987, p. 15.
7. Beal, S, *Buddhist, Western Record of the World*, Vol. II, London, 1906, p. 194.
8. Mitra. R. L., *The Sanskrit Buddhist Literature of Nepal*, Delhi, 1981, pp.73, 237.
9. Vaidya, P. L. (ed.), *Divyavadana*, Bihar, 1956, p. 257.
10. *The Gazetteer of India*, Vol. 2, Ministry of Education, Government of India, 1973, p. 97.
11. Narada Thera (ed.), *Dhammapada*, The Corporate body of the Buddha Educational Foundation, Taipei, Taiwan, R.O.C. 1993, p. 71 (Verse, 73-74).
12. Davids, T. W. Rhys and Carpenter, J. E.(ed.), *Digha Nikaya*, Pali Text Society, London, 1903, p. 118.
13. Hermann adenberg, William and Norgate (ed.). *Mahavagga* (Book of Vinay Pitaka series of the Holy Tripitaka.), London, 1879, p. 103.
14. Maskell, D. (ed.), *Kankhavitani* (A commentary of the Vinaya Pitaka), Buddhagoshā, Pali Text Society, London, 1956, p. 3.
15. *Ibid.* p. 37.
16. Ahmed, Nazimuddin (ed.), *Bangladesh Archaeological Report*, Ministry of Sports and Culture, Bangladesh, 1979, p. 33.

**Notes:** The photographs used in this article are taken from the following books and persons:

1. Photo nos. 1, 2, 11, 12, 14, Anisuzzaman; Khan, Shamsuzzaman and Islam, Syed Manzoorul (ed.), *Festivals of Bangladesh*, Nympha Publication, Dhaka, 2005, pp. 83, 84, 85, 90.
2. Photo nos. 3, 4, 5, 7, 10, 13, 15, 16 Buddhism of Bangladesh, Taher, M.A., Oitijya, 2010, pp. 48, 49, 61, 67, 72, 74.
3. Photo nos. 6, 8, 9 Md. Hamidur Rahman, Film Editor, Bangladesh National Museum.

## Notes on Some Inscribed Buddhist Images in the Bangladesh National Museum

Swapan Kumar Biswas

### Abstract

A large number of Pāla-Sena sculptures have been found in Bengal. These are mostly Buddhist and Brahmanical. Of them, a good number belong to Buddhist sects. Among these huge number of Buddhist sculptures there are some that bear inscriptions containing well known Buddhist creed. This paper discusses some Buddhist images with Buddhist creed which are collected from various parts of Bangladesh and preserved in Bangladesh National Museum.

Bangladesh National Museum accommodates almost two thousand Pāla-Sena sculptures made of stone and metal. Some of them belonging to Buddhist sect deserve special mention as they contain lines of Buddhist creed. Most of these inscriptions have still been unpublished. The present paper discusses these inscriptions with a view to drawing attention to the connoisseurs of art as well as history.

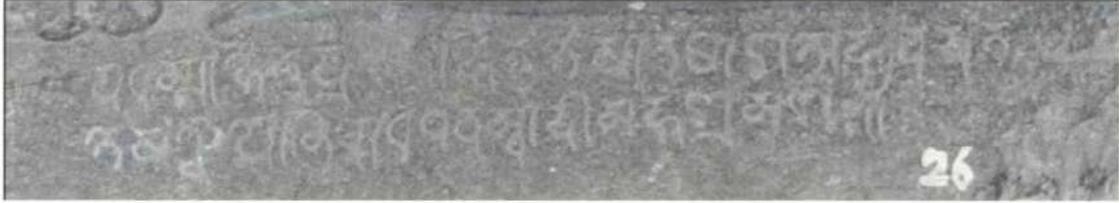
1. This is an image of Tara in black stone seated in *Mahārājalīāsana* on *viśvapadma* in *lalitāsana* on a lotus. A goddess (Ekjatā?) is represented in miniature sitting on the same seat to her left. The right hand of Tara is in *Varada mudrā* and left hand holds a half blown lotus. It was collected from the village Khalikhair of Gazipur district and presented to the museum by the Manager, Court of Wards Estate Bhaoyal. It measures 70 centimeters in height and 40 centimeters in width. Its museum accession number is 01-01-031-0000-00026. On the pedestal, there are two lines of inscription. The script is of the 9-10th century A.D. Dr. Nalini Kanta Bhattasali published it in 1929.<sup>1</sup> The language of the inscription is Sanskrit and the script is *Siddhamātrikā* or *Gauḍīya*.

Text of the inscription:

Line 1: *Siddham* (symbol) *Ye dharmmā hetuprabhavā hetuṃ teṣāṃ thathāgato hyavadat*

Line 2: *teṣāṃñica yo nirodha evamvādī mahāśramaṇaḥ.*

i.e. 'Of all dispositions proceeding from a cause, the Tathagata (i.e. Buddha) has explained the cause, and he has explained their cessation also. This is the doctrine of the great Sramana, i.e. the Buddha.'<sup>2</sup>



2. This is an image of *Tathāgata* Buddha Vairochana in black stone seated on *viśvapadma* in *vajraparyāṅkāśana*. The symbol 'cakra' is clearly visible on the soles of the god and his hands from *dharmacakra mudrā*. An elaborate wrapper covers almost entire body of the god. The pierced earlobes touch the shoulders, which are very similar to the Buddha image from Ujani. Two miniature Buddhas are standing on his left and right side. The measurement of the image is 68 centimeters in height and 49 centimeters in width. Its museum accession number is 01-01-031-0000-00027. There is a line of inscription on the peripheral part near the top of the back slab of the image. The language is Sanskrit inscribed in *Siddhamātrikā* or *Gauḍīya* script. The script shows 9-10th century A.D.<sup>3</sup> According to Bhikshu Sunithananda, 'the inscription has not yet been published',<sup>4</sup>

Text of the inscription:

Line 1: *Ye dharmā hetuprabhavā hetuṃ teṣāṃ thathāgato hyvadat teṣāṅca  
yo nirodha evaṃvādī mahāśramaṇaḥ.*



3. This is a miniature image of Buddha in black stone seated in *vajraparyāṅkāśana* on *viśvapadma* supported by two lions, set within a tri-lobed arch. His hands from *bhūmiśparśa mudrā*. The Buddha is surrounded by five miniature *Tathāgatas*. The right lower corner of the image is broken. It was collected from village Panchasar of Munshiganj district and presented to the Dhaka Museum by Babu Hemendra Nath Ghose in the year 1928-29. It measures 12 centimeters in height and 9.5 centimeters in width. Its museum accession number is 01-01-031-0000-00117. A three line inscription is on the back. The script is *Siddhamātrikā* or *Gauḍīya* of 11th century A.D., and the language is Sanskrit.

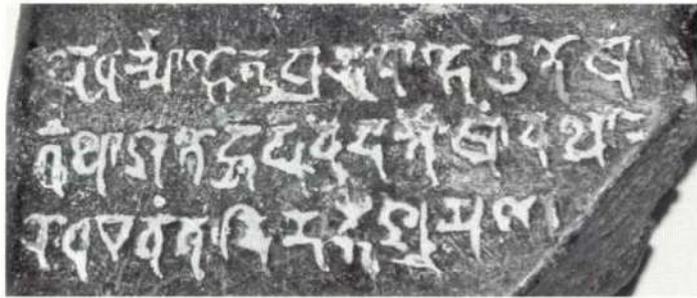
To the best of my knowledge the image and its inscription have not been published.

Text of the inscription:

Line 1: *Ye dharmmā hetuprabhavā hetuṃ teṣāṃ*

Line 2: *thathāgato hyvadat teṣāṃ ca yo ni-*

Line 3: *rodha evaṃvādi mahāśramaṇaḥ.*



4. This is an image of Khasarpaṇa Lokeśvara in black stone seated in *Lalitāsana* on *viśvapadma*. He is flanked by *Tārā*, *Sudhana Kumāra*, *Bhṛīkūti* on either side. Gholam Mustafa from Nahapara village in Munshiganj presented the image to the Dhaka Museum in 1968. It was collected from the village Mahakali of Munshiganj district. The right hand of god from the shoulder and left hand from the elbow are broken. The measurement of the image is 115 centimeters in height and 65 centimeters in width. Its museum accession number is 01-01-031-1968-00066. There is an inscription on the pedestal in two lines of 11th century A.D. The script is *Siddhamātrikā* or *Gauḍīya* and the language is Sanskrit. The image was first published by Benoytosh Bhattacharyya<sup>5</sup> followed by N. K. Bhattasali<sup>6</sup> and others.

Text of the inscription:

Line 1: *Siddham* (symbol) *ye dharmmā hetuprabhavā hetuṃ teṣṇīca thathāgato hyvada*

Line 2: *taṣāṇica yo nīrodha emvādi mahāśramaṇaḥ.*



5. This is an image of Akṣobhya Buddha in black stone seated in *vajraparyāṅkāśana* on *viśvapadma* and is showing *Bhūmiśparśa mudrā* in the right hand. It measures 12 centimeters in height and 7 centimeters in width. Its museum accession number is 01-01-031-1970-00192. Dhaka Museum purchased it from Shah Mohd. Salahuddin, a curio dealer based in Dhaka, 1970. The actual find spot of the image is not known. There is an inscription of three lines in the rear. The language of the inscription is Sanskrit.

The image and its inscription have still been unpublished.

Text of the inscription:

Line 1: *Ye dharma hetuprabhavā hetuṃ teṣāṃ*

Line 2: *thathāgato hyvadatteṣāṃ ca yo ni-*

Line 3: *rodha evaṃvādī mahāśramaṇaḥ.*



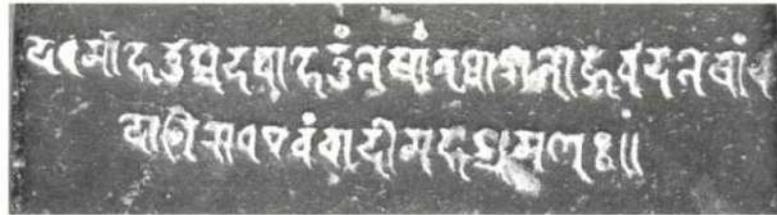
6. This is an image of Akṣobhya Buddha in black stone seated in *vajraparayaṅkāsa* and is showing *Bhūmiśparśa mudrā* in the right hand on *viśvapadma*. Two Bodhisattvas are flanked on either side, each holding a lotus in his left hand. The image was purchased by Dhaka Museum in 1971 from Shah Mohammad Salahuddin, a curio dealer in Dhaka. Its height is 11.5 centimeters and width 8.5 centimeters. Its museum accession number is 01-01-031-1971-00127. The actual find spot is not known. There are two lines of inscription in the rear part of the back slab. The script is *Siddhamātrikā* or *Gauḍīya* in 11th century A.D. The language of the inscription is Sanskrit.

The inscription has not yet been published.

Text of the inscription:

Line 1: *Ye dharmā hetuprabhavā hetuṃ teṣāṃ thathāgato hyvadeṣāṃ ca*

Line 2: *yo nirodha evaṃvādī mahāśramaṇaḥ.*



7. This is an image of Avalokiteśvara in black stone seated in *Rājālāsana* on a lotus. The Bodhisattva holds a full blown lotus in the left hand while the right shows *Varada mudrā*. It measures 5 centimeters in height and 3 centimeters in width. Its museum accession number is 01-01-031-1971-00182. Shah Mohd. Salahuddin, the one who sold the sculpture mentioned in no. 6, sold this image to the museum in 1971. The actual find spot is not known. A miniature *stūpa* is in the right side of the god. There is an eight-line inscription on the back side of the image. The script is *Siddhamātrikā* or *Gauḍīya* of 11th century A.D. style and the language is Sanskrit. The name of the donor is mentioned in the first three lines of the inscription; here some letters are damaged. The rest of the lines contain the Buddhist Creed.

The inscription has not yet been published.

Text of the inscription:

Line 1: *Siddham* (symbol)? *dāna hara*

Line 2: *ṭaca kālākava-*

Line 3: *ṣya*

Line 4: *Ye dharmmā hetuprabha-*

Line 5: *vā hetu tesāṃ thathā-*  
Line 6: *gata ahyvadat*  
Line 7: *javi nīrodha yevaṃ*  
Line 8: *vadi mahāśravaṇaḥ.*



8. This is an image of Avalokiteśvara in black stone collected from Niamatpur of Naogaon district in 1972. Muhammad Abdulla Khan, honorary collector of the Dhaka museum, collected it. It measures 57 centimeters in height and 32 centimeters in width. Its museum accession number is 01-01-031-1972-00821. The god seats on *viśvapadma* with right leg pendent. The right hand of god forms *Varada mudrā* and the left hand holds a blossomed lotus. The left hand from the elbow is broken. The god is flanked on either side by two standing female and two seated male figures. The god bears a *jatāmukuta*. There are two votive *stūpas* on either side of god through head. The upper part of the back slab is broken. There is a two-line inscription on the *pañcharatha* pedestal on which the god seats. The script of the inscription is *Siddhamātrikā* or *Gauḍīya* of 11th century A.D. The language is Sanskrit.

The inscription has still been unpublished.

Text of the inscription:

Line 1: *Siddham ye dharmmā hetuprabhavā hetusteṣāntathāgato*  
*yavadat teṣāñca yo nirodha evamvādī*

Line 2: *mahāśrayaṇaḥ.*



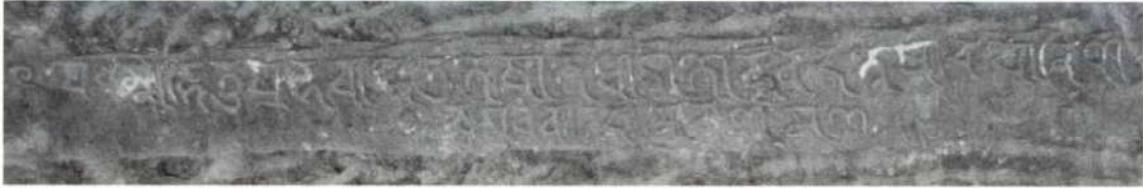
9. This is an image of Vairocana in black stone seated on a lotus. His head part is flanked by a *Dhyāni* Buddha on either side. It is said to be collected from Comilla region. According to a bilateral agreement with Bangladesh government and Thailand government, Bangladesh National Museum sent a black stone image of Buddha to, Thailand. In exchange of it, Thailand government sent an image of Buddha to Bangladesh. But the Buddhist Community kept the image which came from Thailand to the temple of Kamalapur Buddhist Monastery. The present image was in the temple of Kamalapur Buddhist monastery, handed over to the Dhaka museum authority in 1977. The measurement of the image is 48 centimeter in height and 29 centimeters in width. Its museum accession is 01-01-0330-1977-02060. There are inscriptions on the rear. The script is *Siddhamātrikā* or *Gauḍīya* of 11th century A.D. style and the language is Sanskrit. Bhikshu Sunithananda published the photograph of the image without much description.<sup>7</sup>

The inscription has not yet been published.

Text of the inscription:

Line 1: *Siddham* (symbol) *ye dharmmā hetuprabhavā hetuṃ teṣāṃ tathāgato hyavadatteṣāṃ ca yo niro-*

Line 2: *dha evaṃvādī mahāśramaṇaḥ.*



10. This is a fragmentary image of a Bodhisattva (?) in black stone. Only bust portion of the Bodhisattva remains. It measures 8 centimeters in height and 6.3 centimeters in width. Its museum accession number is 01-01-031-1980-00365. Mr. Abdur Rauf of West Derelia village of Naogaon district sold the image in 1980 to the museum. The find place of this image is Nischintapur village of Naogaon district. There are two *Aśwattha* leaves on the top of the back slab of the image. A votive *stūpa* is seen on the left side of the god. Three lines of inscription are visible on the back side of the image. Some letters of the inscription are missing due to its fragmented form. The script is *Siddhamātrikā* or *Gauḍīya* of 11th century A.D. style, and the language is Sanskrit.

The image as well as the inscription has not yet been published.

Text of the inscription:

Line 1: *Siddham* (symbol) *ye dharmā hetuprabhavā tes...*

Line 2: *thathāgato hyvacatesa...*

Line 3: *nirodho evaṃvadī mahā...*



11. This is a fragment of Buddhist image seated in *yogāsana* on a lotus. It is 9 centimeters in height and 11 centimeters in width. Its museum accession number is 01-01-033-1987-05441. In 1987, Saber Ali, the then Conservation Chemist of Bangladesh National Museum, made a tour in Naogaon and purchased it for museum from Naogaon. The image bears four lines of inscription on the back side. The inscription is damaged and unclear. The script of the inscription is *Siddhamātrikā* or *Gauḍīya* of 11-12th century A.D. style and the language is Sanskrit.

The inscription has not yet been published.

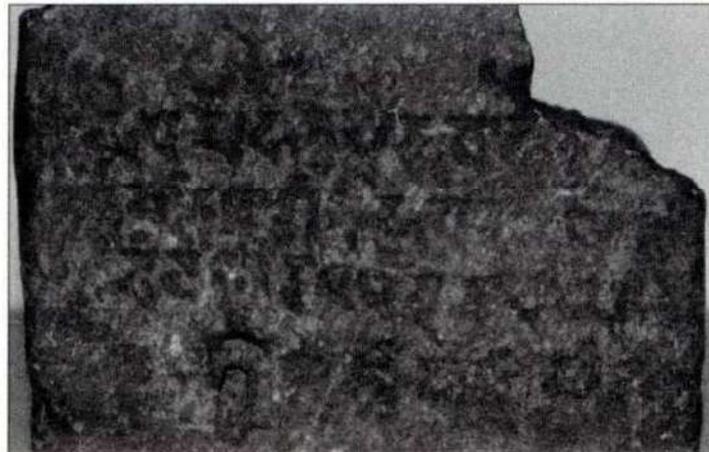
Text of the inscription:

Line 1: *Ye dharma hetuprabhavā hetuṃ*

Line 2: *teṣāṃ thathāgato hyvadatteṣāṃ*

Line 3: *ca yo nirodha evaṃvādī ma-*

Line 4: *hāśramaṇaḥ.*



### Conclusion

The present study of the inscriptions on some select Buddhist sculptures in Bangladesh National Museum has brought to light a number of things. First, the language of the inscriptions is corrupt Sanskrit. Moreover, there are cases in which spelling of a particular word varies in different inscriptions. Second, these inscriptions document or support some historical facts. For example, at the early stage of Pala period, the Buddhist creed, '*Ye dharma hetu-probhavā...*' was very popular in inscriptions. In the inscriptional evidences of the Pala period (8th-12th century A.D.), the said Buddhist creed is found in abundance as it expressed the sacred wish of the donor to be relieved from the cycle of mundane suffering through such donation.

## References

1. Bhattasali, Nalini Kanta, *Iconography of Buddhist and Brahmanical Sculptures in the Dacca Museum*, Dhaka Museum, Dhaka, 1929, pp. 57-58.
2. *Ibid*, p. 24.
3. Sunithananda, Bhikshu, *Bangladesher Bouddha Bhaskarya* (in Bangla), Asiatic Society of Bangladesh, Dhaka, 1999, pp. 109-111.
4. *Ibid*, pp. 109.
5. Bhattacharyya, Benoytosh, *The Indian Buddhist Iconography*, University of Calcutta, 1924, p. 38.
6. Bhattasali, *op. cit.*, pp. 27-28.
7. Sunithananda, *op. cit.*, p. 114.



## Portrayal of Rural Life and Culture in Bangladesh National Museum: Role and Reality Analysis

Md. Serajul Islam

### Abstract

Bangladesh National Museum depicts the different aspects of both Bangladesh and some foreign countries. This study reports on the museum displays that showcase the rural life and culture of the people. It also analyzes the visitors' views on presenting rural life and culture through objects. This study identifies that rural life and culture have been placed much in different forms - panoramas, dioramas, artworks, showcases etc., but visitors have not perceived themes in all of the forms clearly. Moreover, this study claims that visitors perceive only individual gallery; the themes of the objects remain elusive. Furthermore, this study suggests taking some steps to add different things of rural life and culture. It concludes with the recommendations for the future.

### Introduction

Bangladesh is a developing country. More than seventy-six percent of the total population lives in the rural areas.<sup>1</sup> Their belief and relief, habits and habitats, roles and rituals, attitude and attraction all are derived from nature that surrounds them. This land is enriched with 2500-year old civilization of Wari-Bateshwar in Narsingdi.<sup>2</sup> There are 144 museums<sup>3</sup> in which the antiquities of history, heritage, civilization and culture of the people are collected, conserved, documented and displayed in the museum galleries. Of them, Bangladesh National Museum (BNM) is the largest. "Today, museums must become agents of changes and development; they must mirror events in society and become instruments of progress by calling attention to actions and that will encourage development in the society. They must become institutions that can foster peace, ... and they must become part of the bigger communities that they serve and reach out to every group in the society. ... they assist our future generations to understand and appreciate their history and culture and take pride in the achievements of their fore bearers".<sup>4</sup> Bangladesh being an agro based country with 85,000 villages<sup>5</sup> and BNM being the mirror of history, heritage and culture, the reality and role of BNM in portraying rural life and culture call for discussion.

### Rationale of the Study

Major museums worldwide are now reviewing and rethinking their role as the storehouses of knowledge and as the presenters to people of their relationship to

their own environment and past. Moreover, traditional concepts of what a museum is, and how it should operate, are confronted by contemporary intellectual, social and political concerns, which deal with questions like the validity of value judgments, bias in collecting and display, the de-mystifying of specialized knowledge, the protection of the environment, and the nature of our place in history.<sup>6</sup>

Furthermore, it is difficult, if not impossible, to know oneself without some sense of history. In Orator, Cicero commented, "To be ignorant of what occurred before you were born is to remain always a child."<sup>7</sup>

Without cautiousness of culture and the knowledge of history, the continuous pace of progress of a nation can stumble. Because, the nation that has no glorious cultural legacy and historical background may stumble at any time at any stage due to the absence of devotion for the country and of love for the culture of the community. The history and heritage of the land derive from its rural life and culture. But, a question arises whether rural life and culture is safe or endangered.

Categorization<sup>8</sup> and expansion of standardization and homogenization of Globalization<sup>9</sup> are creating a positive environment where local and rural culture may lose its root. Any element of culture can affect and eliminate another element(s). Of the various and multiple elements of culture which particular one will play the predominant role at a given point of time will depend on the configuration of many factors - historical, political, economic etc.<sup>10</sup> Of the various elements of the museum, how importantly rural life and culture are being presented here is a question.

Many permutations and combinations, studies and statistics, analyses and impetus have been taken into consideration for the development of rural life and culture, but little attention has been paid to the reality and role of cultural institutions such as museums in portraying rural life and culture to create awareness among the people. Museums may not play direct role but can play profound role in awareness building for maintaining and protecting rural life and culture, and in eliminating the KAP (K=Knowledge, A=Attitude, P=Practice) Gap<sup>11</sup> between the rural people and the urban people.

In the development discourse and historical periphery, communication and culture are two important issues. Museums transmit cultural knowledge from one generation to another through communication. Museums are the mirrors of a nation and communicate the messages with public 'to glorify and idealize the past'<sup>12</sup> to shape the future. So how much sense of rural life and culture is presented in the galleries demands discussion.

### Operational Definition of Rural Life and Culture

Life, in this study, means the elements for maintaining man's life, though all elements are not equally essential but pervasive. The elements are houses, food, clothing, religion and so on. The elements for life are not the same in all places. Patterns of houses, eating behavior, clothing styles and designs, religious practices, differences in rituals and festivals differ, and, in turn, create different cultures. But the definition of culture is a problematic issue. The 'multiplexity' of culture compels us to consider different views. Culture has been defined from different fields such as anthropology, communicology, sociology. Culture is "the total way of life of a people, their eating and drinking habits, the modes of earning their livelihood their language and literature, music and art-works, their religious faith and practices, the way they tend their sick and the old, the way they treat their women and children, christen their new-born and bury their dead, all go to make up the culture of a people."<sup>13</sup> In this study, rural life and culture means the tangible elements of the rural people; the elements they use to live their lives, and flow from generations to generations.

### Objective of the Study

The study was conducted to know how BNM portrayed rural life and culture in the museum galleries. The specific objectives of the study were to:

1. identify the placement of rural life and culture through objects (reality analysis) ;
2. analyze the visitors' views on presenting rural life and culture through objects (role analysis) ;

### Study Method

#### a. Nature of the Study

The study is based on content analysis and survey.

#### b. Population of the Study

A total number of 44 galleries of BNM and 66,584 visitors of the month of August 2013 were the population of the study.

#### c. Sampling Procedure

A total number of 100 visitors for role analysis was selected as sample by using purposive sampling technique (as BNM crossed its 100th founding anniversary in August 7, 2013) and 20 galleries covering the objects of rural life and culture for reality analysis were selected as sample in accordance with the research objectives.

d. Data Collection Method

Data for the study were collected from both primary and secondary sources. Primary data were collected from the visitors and the gallery objects. For collecting primary data, a structured questionnaire was developed with combination of both close-ended and open-ended questions. The questionnaire was given to the 100 visitors after their visits of the galleries. Moreover, researcher's observations were included in the study. Secondary data were collected from books, journals, seminar papers, websites and other published documents.

e. Analyzing Tool

The collected data were analyzed according to the objectives of the study following the quantitative and qualitative tools such as percentage, graph, charts, tables, description etc.

## Discussion and Findings

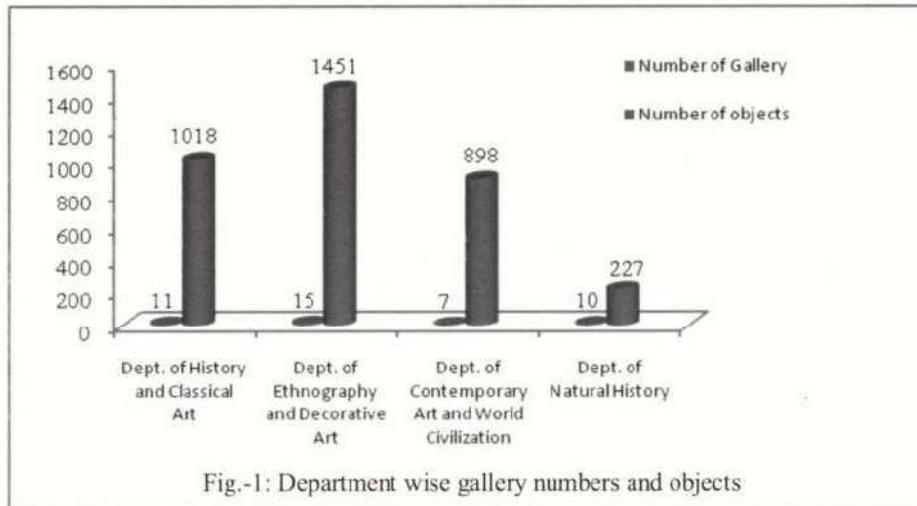
### 1. Reality Analysis: Placement of Rural Life and Culture in BNM

Museums display different objects in galleries to show culture, history and heritage of the country, and sometimes, of other countries depending on the nature of the museum for understanding and searching the root, and getting the inspiration from the past. National museum tries to convey the messages of the people and possessions of the country. There are many things which are depicted through objects in galleries. Among the multifarious objects, the representation of rural life and culture in BNM is described below:

a. Total Number of Objects in Galleries

BNM has a rich collection of 86,514 objects. Among the collection, total 3,594 objects and artifacts are on display in 44 galleries (one gallery is now being used as a restroom for the visitors).<sup>14</sup> The following table (fig.1) shows the number of displayed objects and the number of galleries:

It is apparent (fig. 1) that BNM has a rich amount of objects related to history and classical art, ethnography and decorative art, contemporary art and world civilization, natural history on display, i.e. it sheds light on history, heritage, culture, civilization and connectivity with nature. The objects of BNM tell the facts of how life and culture of this land emerged and evolved. Those facts are reminiscent of various things including rural life and culture.



The details on BNM representation of rural life and culture are as follows:

b. Panorama of Rural Life and Culture

‘Rural Bangladesh’ (Gallery no. 2) has two panoramas depicting two sides of rural life and culture. One panorama shows two scenarios – (1) before harvesting and (2) after harvesting. Another panorama shows the village market on the bank of the river surrounding villages. The objects of this gallery remind the visitors of the traditional agriculture and other related activities of rural people and rural areas, and also the activities of village market.

c. Dioramas and Showcases of Rural life and Culture

1. Specific Gallery

‘Life in Bangladesh’ (Gallery no.11) shows different aspects of rural life and culture through the displayed objects amounting more than 200. Decorative mats, household articles, decorative earthenware, fishing implements, miscellaneous handicrafts etc. are some of the displayed items. Some dioramas and showcases that more significantly represent rural life and culture are placed here:



Fig. 2: The Farmer Ploughing in the Field and the Village Scenery



Fig. 3: Life Style of the Middle Class Farmer



Fig. 4: Village Market and Fair



Fig. 5 : Blacksmiths and Potters



Fig. 6: Life Style of the Fisherman

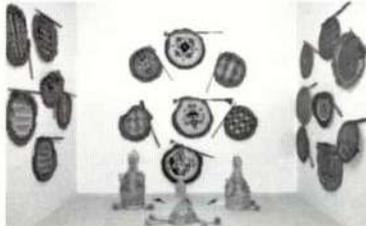


Fig. 7: Decorated Hand Fans

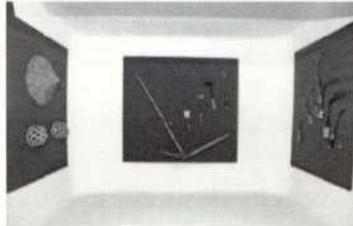


Fig. 8 : Agricultural Implements



Fig. 9: Decorated Earthenware & Decorated Pot Holders of Jute

The specific gallery covers different aspects of rural life and culture. Some aspects are given below:

- Visitors get a glimpse of rural life and culture through the presentations of the activities of the rural people. The village market, meeting place of the village people, introduces the modes of goods exchanging and shows the difference between market places of rural areas and those of urban areas.
- Blacksmiths and potters are very essential for the villagers, even in this age of modern technology. The lifestyle of fishermen attracts most of the visitors.
- Decorative hand fans and decorated pot holders show the differences between urban life and rural life, as well as depict various modes of life and culture of rural people. These things portray the leisure life activities of the village people after the harvesting and indicate their artistic minds. Agricultural implements and other objects inform the visitors of the daily rural activities.

## 2. Other Galleries

'Tribes of Bangladesh-1'(Gallery no. 13), 'Tribes of Bangladesh-2'(Gallery no. 14), 'Potteries'(Gallery no. 15), 'Architecture' (Gallery no. 19), 'Coins, Medal and Ornaments' (Gallery no. 21), 'Dolls' (Gallery no. 27), 'Musical

Instruments' (Gallery no. 28), 'Embroidered Quilts' (Gallery no. 30), 'Wood Carvings-1& 2'(Gallery no. 31 & 32) etc. galleries show different aspects of rural life and culture through various objects. Some dioramas and showcases which depict rural life and culture are shown below:



Fig. 10 : Life Style of the Santals

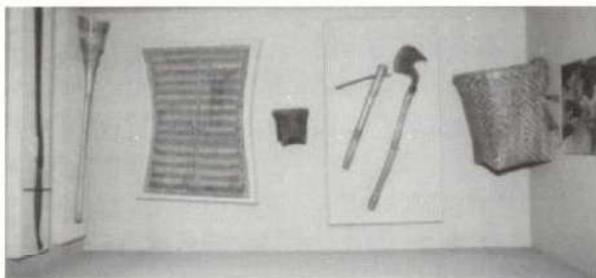


Fig. 11: Weapons and Agricultural Implements of the Gāro



Fig. 12: Musical Instruments

Some aspects of some galleries in depiction of rural life and culture are as follows:

- 'Tribes of Bangladesh' galleries depict the tribal people's life pattern. The life of the plain land people differs from those of the tribal and hilly life. BNM shows the difference in its galleries.
- Potteries in gallery 15 give the creative minds of the village people. Some architectures, ornaments, dolls, musical instruments bear the testimony of rural life and culture.
- Embroidered quilts and wood-carvings depicting the different things and themes are the creative narratives of the unsung heroines and heroes of the villages.

d. Rural life and culture in Artworks and Canvases

In some galleries, different artworks and canvases portray various scenes of rural life and culture. A list of artists with artworks is given below:

- (1) 'Radha and A Man' by Dhali AL-Mamun, 'Sun-Flower and Cock' by Ruby Rahman in Gallery no. 34,
- (2) 'Famine based artworks', 'Cow in the Storm', 'Fishing', 'Landscape', 'After Fishing', 'Fishing of the Two Men', 'Storm in Baishakh', 'Santal, Women with Pitcher', 'Two Snake Charmers', 'Sketch (Mother and Child)', 'Beauty Regime', 'Cowboys', 'The Rebel Cow', 'Painter', 'Resting Farmers', 'Farmers', 'Towing', 'Returning Home', 'Gipsy Boats' by Shilpacharya Zainul Abedin in Gallery no. 35,
- (3) 'Nabanna' by Qayyum Chowdhury, 'Fishing' by Quamrul Hassan, 'Landscape', 'Jute Washing' and 'To Reap Paddy-crop' by S M Sultan, 'Nabanna' by Samarjit Roy Chowdhury, 'Receding Flood' by Safiuddin Ahmed, 'Mother & Child' by Murtaja Baseer, 'Nabbano' by Abdur Razzak, 'Nabanna' by Md. Mohiuddin, 'Mother and Daughter' by Kazi Abdul Bashit, 'Fishing Net-16' by Farida Zaman, 'Nabanna' by Syed Shafiqul Hussain, 'Making Boat' by Abdur Razzaque, 'Kam Rangir Char' by Avijit Chowdhury, 'Jarigan' and 'Landscape' by Abdul Hai, 'Landscape' by Hosne Jamal, 'Nabanna' by Anwarul Huq, 'River and Woman' by Sawpan Chowdhury etc. in Gallery no. 36,
- (4) '1971-Freedom Fighters at War' and '1971: The freedom fighters are seen discussing the battle plan with their commander' etc. in Gallery no. 38 and
- (5) Canvases of 'New Year in Free Bangladesh' and 'Wake up with New Joy' in Gallery no. 40 etc.

Among the various artworks and canvases portraying rural life and culture, famine based and other artworks by Shilpacharya Zainul Abedin are world famous. They symbolize many different angles of rural life and culture.

Moreover, 'Fishing' by Quamrul Hassan, 'Landscape', 'Jute Washing' and 'To Reap Paddy-crop' by S M Sultan and some other famous creations of some eminent artists describe the themes of rural life and culture.

Furthermore, the depiction of Nabanna by different prominent artists, portrayal of the time and the protest against the brutality of the Pak-aggression, New Year in Free Bangladesh inform the visitors of various aspects and spheres of rural life and culture.

#### e. Rural Life and Culture in Specialized Galleries

BNM has paid attention to different historical and cultural sides of this land and those of other countries to show the life patterns. Boats, Bullock cart,

classical musical instruments, cowbell etc. mentioned below reminds the visitors of the differences and similarities of the things. As a result, visitors of home and abroad get glimpses of rural life and culture through the displayed objects. In specialized galleries, some artworks and objects tell the stories of foreign rural life and culture such as

- (1) 'Boat' of Kuwait, 'Bullock Cart' of India in 'World Civilization' (Gallery no. 41);
- (2) 'Water Lilly Pond' by Claude Monet of France, 'The Vegetable Garden with Trees in Blossome Spring, Pontoise' By Camille Pissarro from France, 'The Gleaners' by Jean Franquis Millet from France, 'Road on a Dyke' by Meindert Hobbema from Hollad, 'The Hay Wain' by John Constable from England in 'Western Art' (Gallery no. 42).
- (3)
  - a. Classical Musical Instruments of Korea related to agriculture such as 'Gayageum', 'Daegeum', 'Danso' etc.,
  - b. 'Nay' (one kind of flute), 'Daff' of Iran,
  - c. 'Zheng' (zither) and 'Di' (transverse flute) of China, and
  - d. Swiss 'Cowbell with an embroidered leather collar decorated with brass plaques', 'Cowbell from Gruyere', 'Plaited leather rope with a wooden buckle', 'Cream bucket', 'Herd of cattle from toggenburg region, wood, hand carved', 'Cheese box' and 'Young brides box made of wooden laths, hand painted' etc. of Gallery no. 44 ('Chinese Corner, Switzerland Corner, Irani Corner, Korean Corner').

From the above discussion, it is apparent that Bangladesh National Museum with the limitation of space has placed different modes of rural life and culture-based themes of Bangladesh and other four countries in different galleries in different forms such as dioramas, panoramas, showcases, artworks etc. The analysis suggests that much space has been left for rural life and culture. But no audio-visual presentation on rural life and culture exists in this age of Information and Communication Technology (ICT). Moreover, there may be special galleries with chronological representations of objects related to rural life and culture.

## 2. Role Analysis: Visitors' View towards objects related to Rural Life and Culture

Museum is a medium of communication and a canvass of culture, history and heritage. It informs, educates, entertains and persuades people. It acts in its own way; it is a combination of multimedia - text, color, sound, light etc. It delivers messages of men and matters through the objects.

There is a general impression that messages having persuasive content if communicated through television become more effective than when the message is communicated through radio or print. This impression does not seem to have validity in every situation with every audience for every message. Marshall McLuhan (1962 and 1966) in his work entitled 'Medium is the Message', emphasized: the 'real 'message' is the way it pokes, jabs and kneads its audience, not what it says. Each medium uses its own code to convey information and the nature of the code has something to do with the effect of the information carried. Visual media code presents more information in a given time. Audio media codes command close attention and exert more control over the pace of presentation of information. Each medium has a special capability and certain cost of delivering information.<sup>15</sup> BNM has already included multimedia in galleries for the visitors to keep pace with the age of Information and Communication Technology.

How much information this museum disseminates on rural life and culture, how much satisfied with the display of rural life and culture based objects the visitors are, what this museum can do to add and to display the objects may be better perceived from the respondents' comments. The data collected from the questionnaire are presented below:

a) Demographic Information of the Respondents

Seri al No.	Name of Districts	District-wise Number of Respondents	Total Number of Respondents
1.	Dhaka	21	21
2.	Kushtia	7	7
3.	Faridpur	5	5
4.	Meherpur, Pabna, Bogra	4*	12
5.	Madaripur, Naogaon, Noakhali, Dinajpur, Barisal, Tangail, Satkhira	3*	21
6.	Chadpur, Gazipur, Rangpur, Rajshahi, Panchagarh, Natore, Gaibandha, Jhalokati, Narayanganj, Kishoreganj, Comilla	2*	22
7.	Shariatpur, Sherpur, Lakshmipur, Netrokona, Narsingdi, Joypurhat, Brahmanbaria, Cox's Bazar, Moulvibazar, Chittagong, Gopalganj, Patuakhali,	1*	12
8.	Total = 36 Districts		100

\*Each district<sup>16</sup> had equal respondent/s.

Table 1: District-wise Respondents

The respondents (100 respondents) were of 36 districts of Bangladesh (Table-1). The highest respondents were of Dhaka district (21 respondents). The 2nd and 3rd highest respondents were of Kushtia and Faridpur respectively. Meherpur, Pabna and Bogra each district has 4 respondents individually.

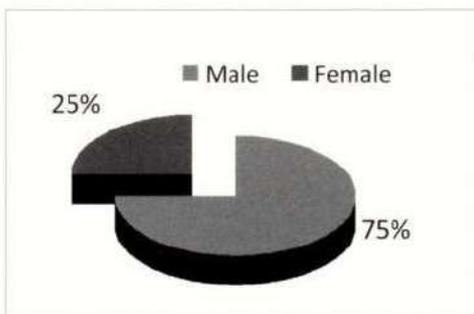


Fig.-13: Ratio of Male and Female Respondents

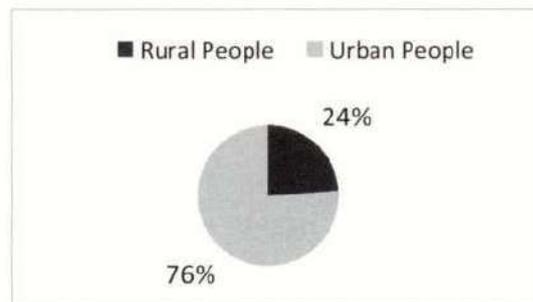


Fig.-14: Ratio of Rural and Urban Respondents

The above two figures (Fig.-13 and Fig.-14) reveal that 75% respondents were male whereas 25% were female and 76% were urban people while 24% were rural people.

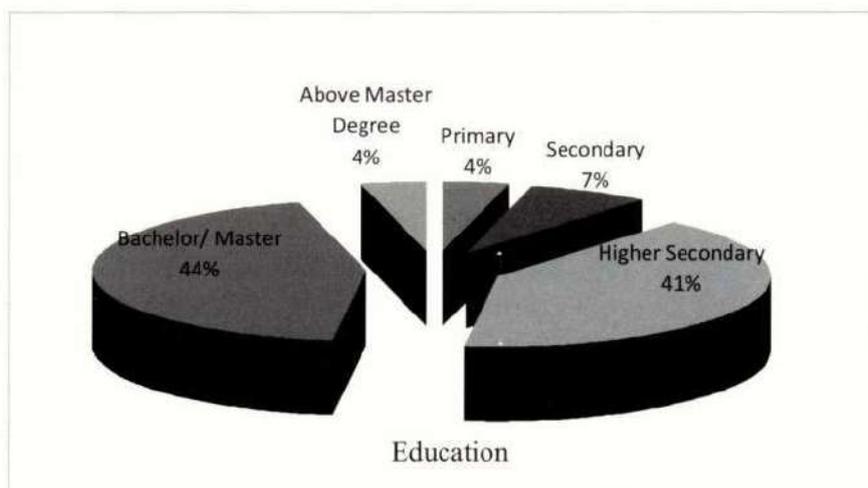


Fig.-15: Educational Background of the Respondents

Fig.-15 shows that 44% of the respondents were Bachelor/Master degree holder, 41% were of Higher Secondary, 7% were of secondary, 4% were of Primary level whereas 4% were of above Master Degree holder.

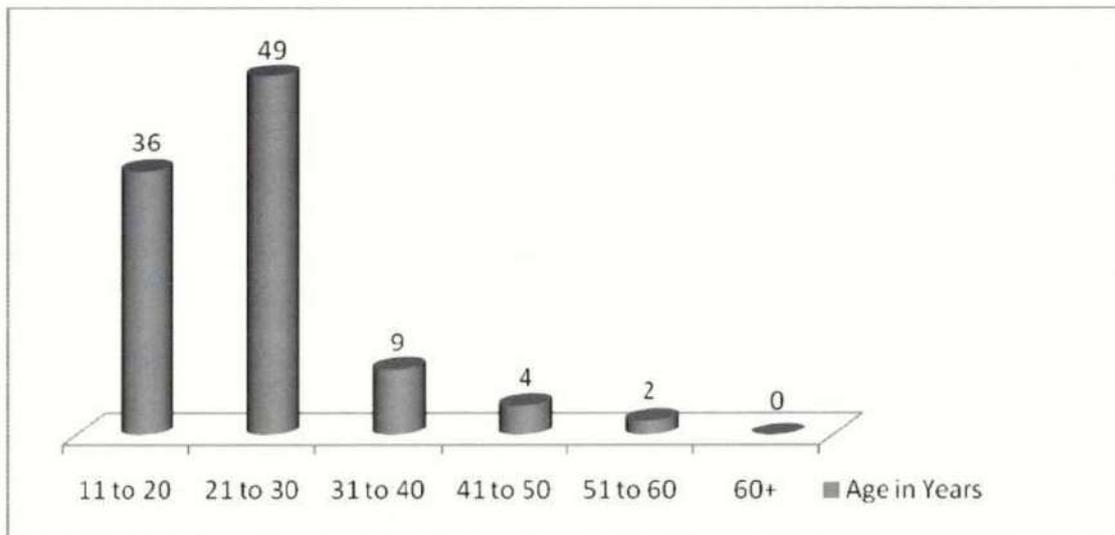


Fig. 16: Age group of the Respondents

The figure 16 indicates that age group 11-20 years included 36% respondents, 21-30 included 49%, 31-40 included 9%, 41-50 included 4% and 51-60 included only 2%. There was no respondent of 60+ ages. The data show that young people visit the museum more than the old ones.

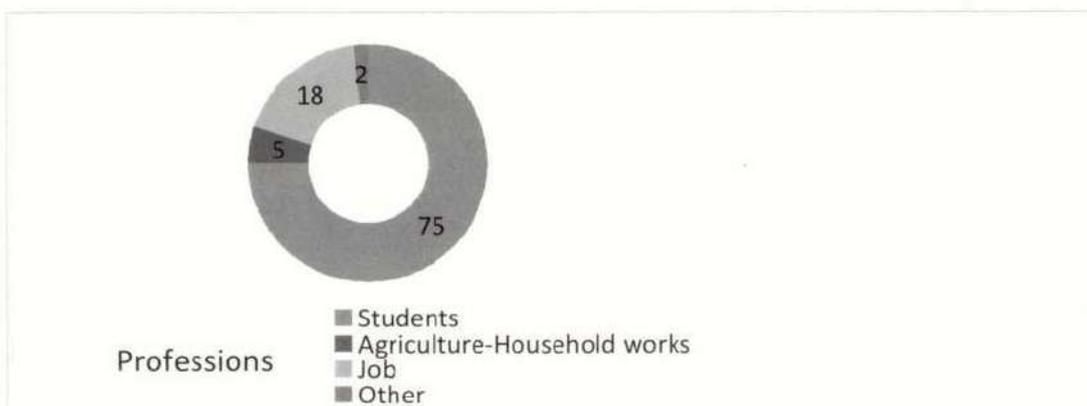


Fig. 17: Professions of the Respondents

In this segment of analysis (Fig.-17), the following reflections are found. Among the respondents, students were 75, jobholders were 18, people engaged in agriculture-household works were 5 and only 2 respondents were from other professions.

b). Visitors' remarks on and satisfaction with the display of Rural Life and Culture based objects

1.

Question	Mode of Answer	Number of Respondents
Have the rural life and culture based objects been displayed properly in galleries?*	Yes	25
	No	75
N=		100

Table 2: Visitors remarks on gallery objects

1.2

* Sequential Question	Number of Respondents	Remarks Pattern
If 'no', what measures can be taken?	64	Important Remarks **
	11	Irrelevant Remarks
N = 75		

Table 3: Visitors remarks for taking measures

Among the respondents, some commented that agriculture should be displayed, but the fact is that agro-based (rural) life and culture have already been depicted in dioramas and other showcases of the objects. Some very important remarks\*\* of the respondents after summarizing the 64 respondents' comments are given below-

1. Installation of 3-D environment and addition of object description should be initiated;
2. Folk songs such as Jari, Bhatiali, Kobigan (Poetic songs) etc. can be introduced in galleries
3. Panorama of folk festivals can be installed more;
4. Real cart can be displayed in a gallery
5. A panorama of rural life and culture comparing ancient society and present society can be set;
6. A corner depicting the six seasons and their changes can be created etc.

Observation of the researcher tells that not all respondents visited all the galleries. They visit the galleries depending on their availability of time, personal interest

and persuasion of the visiting company. Irrelevant answers have been found in answer of the question - 'What measures can be taken?'

C). Visitors remarks on Reflections of Rural life and culture in galleries

How much have rural life and culture been reflected in galleries?	Number of Respondents
Very well	11
Well	42
Satisfactory	35
Not at all	-
No comment	12
	N=100 respondents

Table 3: Visitors' remarks on reflections of rural life and culture

From the above table, it is clear that among the 100 respondents, 11 respondents think that rural life and culture has been reflected very well in galleries. Other 42 respondents comment that the reflection of rural life and culture in galleries is well whereas 35 respondents comment that the standard of portrayal of rural life and culture is satisfactory. 12 respondents have no comment. There was no respondent who commented that rural life and culture have not been portrayed at all. Some respondents have commented that rural life and culture have been depicted properly in galleries, yet have given some suggestions to add some ideas to highlight rural life and culture.

D). Recall of the visited objects regarding rural life and culture

Most of the respondents were capable of identifying and listing some names of the objects of rural life and culture. But almost all the respondents did not identify the themes of rural life and culture envisaged in different artworks and canvases of the renowned artists in gallery nos. 34, 35 and 36. Rural life and culture have been placed much in different forms – panoramas, dioramas, artworks, and showcases etc. in galleries - but visitors have not perceived themes in all of the forms clearly. It may be of different reasons such as lack of knowledge of the theme, full concentration to the objects, due to shortage of visit time of the visitors. It is evident that most of the visitors perceive only individual gallery, not always all the themes of the objects.

## Conclusion

Bangladesh National Museum as 'the cultural soul of the nation' is extending its activities day by day. It tries to make rooms for various sides of the culture, history, heritage etc. Like other institutions, it is not out of limitations. In this study, it is evident that life and culture have been depicted in various forms in 20 galleries out of 44 galleries of BNM. Especially Gallery 2 and 11 solely portray the rural activities and life style. Moreover, respondents' positive remarks (very well, well, satisfactory) on reflections of rural life and culture in this museum strengthen the belief that the museum gives the focus on rural life and culture of the people of the country sincerely. At the same time, respondents' remarks with some negations and suggestions impose the importance of taking some steps to install some corners adding some sorts of themes and technologies to highlight rural life and culture through objects. Moreover, visitors' incapability to identify specific theme through the displayed objects owing to unfamiliarity with the objects' languages and forms necessitates museum communication with - and learning among - the people. This study suggests taking steps to increase the female and rural visitors.

## Recommendation

Today museums are beginning to gain momentum as the cultural motors for development. Exhibitions are an effective means of interpreting the past, and conveying information to be assimilated by the visitors. The more they engage the visitors' interests and emotion, and create an enjoyable experience, the more likely they are to learn. ...The most effective exhibitions in terms of increasing understanding, enjoyment and motivation were those that had historical and human interest themes with which visitors could identify.<sup>17</sup>

Furthermore, two-way communication (source, message, receiver, feedback) in lieu of one-way communication (source, message, receiver) is more effective and appropriate to disseminate message. So engagement of more visitors with the museum for multifaceted messages is obligatory. It will create an array of delivering message and receiving feedback to fit the museum in development discourse. With the essence of the above discussions and on the basis of the findings, the recommendations are as follows:

- a. Documentation and display using both printing materials and electronic materials can be prepared to highlight the rural themes and things in galleries;

- b. Special visits to the dioramas and panoramas of rural life & culture for the people - specially for the students (as they are the windows of the nation) - can be arranged;
- c. Special seminar/s, symposium/s, workshop/s etc. on different themes of rural life and culture can be taken into consideration;
- d. Multimedia and interactive media to highlight 'Rural Bangladesh' can be set up in a gallery/ certain galleries as our glorious Language Movement in 1952, Liberation War in 1971 etc. set up in some galleries.
- e. Sketch competition, Essay competition on rural life and culture can be introduced to invoke creativity as well as create awareness about our rural life and culture.

#### Limitations of the study

Objects in galleries being replaced with other ones from time to time, this study could not give exact total number of objects related to rural life and culture. Besides, purposive sampling and written questionnaire of the study compelled to include only literate respondents. In addition, the study could be extended by taking more samples using greater amount of time.

#### Accession Numbers of the Figure Components (From Left to Right)

Fig-7: Accession Numbers of Hand Fans:

01.02.052.1987.06065	01.02.052.1987.06067	01.02.052.1987.06068
01.02.052.1989.03504	01.02.052.1987.06069	01.02.052.1987.06061
01.02.052.1987.06063	01.02.052.1988.03587	01.02.052.1987.06062
01.02.052.1970.00637	01.02.052.1988.03586	01.02.052.1987.06064
01.02.052.1975.01130	01.02.052.1987.06070	01.02.052.1970.00546
01.02.052.1970.00545	01.02.052.1987.05575	01.02.052.1967.0469
01.02.052.1987.05873	01.02.052.1987.05533	01.02.052.1975.01131

#### Collection Numbers of Topor (Crown):

01.02.052.1986.00266	01.02.052.1986.00268	01.02.052.1987.05383
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Fig-8: Accession Numbers of Agricultural Implements:

01.02.070.1987.05861	01.02.070.1987.02157 (1-2)	01.02.070.1987.00305
01.02.070.1985.02510	01.02.070.1987.05726	01.02.070.1988.03162
01.02.070.1987.05605	01.02.070.1988.03129	01.02.070.1987.00319
01.02.070.1989.00623.2	01.02.070.1987.02187	01.02.070.1989.00545
01.02.070.1989.00546	01.02.070.1987.02118	

Fig- 9: Accession Numbers of Decorated Earthenware & Decorated Pot Holders Made of Jute:

(a)	01.02.052.1987.05731	&	01.02.052.1987.06130
(b)	01.02.052.1987.02105	&	01.02.052.1987.06128
(c)	01.02.057.1986.00351	&	01.02.052.1987.06131
(d)	01.02.057.1988.03142.1-2	&	01.02.052.1987.06127
(e)	01.02.057.1983.04082.3		
	01.02.057.1987.05899		
	01.02.057.1983.04081.2	&	01.02.052.1987.06135
(f)	01.02.057.1988.03153	&	01.02.052.1987.07471
(g)	01.02.057.1983.04054.1-2	&	01.02.052.1987.06133
(h)	01.02.052.1986.08093	&	01.02.052.1987.06129
(i)	01.02.052.1987.02106	&	01.02.052.1987.06132

Fig. 11: Accession Numbers of Weapons and Agricultural Implements of the Garo

01.02.051.1987.07478	01.02.051.1987.07500	01.02.051.1987.07489
01.02.051.1987.07495	01.02.051.1987.07498	01.02.051.1987.07499
01.02.051.1987.07482		

Fig. 12: Accession Numbers of Musical Instruments

01.02.067.1978.01498	01.02.067.1973.01880	01.02.067.1970.00554
01.02.067.1972.00058	01.02.067.1970.01000	

## References

1. Al-Amin, Sultana; Rahman, Md. Mostafizur; Miah, Md. Abdul Momen, 'Existing Livelihood Status of the Char Land Women in Jamalpur District'. *The Journal of Rural Development*. Vol.36, Comilla, 2009, p. 2.
2. *The Daily Bangladesh Protidin*, March 13, 2013 Issue, 2013, p.5.
3. Islam, Sayad Amirul, *Bangladesh Museum* ( in Bangla). Dhaka, 2006, pp. 110-114.
4. Arinze, Emmanuel N., *The Role of Museum in Society*, 1999. Retrieved from <http://www.maltwood.uvic.ca/cam/activities/pastconferences/1999conf/CAM%2799Emmanue%20Arinze.GuyanaFinal.pdf> date: 27.10.2013.
5. *Annual Report of Bangladesh Rural Development Board (BRDB) 2011-2012*, p. 58, Retrieved from <http://brdb.gov.bd/images/Demo/13bangla.brdb.pdf> date:27.10.2013.
6. Pearce, Susan K. cited in Kavanagh, Gaynor, *History of Curatorship*, Leicester University Press, London, 1990, p. ix.
7. Reardon, Kathleen K., *Interpersonal Communication: Where Minds Meet*, California, 1978, p. 19.

8. *Ibid.*, p. 52.
9. Islam, Syed Manzoorul., *On Preserving Local Cultural Diversity in the Face of Globalization* (Seminar paper), Seminar Organized by JICA Alumni Association of Bangladesh, Dhaka, 2011, pp. 17-18.
10. Chowdhury, Kabir, 'The Multiplexity of Culture and the Role of Civil Society', *Journal of the Asiatic Society of Bangladesh* (Humanities), Vol. 52, Dhaka, 2007, p. 214.
11. Haq, Fahmidul (ed.), *Jogajog* (in Bangla). Issue 3, Rajshahi University, 2001, p. 51.
12. Isar, Yudhishthir Raj (ed.), *Museum*, Paris, 1984, p. 10.
13. Chowdhury, *op. cit.*, pp. 213-214.
14. *Centenary Commemorative Volume*, Bangladesh National Museum (1913-2013). Dhaka, 2013, p. 9.
15. Pradip Kumar, *Perspectives in Mass Communication*. New Delhi, 1993, pp. 4-5.
16. District names, Retrieved from [http://en.wikipedia.org/wiki/List\\_of\\_districts\\_of\\_Bangladesh](http://en.wikipedia.org/wiki/List_of_districts_of_Bangladesh) date: 10.11.2013.
17. Hachlili, Rachel, 'A Question of Interpretation' cited in *Museum International* (UNESCO, Paris). Vol.50, No.2, 1998, p. 4.

## Preservation and Promotion of Folk Culture-Initiatives of Ethnography and Decorative Art Department of Bangladesh National Museum: An Overview

Asma Ferdousi

### Abstract

Folk culture is considered as the basic of tangible cultural heritage. Folk culture speaks about the root of an ethnic group and as an ethnic group and as a nation it is indeed indispensable for us to safeguard our folk culture. The Department of Ethnography and Decorative Art of Bangladesh National Museum is very much active to preserve and promote folk culture of Bangladesh through research, collection of objects, display of antiquities, exhibitions and publications. The study reflects some of the historic and recent initiatives of the department in order to preserve and promote folk culture of Bangladesh.

### 1.0 Introduction

Bangladesh National Museum started its journey on 7th August 1913 as Dhaka Museum with a single room in the Secretariat Building of the then capital of Bengal and Assam i.e. present Dhaka Medical College building and it was inaugurated by the Governor of Bengal Lord Carmichael. On 15th August 1914 it was shifted to Nimtali Baraduari area of Dhaka. Eventually, that Museum has transformed into Bangladesh National Museum in 1983 and again shifted to its present campus at Shahbag.<sup>1</sup> Bangladesh National Museum has a collection of nearly 86 thousand antiquities. As a wing of the Ministry of Cultural Affairs, People's Republic of Bangladesh, the museum is playing a central role to preserve tangible and intangible heritage of the country and portraying a rich, positive and bright image in front of the world community. On August 7, 2013 Bangladesh National Museum celebrated its 100 years of establishment.<sup>2</sup> The museum has enormous collection of historical objects, among which stone and metal sculptures, terracotta plaques, coins, ornaments, Arabic and Persian inscriptions, Sanskrit, Bengali and Arabic-Persian manuscripts written on hand-made paper or palm leaf, and paintings are of special value and importance. Additionally, the museum has a rich collection of arms and armor, ivory, replicas of boats, embroidered quilts (Nakshi Kantha), wood carving, musical instruments, textiles,

ceramics, objects of folk arts and crafts, contemporary art and artifacts of world civilization. Specimens of natural heritage like flora, fauna, rocks and minerals have enriched the collections of Bangladesh Nation Museum.<sup>3</sup>

Bangladesh National Museum has seven departments—Department of History and Classical Art, Department of Ethnography and Decorative Art, Department of Contemporary Art and World Civilization, Department of Natural History, Department of Conservation Laboratory, Department of Public Education and Department of Administration, Finance and Security. All the departments have specific roles to perform. The Department of Ethnography and Decorative Art is active in the research of ethnic groups of Bangladesh and decorative art. The Department has a wide-ranging collection of ethnographical and decorative objects which exhibit the lifestyles, traditions, festivals, beliefs and rituals of the people of Bangladesh. The Department intends to explore, collect, preserve, display and study the traditional designs and motifs as well as the traditional arts and crafts of different ethnic groups of the country. Since its inception the Department of Ethnography and Decorative Art has been able to collect notable objects of historical importance like ceramics, glass, ivory, metalwork, filigree, arms and armour, stone work, furniture, woodwork, replicas of boats, silver and gold ornaments, musical instruments, textiles and costumes, a wide range of folk art including dolls, hukkas, painted pots, mold of cakes, fishing equipments, models and embroidered quilts (Nakshi Kantha). These objects are displayed in sixteen different galleries. Beautiful dioramas of different ethnic groups are also displayed in three galleries which manifest the life style of that ethnic groups.<sup>4</sup>

### 1.1 Methodology

Both primary and secondary data have been used to prepare this paper. Primary data were collected through interviews and discussion with Bangladesh National Museum staffs. And secondary data were collected from official records of National Museum, different books, journals and articles.

### 1.2 What is Folk Culture?

When sociologists talk about culture, they are more interested in the features of society which are learned rather than inherited and these features help members of the society to cooperate and communicate with each other and facilitate them to create common platform to live their life in a society. Culture consists of both

intangible aspects and tangible aspects. Intangible aspect includes beliefs, ideas, values and tangible aspect includes the objects, symbols and technologies.<sup>5</sup> Culture comes from the Latin word 'colere' meaning 'to cultivate' 'to till the soil'. Smelser (1993) defined culture as 'a set of values, views of reality, and codes of behavior, held in common by people who share a distinctive way of life'<sup>6</sup>. Schaefer (2006) identified culture as 'totality of learned, socially transmitted customs, knowledge, material objects, and behavior'<sup>7</sup>. Giddens (2001) has given a broader view about culture by saying that culture refers to the ways of life of the members of the society, or of the groups within a society.<sup>8</sup>

Pramoth Chaudhury has said that a flint- stone is an object of civilization and the light that is radiated through rubbing the stone is culture. So, culture is not simply the material, rather it involves some creative energy and exertions. Culture not only tells us about the identity of a community, it also upholds its distinctiveness. In other words, culture is the symbol of the existence of a nation.<sup>9</sup> Folk Culture has been described as '... a way of life based upon an understanding of and a respect for Nature. Folk Culture seeks to create a society where there is genuine freedom and a harmony, and believes that this involves us, as individuals, living by certain ideals such as honour. The basis for the way of life of Folk Culture is the principles of: (1) personal honour; (2) of loyalty to family, and clan; (3) of duty, or service, to the folk, the community; and (4) respect for Nature. Three of the most distinguishing features of this way of life are the desire for personal freedom, the desire to know, to understand, to explore, and the readiness to do one's communal duty: to place the welfare of one's community, one's folk, before one's own personal interests and happiness. Folk Culture values and seeks to develop those things, those qualities, and those attributes of personal character, which make us human: our reason, our honour, and our ability to restrain and change ourselves by using our will. One of the most fundamental principles of Folk Culture is the belief that we can change ourselves for the better by using our will, and by being inspired by noble ideals and by the traditions, the heritage, of our own culture which our ancestors have bequeathed to us. Folk Culture values and indeed treasures the beauty of our native home, the Earth, just as it values and treasures the diversity of Nature, evident in the many different types of life, and the many different types of human cultures. Folk Culture expresses the natural truth that for us to be healthy, free and live in harmony with Nature, we must respect Nature, and all the diverse creations of Nature, and seek to understand,

appreciate, and add to our own ancestral culture while respecting all other cultures. Folk Culture has its own ethics, its own moral values, which is called the Cosmic Ethic, as it has its own principles of law, believing that only these ethics and these principles of law can create a noble, free, society where people can live in harmony with Nature and with other human beings...<sup>10</sup>.

We find folk culture being reconstituted, recycled, and even created from scratch when a society experienced extreme social crisis and loss of a sense of collective identity due to political turmoil, often as a result of colonialism's impact on local cultures. James Scott uses the phrase 'Weapons of the weak' to refer to those items of 'expressive culture'. A term he prefers to use over folk culture because it is less restrictive and confining in its scope that can be deployed by the masses minimally to provide psychological relief from oppression and maximally liberation from it through disguised forms of resistance. But such discourses are always polyphonic in nature.<sup>11</sup>

'...Bangladesh for centuries has been an agricultural society. Obviously, its folk culture is based on the rituals and rhythms of rural life. Despite the trends of urbanization and globalization, the underlying culture, in both urban and rural communities is folk based...folk culture may be divided into four main categories: material, formalized, functional and performing. Bangladesh has a rich folk culture which includes Folk Tales, Folk Songs, Folk ballads, Folk plays, rhymes, riddles, mantras, anecdotes etc. ... There are nearly 50 different types of folksongs in Bangladesh: *jari*, *sari*, *bhatiyali*, *bhawaiya*, *murshidi*, *marfati*, *baul*, *gambhira*, *kirtan*, *ghatu*, *jhumur*, *bolan*, *alkap*, *leto*, *gajan*, *baromasi*, *dhamali*, *patua*, and *khemta*...Performing arts include *jatra*, *baul*, *gambhira* etc presented through singing, dancing and play-acting. *Jari* dance, *Sari* dance, *Lathi* (stick) dance, *khemta* dance and *Ghatu* dance are part of *Jari* songs, *Sari* songs, stick plays, *khemta* songs and *Ghatu* songs respectively...'<sup>12</sup>.

## 2.0 Why should Folk Culture be Preserved and Promoted?

It is indeed very important to safeguard folk culture. In fact, folk culture is treated as the foundation of tangible cultural heritage. If we do not take appropriate measures to safeguard folk culture, it will be very difficult for us to cherish our own culture in near future. Westernization, Americanization, Industrialization, Urbanization, industrialization and above all globalization are impacting on our

norms, values and rituals causing them to change and many of our folkways, mores and folk culture are disappearing and some are losing distinctiveness. Because of the information technology and media, foreign culture is becoming a part of our culture and influencing our life in many ways and under the circumstances, if we fail to preserve and promote our folk culture it might disappear.

To exist as an ethnic group and as a nation it is really essential to safeguard our folk culture which is considered as the manufacturing element of tangible culture. Public awareness, collective endeavors of local community and government organization and appropriate laws are needed to safeguard our folk culture. Some specific steps should be taken: identification of folk culture, preparation of inventory and introduction of awareness programme are important among them .<sup>13</sup>

### 3. 0 Initiatives of Ethnography and Decorative Art Department to Preserve and Promote Folk Culture

#### 3.1 Collection of Folk Objects

The Department of Ethnography and Decorative Art collects various folk objects from different parts of the country through field visit, direct purchase or as gift with an objective to preserve the symbol of our folk culture which speaks about our tradition. The Department, till today, has so far collected eleven thousand six hundred and twenty nine objects which includes folk objects like metal work, filigree, stone work, furniture, woodwork, boats, silver ornaments of ethnic groups, musical instruments, textiles and costumes, a wide range of folk art including dolls, *hukkas*, painted pots, fishing implements, molds, pottery, basketry and *Shitol pati*, *Satragi*, *Nakshi Kanthas* and others. Immediately after independence the Dhaka Museum was very active in collecting and preserving folk objects through field visits in almost every year. From 1978 to 1980, Research Officer of Dhaka Museum, Ms. Zinat Mahrukh Banu and other staffs of the department went on several field visits in Rangpur, Dinajpur and other parts of the northern territory of the country and collected numerous folk objects like pottery and indigenous folk objects of Santal Tribe which includes their ornaments, cloths, musical instruments, utensils to enrich the collection of Dhaka Museum. The same group of people went to Mymensingh area several times between 1981 to 1983, stayed there for a number of days, under took rigorous

endeavors to collect folk objects of different communities with a motto to preserve them and eventually promote in right forum. During that time they collected folk objects of Garo ethnic group which comprised of ornaments, cloths, musical instruments, utensils and others. Taslim Uddin Bhuian, Assistant Keeper of the department paid an official visit to Rajshahi and Chapainawabganj districts in 1986 from January 1 to 18 and collected 66 folk objects. The objects were tribal nakshi Kantha, and pottery. The same year he also visited Satkania, Kazirhat, Kalurghat, Raujan, Hatajari, Dohajari, Rangamati, Khagrachari and Bandarban area where he collected 46 potteries, 26 tribal and 9 folk art objects. In 1987, Md. Alamgir, Registration Officer of the museum went on a visit to Manda, Niamatpur and Mahadevpur Upazila of Naogaon district and collected 64 pieces of antiquities of folk art and utensils. In the same year Swapan Kumar Biswas, Assistant Keeper of History and Classical Art Department went on a visit to Badalgasi and Dhamurhat upzilla and collected 28 bamboo and cane objects and pottery. That year A. K. M. Delwar Hossain, Assistant Keeper of National Museum had a trip to Natore district and collected 55 objects of wood, folk utensils, pottery and iron. In 1989, Nazrul Hoq, Deputy Keeper of Natural History Department went on a visit to Cox's Bazar and collected three Marma tribal objects and in 1990 he also went on a visit to Mymensingh district and collected four fishing instruments for Ethnography and Decorative Art Department. 27 August to 7 October of the same year, Ms. Zinat Mahrukh Banu, Deputy Keeper of the department went on a visit to Rajor and Shibchar of Madaripur district and collected different types of utensils, mold, metal and stone folk objects of rural community. In 1992, Shah Sufi Mostafijur Rahaman went on a visit to Chittagong and Rangamati district and collected folk objects of rural people and one tribal (Chakma) object *Kula*. From 1999 to 2000 Ms. Zinat Mahrukh Banu and other Officers visited Faridpur, Noakhali, Manikganj, Sylhet, Fani, Kushtia and Jamalpur districts and collected more objects like *Nakshi Kantha*, bell-metal and brass utensils, *Shitol pati* and pottery. After that 21 May 2000, Bangladesh National Museum arranged a month long Contemporary Traditional Folk Art Exhibition to display folk objects collected in last two years.

### 3.2 Preservation of Folk Objects

The Department not only collects the folk objects but also takes necessary steps to preserve them in precise manner. From its inception the department has been able to preserve 11629 antiquities and the departments have been able to display 1515

antiquities in 16 different galleries. Officers of the department are assigned to take appropriate actions to safeguard the preserved antiquities. An inventory is maintained to make sure the secure presence of the objects. Antiquities are displayed on rotation basis for the better satisfaction of the spectators. There is a store room for the department to preserve the antiquities. Bangladesh National Museum has a conservation laboratory which has skilled manpower who ensure necessary care for the antiquities. The officers of that laboratory, on a regular basis, inspect all the folk objects reserved in the store and gallery and take essential care.

### 3.3 Display of Folk Objects

As mentioned above, the department owns 11629 antiquities among which 1515 are displayed in 16 galleries. Except different arms, porcelain antiquities and ivory, all other displayed objects are folk objects. Folk objects are displayed in Gallery 11-Lifestyle of people, 12-Boat, 13-14 Ethnic groups utensils, 15 – Pottery, 21- Ethnic Ornaments, 24-Metal Utensils, 27- Traditional Dolls, 28- Musical Instruments, 29- Textile, 30- Nakshi Kantha and 31-32- Wood Work. Gallery 11 has 225 antiquities and 5 Dioramas of Farmer Harvesting Village Environment, Atmosphere of Middle Class Peasant House, Village Hat and Bazaar and Fair, Atmosphere of Black Smith House and Life Style of fishermen. The folk objects are displayed scientifically following the theory of musicology which is very spectator friendly. Through this quality display of the folk objects the visitors of the museum are very much able to see and know about our folk culture.



Fig. 1: Some folk objects exhibited in the Gallery No-11.

### 3.4 Celebration of Bangla New Year

Bangladesh National Museum takes initiative to celebrate Bangla New Year every year and fair and cultural programmes performed by folk artist are organized as part of the celebration. Department of Ethnography and Decorative Art play a key role to organize the events. In New Year fair different stalls positioned with *Pittha*, handicrafts, pottery, dolls, local home decor, local musical instruments and others. Performers and singers from all over the country are invited in the New Year cultural fair. Concerned department of Bangladesh National Museum gives profound efforts to bring the artists from different parts of the country targeting those types of artists who have unique ability to perform folk song which are under serious threat for the influence of so called modern song. Our indigenous songs like *Baul*, *Lalon*, *Vatiary*, *Jari*, *Sari* and *Pala* are performed by the artist which ignite the interest of the spectators and give them opportunity to reiterate their love to our folk song. This initiative of Bangladesh National Museum should be considered as a perfect inventiveness to transmit and promote folk culture in a turbulent cultural atmosphere of present time.



Fig. 2: "Pitha & Karushilpo Mela" (Bangla New Year Celebration's Fair).

### 3.5. Exhibition of Traditional Folk Craft

For the first time in our history, Dhaka Museum had organized a fair of Agricultural product, Crafts and Small Cottage Industry on 22 August, 1916 for a

week and Governor of Dhaka Lord Karmichel declared the opening of the fair. Good numbers of filigrees were displayed in the fair along with the filigree of Ahsan Manzil. Entry fee in the fair was 1 penny. The last day of the fair, August 28, was only open for the women only (Chandra, 2013).

After independence, Bangladesh National Museum authority has been organizing Traditional Crafts Exhibition almost every year on the eve of Bangla New Year where the craftsmen not only display their products but also exhibit the process of crafts making like *Jamdani* weaving, *Shitol Pati* weaving, Pottery making, Tribal cloth weaving, *Shola* Crafts making etc. The aim this exhibition is to encourage folk artists, give them a platform to display folk crafts and also spread this knowledge with our next generation.



Fig. 3: Karushilpo Prodorsoni (Folk Art Exhibition).

### 3.6 Nomination for Intangible Cultural Heritage List to Safeguard Our Heritage

*Nakshi Kantha* is one of the famous indigenous cultural elements of Bangladesh and the government has taken initiatives to apply for the enlistment of Traditional Art of *Nakshi Kantha* as world heritage to UNESCO. Bangladesh National Museum was responsible organization on behalf of the government to take care of

the project and accordingly the nomination form had already been submitted to UNESCO. A team of Bangladesh National Museum visited good number of districts like Jamalpur, Kustia, Sherpur and Faridpur to collect information to fill up the nomination form and as supporting document a documentary was submitted along with which shows the preparation technique of *Nakshi Kantha*.

### 3.7 Promoting Folk Art in Internal Arena

The Department of Ethnography and Decorative Art has always been active to promote folk culture worldwide. Bangladesh National Museum as a responsible organization of the government has taken responsibility to send 39 Craftsmen of 26 categories to the Setouchi International Art Festival 2013 held in Japan from July 20 to September 1, 2013. It was reported by the craftsmen that Bangladeshi Crafts were able to draw the attention of the spectators of the festival and it was highly regarded as well.

### 3.8 Researchers and Publication on Folk Art

Department of Ethnography and Decorative Art is very much devoted to research and publication on folk culture. The staffs of the departments are enthusiastic to do research related to folk culture. The staffs also have a good number of publications about folk culture and the publication initiative is still going on.

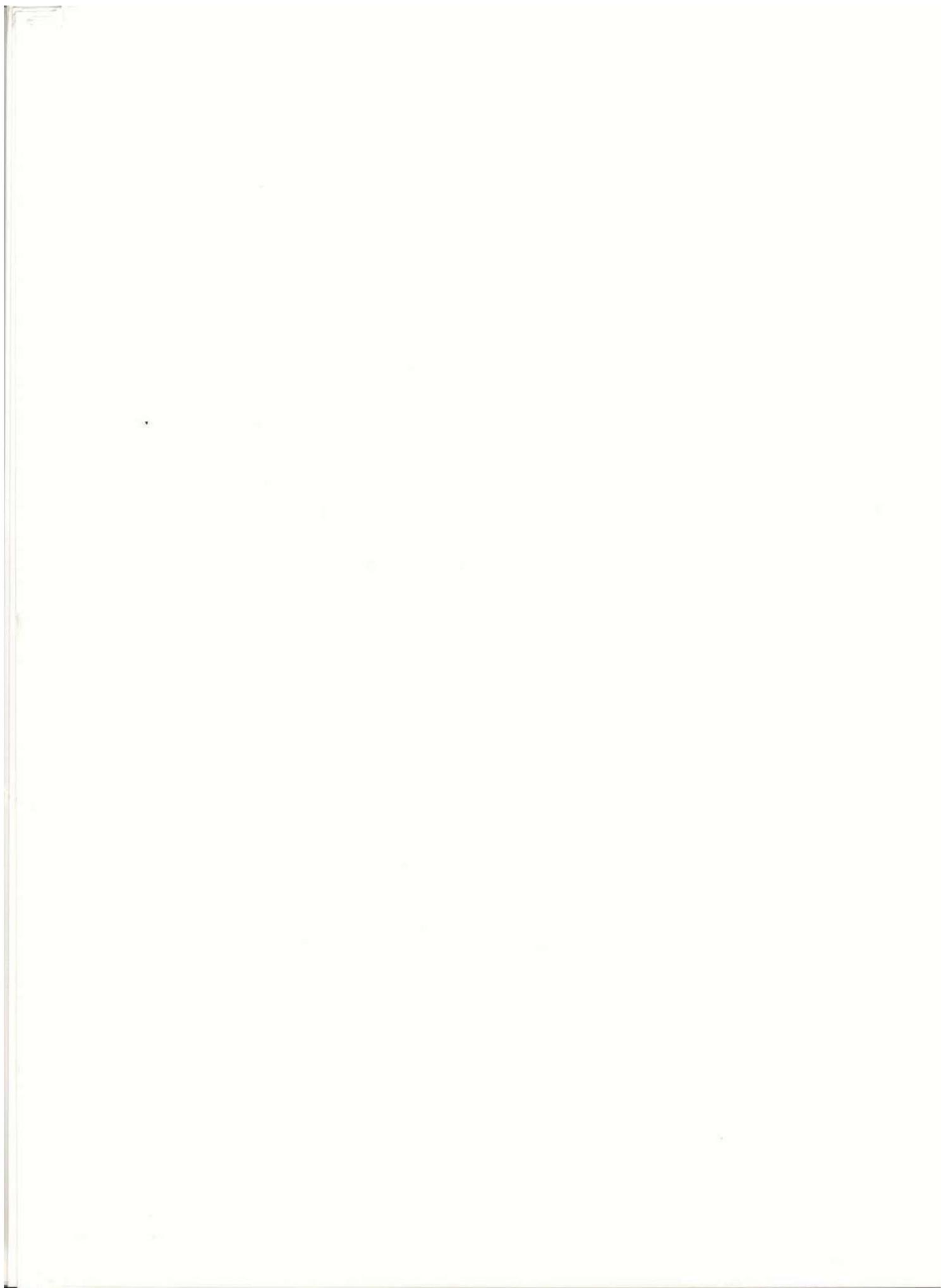
## 4.0 Conclusion

The Department of Ethnography and Decorative Art like other departments of the museum is very much vigilant to preserve and promote Bangladeshi culture in Bangladesh and in the other countries of the world as well. Folk culture as an important element of our culture is well taken care of by the Department of Ethnography and Decorative Art of Bangladesh National Museum. From the above discussion it is clearly understood that Department of Ethnography and Decorative Art is taking numerous steps to preserve and promote folk culture through research, collection, identification, documentation, preservation, protection, promotion, enhancement, transmission, particularly through formal and informal approach, as well as the revitalization of the various aspects of such culture. For some predicaments like insufficient budget, bureaucracy, training and other requirements, the Department of Ethnography and Decorative Art is unable

to extend the limit of its operation in regard to promoting and preserving folk culture. If these problems are solved, and if, it can work to its desired level, in future, the department could play a very effective role to preserve and promote folk culture through which an imperative branch of our culture will be safeguarded.

### Reference

1. Das, P. C. (ed.), *Jatiya Jadughar Shatotama Pratisthabarshiki 1913-2013* (in Bangla), Bangladesh National Museum, Dhaka: 2013, p. 9.
2. Ferdousi, Asma, 'Role of Bangladesh National Museum to Safeguard Intangible Cultural Heritage', *Journal of the Socioeconomic Research & Development (JSERD)*, Vol. 10, 2013, Dhaka, pp. 1586-91.
3. Bangladesh National Museum, *Introduction-Bangladesh National Museum*, Dhaka: 2011, p. 4.
4. *Ibid*, p. 4.
5. Giddens, Anthony, *Sociology*, Polity Press, Cambridge, 1997, p. 21.
6. Smelser, Neil J., *Sociology*: Prentice Hall of India, New Delhi, 1993, pp. 18, 19.
7. Schaefer, Richard T., *Sociology*: McGraw Hill, New York, 2006, p. 58.
8. *Ibid*, p. 21.
9. Ahmed, Wakil, *Folklore Cultural Survey of Bangladesh*, Series-7, December-2007, Dhaka, p. xiii.
10. What Is Folk Culture? Available at <http://folkculture.tripod.com/what.html> [Accessed 14th January, 2014].
11. Folk Culture of Bangladesh, Available at <http://genesisschool.blogspot.com/2010/02/folk-culture-of-bangladesh-folk-culture.html>[Accessed 10th January, 2014].
12. Islam, Sirajul & Miah, Sahajan, (ed.) *Banglapedia*, National Encyclopedia of Bangladesh, Vol 4. Dhaka: Asiatic Society Bangladesh, 2003, pp. 186, 18, 13. UNESCO, *Basic Texts of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage*, France, 2012, p. 48.



## Gāro Dress in the Collection of the Bangladesh National Museum

Rashida Ahmed

### Abstract

Gāro is a notable community among the small groups of indigenous people in Bangladesh. Their wearing apparels include Dakmanda, Dakshari, Gena, Channa-Ganna, Ganna, Basek, Unfeng, Dolajin, Gando, Refan-pinak, Waist-coat, Khathup, Khafing, Orna, Gumchha, Paguri etc. There are ten dakmandas, one dakshari, two genas, six gannas, six baseks and one unfeng preserved in Bangladesh National Museum. Dakmanda and dakshari are unstitched dress. But dakmanda is designed with flower, bird and various types of patterns and dakshari is designless one-coloured or striped dress. Gāro women wear gena and a nakmas (head of the community) wears ganna from their waist to knee. Gāro women are used to performing all kinds of jobs fastening their infants on shoulder. The piece of cloth used to tie the infants is called basek and Gāro women wear scarf over the upper part of the body called unfeng. The museum can play an important role by collecting and displaying all the elements used by ethnic minority of Bangladesh in order to keep their tradition alive.

Bangladesh National Museum is a multi-dimensional museum. It was established in 1913. Objects of different disciplines are collected and preserved here. Besides historical and art objects, Bangladesh National Museum collects ethnographic objects of different ethnic groups of Bangladesh. It collects cultural objects of many tribal peoples who live in Bangladesh. Among these, the Gāro dress of the collection of the national museum may specially be referred. The Gāro are a notable community among the small groups of indigenous people in Bangladesh. According to ethnologist C. Meloni, there are 36 ethnic minorities in Bangladesh.<sup>1</sup> They live in Netrokona, Mymensingh, Tangail, Sherpur, Jamalpur, Sylhet, Sunamganj, Moulovibazar, Rangpur and Gazipur.<sup>2</sup> They have their own language, religion, culture and tradition. In the purview of Ethnography and Decorative Art Department of Bangladesh National Museum, there are rich collections of ornaments, garments, musical instruments, weapons and various household items used by the Gāro people. An attempt will be made in this paper to discuss the garments of Gāro community preserved in Bangladesh National Museum.

Gāros usually wear dresses self-woven on their looms. They wear Dakbanda/Dakmanda, Dakshari, Basek, Gena, Channa-Ganna, Ganna, Dolajin, Unfeng/Hanfeng, Gando, Refan Pinak/Guernsey, Waist-Coat, Khathup, Khafing, Orna, Gamchha (napkin), Paguri etc. Such various types of Gāro dresses are preserved in Bangladesh National Museum.

Dakbanda or Dakmanda is an unstitched dress worn from waist to the ankle. Dokshari is also an unstitched dress put on from waist to the ankle. But Dakbanda or Dakmanda is designed with flower, bird and various types of patterns and Daskari is a design less one-colored or striped dress. Besides daily use, women of the Gāro community wear Dakmanda and Daskari of various colours and designs at different functions and festivals.<sup>3</sup>

There are ten Dakbanda or Dakmandas preserved in Bangladesh National Museum. The base is woven with pink and white thread. The Dakmanda with black thread pattern of borofi (one kind of sweetmeat made of condensed milk) on flounce and flowers on the base was collected from Birisiri in Netrokona purchasing from the Gāro community. Its price was Tk. 70/- (seventy), length is 162 cm. width 103 cm. and the National Museum accession number is 01-02-051-1983-02241 (Fig. 1).



Fig. 1: Dakmanda from Birisiri, Netrokona



Fig. 2: Dakmanda from Jalchhatra, Tangail

The Dakmanda with red thread geometric patterned lace and borofi (one kind of sweet meat made of condensed milk), pattern of red thread in the body on green base collected through purchase at a price of Tk 70/- (seventy) from Jalchhatra Mission, Tangail. Its length is 164 cm, width is 108 cm. and the National Museum accession number is 01-02-051-1983-02753 (Fig. 2).

The Dakmanda with white thread geometric and borofi (one kind of sweetmeat made of condensed milk) pattern on black base along with stripes of red and white thread collected by purchasing at Tk. 250/- (two hundred and fifty taka) from Modhupur, Tangail. Its length is 100 cm, width is 110 cm and the Museum accession number is 01-02-051-1987-07501 (Fig. 3).



Fig. 3: Dakmanda from Modhupur, Tangail

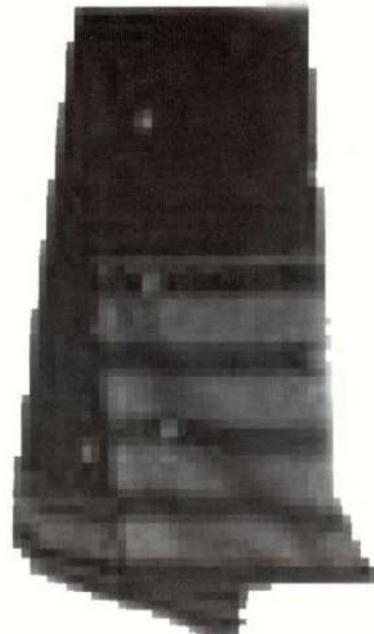


Fig. 4: Dakmanda from Modhupur, Tangail

The black fabric Dakmanda with yellow coloured thread borofi (one kind of sweetmeat made of condensed milk) design on flounce and yellow thread spot pattern on base which was collected through purchasing at a price of Tk 200/- (two hundred) from Modhupur, Tangail. Its length is 174 cm. width is 110cm and the Museum accession number is 01-02-051-1988-03072 (Fig. 4).

Besides these, there are six red fabric Dakmandas in the collection of the National Museum with yellow thread geometric design on flounce and yellow thread flower pattern on base. These were obtained as gift from Caritas, Mymensingh in 1994. Measurement of these Dakmandas is as follows: (a) length 165 cm width 104 cm and Museum accession number is 01-02-051-2004-00394 (Fig. 5). (b) length 165 cm, width 104 cm and Museum accession number is 01-02-051-2004-00395. (c) length 170 cm, width 104 cm and Museum accession number is 01-02-051-2004-00396. (d) length 168 cm, width 104 cm and Museum accession number is 01-02-051-2004-00397. (e) length 170 cm, width 104 cm and accession number is 01-02-051-2004-00398. (f) length 160 cm, width 104 cm and accession number is 01-02-051-2004-00399. These have been preserved in the museum as Dakmunda in the store and gallery.

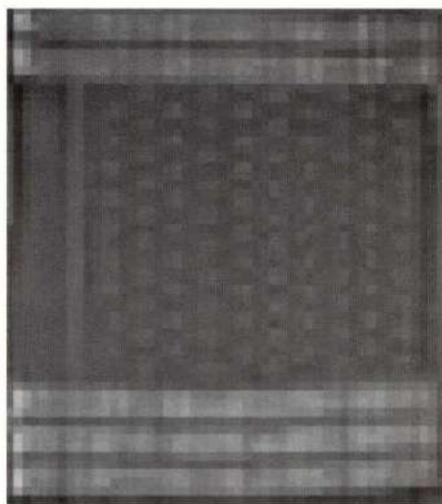


Fig. 5: Dakmanda from Karitash, Mymensingh

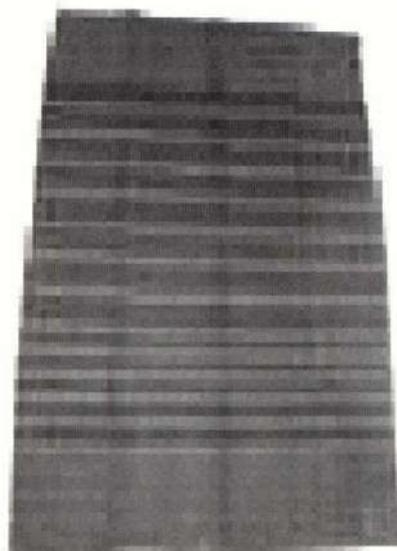


Fig. 6: Dokshari from Modhupur, Tangail

There is one piece of Dokshari preserved in the Bangladesh National Museum. The black fabric Dokshari with yellow thread design on flounce and catechu / dark-brown colour yellow thread striped pattern on base collected through purchase at Tk. 225/- (two hundred and twenty five) from Dhonesh Mong of Modhupur, Tangail. Its length is 170 cm, width is 104 cm and the Museum accession number is 01-02-051-1987-07502 (Fig. 6). It has been preserved in the museum as Dakmunda too.

The Gāro women used to wear a piece of cloth named 'gena' from their waist to knee, woven at their own loom. This dress may be black, red or black and red striped. Recently its use has been on the decline.



Fig. 7: Gena from Birisiri, Netrokona,



Fig. 8: Gena from Birisiri, Netrokona

There are two pieces of gena preserved in the National Museum. The two genas of red and black coloured stripes are under the collection of the museum which were obtained through purchase at Tk 250/- (two hundred and fifty) and Tk 200/- (two hundred) from Birisiri in Netrokona. Their measurements are lengths 132 cm, width 61 cm and length 126 cm, width 68 cm. Museum accession numbers are 01-02-051-1987-07504 (Fig. 7) and 01-02-051-1987-07505 (Fig. 8) respectively.

Gāro men especially Nakmas (head of the community) used to wear a kind of cloth from waist to knee, which is called Ganna or gana. Ganna is found only in different functions especially in cultural functions where Gāro men wear that dress as tradition. Gāro men wear dhuti up to the knee and in rural areas they still wear dhuti up to the knee for comfort and ease to perform their work.



Fig. 9: Ganna from Karitash,

There are six Gannas or Ganas in collection of the national museum. The six Gannas/Ganas of deep blue-coloured fabric with white thread designed furbelow and white thread patterns on base were obtained as gift from Karitash, Mymensingh in 2004. Length are 184 cm, width are 68 cm (each) and Museum accession numbers are 01-02-051-2004-00400 (Fig. 9), 01-02-051-2004-00401, 01-02-051-2004-00402, 01-02-051-2004-00403, 01-02-051-2004-00404 and 01-02-051-2004-00405 respectively.

The female in the Gāro community are extremely industrious. Besides domestic work at their home, they work in the field side by side with the male. Gāro women perform all kinds of work fastening their infants on shoulder. Sometimes, elder brother or sister of the baby and sometimes boys and girls of the neighbors help the Gāro women to keep their infants. The piece of cloth used to tie the babies is called Basek.

There are six Baseks in the collection of the Bangladesh National Museum. These white fabrics called Basek were far blow obtained as gift from Karitash, Mymensingh in 2004 and these are blue-coloured design at far below and blue thread flower pattern on the base (a). Accession number 01-02-051-2004-00406 (Fig. 10), 01-02-051-2004-00407, 01-02-051-2004-00408 and the measurement is length 176 cm, width 67 cm (each), (b) Accession number 01-02-051-2004-

00409, its length 172 cm width 67 cm, (c) Accession number 01-02-051-2004-00410, its length 174 cm width 67 cm and (d) Accession number 01-02-051-2004-00411, its length 177 cm width 67 cm.

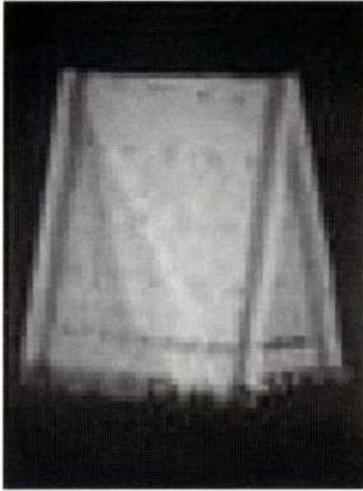


Fig. 10: Basek from Caritash, Mymensingh

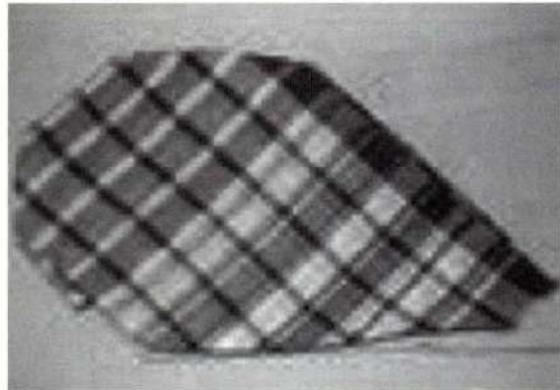


Fig.11: Unfeng from Modhupur, Tangail

Gāro women wear scarf (orna) over the upper part of the body called Unfeng or Hunfeng. 'Un or Hun' means body and 'Feng' means covering.

There is a napkin preserved in the national museum which was used as Unfeng or Hunfeng. Sometimes, such napkin is used for fastening infant on shoulder in place of Basek. The napkin with white, black and blue thread check pattern was bought into the collection at a price of Tk 40/- (forty) from Modhupur, Tangail. Length of the napkin is 158 cm, width 78 cm and Museum accession number is 01-02-051-1987-07503 (Fig. 11).

Dolajin is a blouse-like dress which Gāro women wear on the upper part of the body. Usually, there are several joints in this dress and Channa-Ganna is the dress for the female kids. In Modhupur, it is called 'Duma'.

Once Gāro men used to wear a piece of cloth like loincloth between the thighs tied at front and back with cord or ribbon from waist, a little longer at the flipside. Somebody affixed glass-beads or bangle bells at the end of the flip side hanging part.<sup>4</sup> Gāro people call this dress Gando. With this dress, they used to wear black Guernsey on the upper part of the body. It is called Refan pinak. Refan is put on and Pinak is black cloth. But these are no more used now-a-days.

Gāro men typically wear coat-like dress with various designs. This dress is called waistcoat. It is usually used in functions and Khathup, which is made of cloth and worn on head. This dress is given to a respected guest in a function. Another dress Gāro community uses at the time of dancing in different programs is Khafing and

Gāro nakma generally use Paguri (one kind of cap) in their festivals.<sup>5</sup> But Dolajin, Channa-Ganna, Loincloth (Gando), Guernsey (Refan pinak), Waistcoat, Khathup, Khafing and Paguri are not in the collection of the museum - these are required to be collected.

This ethnic group has a glorious cultural heritage. These days ethnic groups get opportunities to know the culture of other groups with the advent of technology, expansion of communication and above all, pervasive effect of globalization. As a consequence, ethnic minority cannot retain their own traditional culture. Moreover, a significant change is seen among the Gāro's modes of living, dresses, thinking due to the expansion of education and technology. Gāro are shifting away from their tradition in touch of modernization. Their ownness is fading away and getting mixed with the Bengali culture. They do not wear their traditional dress as now Gāro men wear *lungi*, *dhuti*, *half pant*, *full pant*, *shirt*, *fotua* like mainstream Bengali men and Gāro women wear *saree*, *blouse*, *petticoat*, *salower*, *kamij* and *scarf* like Bengali women.<sup>6</sup>

Limited indigenous societies are aware of their rights. They want to keep their own tradition and culture alive. So it is necessary to extend proper cooperation for the Gāro community to keep their traditional cultural elements alive. If we extend cooperation to keep their tradition and culture alive, our culture too will be diversified. In this case, the museum has a special role. The museum can play an important role by collecting, preserving and displaying valuable relics of Gāro along with all other ethnic minorities of Bangladesh and arranging special exhibitions from time to time.

## References

1. Tim, Father R. W. *Bangladesher Adibashi, Bangladesher Manobadhikar Somonnoy Porishad and The Minority Rights (London) Report* (in Bengali), 1992, p. 22.
2. Toru, Mazharul Islam. *Ādibashi Lokojibon* (in Bengali), Mawla Brothers, Dhaka, 2007, p. 104.
3. Aiyob, Ali Ahammad Khan, *Gāro Pahar Anchaler Adibashi* (in Bengali), Sova Prokash, Dhaka, 2007, p. 27.
4. Mojid, Mustafā (ed.), *Gāro Jatisaita* (in Bengali), Mawla Brothers, Dhaka, 2006, p. 54.
5. Sattar, Abdus, *Gāroder Sangskritic Oitihya* (in Bengali). Bangla Academy, Dhaka, 1980, p. 58.
6. Jengcham, Shubhash. *Bangladesher Gāro Sampraday* (in Bengali), Bangla Academy, Dhaka 1998, p. 48.

## Dowry in the Folk Songs of North Bengal

Shibli Chowdhury

### Abstract

This essay discusses the representation of the system of paying and receiving dowry during marriage in the folk songs of the northern region of Bangladesh. This essay also tries to find out the causes and consequences of dowry system and shows how this patriarchal social practice takes a heavy toll on the womenfolk. The discussion is made on the basis of primary and secondary sources and in the light of feminist theory.

### Introduction

Dowry is 'the property or money given by a bride's family to groom's family as a part of a marriage contract. In Bengali it is known as *pan* or *joutuk*.' It is different from bride price and dower. Bride price is 'money or property given (in some societies) by the bridegroom to the family of his bride'<sup>1</sup> and dower is money or property which is settled on the bride herself by the groom at the time of wedding. Dowry is usually paid by the bride's family 'to serve as a form of protection'<sup>2</sup> for their daughter 'against the very real possibility of ill treatment by her husband and his family'<sup>3</sup>. So, it is clear that the custom of dowry protects the interests of men only. This evil system, on the one hand, elevates the status of male and, on the other, downgrades that of the female in the society. At present, the custom of paying and receiving dowry is prevalent in all sections of the Hindu and the Muslim communities. Muhammad Abdul Jalil opines in this regard –

Previously this custom was limited to the upper class Hindu society only. And in the lower class Hindu community the opposite system was in existence as a man had to marry a woman after giving bride price to her parents. The religious prescription of Islam is also in favour of the bride price (in the form of *denmahr* or *dower*). To give *denmahr* or *dower* to the bride (not to the bride's parents) is the prescription of Islam. But the custom of paying dowry is also introduced to the Muslim society as a result of social influence. Being influenced by the higher grades Hindus, the people of the Hindu lower class families introduce it to their community and finally it gets into the Muslim community.<sup>4</sup>

The northern region of Bangladesh is not free from the curse of dowry system. Here paying dowry to the bridegroom or his parents becomes a common phenomenon nowadays. Although it is mandatory for the Muslim bridegrooms, according to the religion, to give dowry to the brides in the form of *denmahr*, most of the bridegrooms violate the stricture since they give only a slightest portion of *denmahr* at the time of marriage ceremony. These bridegrooms keep the brides in hope that they will pay the biggest portion of *denmahr* afterwards. But, in reality, only a very few of them keep their words in future. However, the *denmahr* which a Muslim bridegroom needs to pay at the time of marriage is not at all dowry; rather it 'is to be regarded as dower'.<sup>5</sup> And 'Muslim dower or *mahr* was excluded from the purview of the Indian Dowry Prohibition Act of 1961'.<sup>6</sup> Although the custom of paying *dower* or *mahr* or *denmahr* (also locally spelled as *denmohor*) is made obligatory by the prevailing law of Bangladesh, Muslim bridegrooms of this region feel less interested to give it (*mahr* or *denmahr*) to brides than expecting a fabulous amount of dowry from their parents.

Despite the fact that acts of taking and paying dowry are punishable according to the existing law of Bangladesh, it goes on unchecked in our country, especially in its northern part. Although legally prohibited, the extraction of dowry from the bride's family prior to marriage still occurs. The grooms often demand a dowry consisting of a large sum of money, goods such as TV, radio and motorcycle, farm animals, furniture, etc. from the brides' parents. When the amount of dowry paid to the groom or his family is not considered sufficient by them (husband and other members of his family), the bride is often harassed and abused. Sometimes we can see that the husband or his family murders the bride because her father has not paid them their desired dowry. It is also seen that 'lack of dowry, or in-laws dissatisfaction with the amount of dowry, can be a reason for them to be violent against their daughter-in-law and in extreme cases causing her death by burning and try to stage it as suicide'.<sup>7</sup> To some extent it is found that the members of the husband's family torture the bride in such a cruel way that she is compelled to commit suicide. Tazeen Saeed Ali, Gunnhildur Árnadóttir and Asli Kulane opine in this respect, 'Taunting and violence from in-laws may also drive a wife to have suicidal thoughts and even commit suicide.'<sup>8</sup> All these cruel incidents, because of the dowry being unfulfilled, find their expression in the folk songs of this region.

### Objective

We know that the culture of any region is directly reflected in its folk songs. Since the custom of paying and receiving dowry is a part of the local culture of North Bengal, here we can see a good number of folk songs that have 'dowry' as their main theme or subject-matter. The aim of this study is to analyse some of these folk songs in order to show how the females are affected and discriminated owing to this discriminatory custom of dowry.

### Methodology

The study is made primarily on the basis of two sources, i.e. (a) primary sources and (b) secondary sources. Folk songs having dowry as the main theme or subject-matter have been selected for analysis. In order to analyse, interpret and reinterpret these folk songs, the feminist approach, which concentrates on analysing gender disparity and the promotion of women's privileges, welfare, interests, and issues, has been adopted. In fact, this research is a critical analysis of the facts derived from the primary, secondary and other related sources.

### Analysis of Texts

The custom of dowry is so deeply rooted in the culture of this region that sometimes one feels that there is no way to go out of this evil system. Finding no way to uproot this curse, people are gradually conforming to this biased system. Thus, it is seen here that some parents start saving up money for their daughters' dowry as soon as they are born. The following observation of Tazeen Saeed Ali, Gunnhildur Árnadóttir and Asli Kulane deserves citation: 'Parents start arranging dowry for their daughters from an early age, to prevent burden at the actual time of marriage.'<sup>9</sup> The poor parents send their daughters (even when they don't attain maturity) out to work as maid-servants or garment workers in order to earn some money so that they (daughters) can help them save up for their dowry. Thus, the culture of this locality is such that some parents feel that they must give something to their daughters' in-laws even if they don't demand dowry. The fact that the parents are adjusting themselves to the system of taking and paying dowry is evident in the *bijer geet* that follows –

Original in Bengali

*Bata jhilmil bata jhilmil*

*Batabhora pan.*

*Dulabhai khanto batar pan.  
Ei batar pan khaile radio paaimen dan.  
Bata jhilmil bata jhilmil  
Batabhora pan.  
Dulabhai khanto batar pan.  
Ei batar pan khaile ghari paaimen dan.*<sup>10</sup>

English Version

*Here is the betel-box which is gently sparkling  
And it is full of betel-leaves.  
Dulabhai (brother-in-law)! Take a betel-leaf from it and chew.  
If you chew it, you'll be given a radio as daan (gift).  
Here is the betel-box which is gently sparkling  
And it is full of betel-leaves.  
Brother-in-law! Chew a betel-leaf from this betel-box.  
If you chew it, you'll be given a wrist-watch as daan (gift).*<sup>11</sup>

Here we see that the narrator (bride's sister), presenting a new betel-box to her prospective brother-in-law, tells him to take a betel-leaf from it and chew. She also tells him that if he chews any betel-leaf from the betel-box, he will be given a radio as *daan*. The English for the Bengali word *daan* is 'donation'. But the word *daan* used in the dialect of Rangpur has a district meaning. Here the very word is used to mean 'gifts' which are deemed as in dowry, such as bi-cycle, motor-bike, radio, television, wrist-watch, etc. Now we should analyse the way the narrator (bride's sister) deals with her would-be brother-in-law. The way she offers a radio or a wrist-watch to the bridegroom if he chews a betel-leaf from her betel-box implies that the dowry system is not undesirable to her or her family. It also denotes that this evil system is no more unwanted to the middle-class or upper middle-class families. The present situation is such that the people of this region are gradually accustomed to this system. Now, many of them consider it as a part of local culture.

Although the custom of dowry is now a part of local culture, it appears as a burden on the shoulders of most of the parents of this region as they are unable to pay a large amount of dowry to the in-laws of their daughters. And if the dowry is not paid as expected by the in-laws, the daughters will suffer immeasurably at their husbands'

houses. The following *bhawaiya* reveals how the victim leads an unhappy life with her husband since the dowry demanded by him (which is additional to the proposed dowry paid at the time of her marriage) remains unrequited –

Original in Bengali

*Koshte moshte biyar dimyan*  
*Tora dichen purapuri,*  
*Tao kyane oy daaner kotaa (kotha)*  
*Koy ghuri ghuri?*  
*Votti nadit kyane dulabhai*  
*Moke bhashalu?*<sup>12</sup>

English Translation

*You've paid dowry*  
*In full with hardship,*  
*Then why does he ask for*  
*Additional dowry?*  
*Hi dulabhai (brother-in-law)! Why have you put me afloat*  
*In the rivers filled to the brim?*

The dialectal word *dimyan* is popularly used to mean 'dowry' in the district of Rangpur. The narrator of the above folk song is speaking to her *dulabhai* (brother-in-law) about her unhappy conjugal life with the greedy husband. She is complaining to him (brother-in-law) because it is he who was directly involved in the negotiation of the marriage. The parents of the narrator, according to her description, paid her husband the full amount of dowry at the time of her marriage ceremony. But the husband demands an extra amount of dowry. As the narrator does not feel comfortable with this greedy approach, she is in confrontation with him. So, the life she is leading there is a life without contentment. This is why she, at the end of the song, compares her conjugal life with an object floating in the river which is filled to the brim. Through this comparison she is expressing the pessimistic view that she has no other way now to find any solution to her present troublesome life.

The narrator of the next *bhawaiya* describes the greedy mentality of her father-in-law who demands additional dowry from her parents–

Original in Bengali

*Cycle, ghari, radio diya*

*Dyakhi shuni dinen biya*

*Aro chaaoche saafor khat*

*Bura konar baroy (boroy) that*

*Taate hoiche gabrur bap*

*Jakhon takhon more ghaatal ghaate*

*O mor nani o, na dyakhi (dekhi) mok biyao diche kote?*<sup>13</sup>

English Translation

*You've wedded me to him after taking information about his family*

*Giving him cycle, wrist-watch and radio as dowry at the time of marriage.*

*But my father-in-law again expects a saafor cot (special type of cot) from my parents.*

*Being the father of the groom,*

*He takes pride in it before me.*

*Moreover, he always tries to find faults with me at any time.*

*Hi my grandma (maternal), where I've been married off!*

The parents of the narrator of the present song too paid her husband many things including a bi-cycle, a wrist-watch, a radio, etc. as dowry. But the things already mentioned could not meet the appetite of her father-in-law. He demands for more. This time he expects a special type of cot locally known as *saafor khat* from them. This is why the narrator is in difficulty to adjust to the greedy mentality of her father-in-law. Here she is telling her maternal grandmother all the bitter experiences that she has been undergoing at her in-laws' house since the wedding ceremony. She also describes that the members of her husband's house including her father-in-law always try to find fault with her. There she becomes a regular victim of both mental and physical harassment.

The parents of the narrator of the next folk song have done everything possible for them to see their daughter happy in her husband's house. They have given a vast amount of dowry to her husband including a motor cycle, hard cash and all other necessary utensils. Moreover, they have also spent necessary money to build a house for their son-in-law. But all these belongings cannot meet the cumulative covetousness of her greedy husband. Now the husband repeatedly tells her to go to her parents' house to bring some money from them. She has already become tired

of living with such a greedy man. Now she is thinking how she can pass her whole life with the man to whom the money of his father-in-law is preferable to his daughter. So, she prefers death living to with her husband. The following folk song contains all these sufferings of the narrator –

Original in Bengali

*Ore dimyan diya diche biya*

*Diche motor gari.*

*Taka paaisa sob diche*

*Diche banay bari.*

*Ore kathay kathay koy mok –*

*'Jao baper bari*

*Niya aaisho kichu nagot taka kari (kori) '.*

...

...

*Ore emni kari sara jibon kyamne hoibe par*

*Er cheye maron bhalo banchpar (banchte) chao na ar.<sup>14</sup>*

English Translation

*Hi! I've been wedded by giving dowry to my husband.*

*He has been given not only a motor cycle*

*But also everything (including money).*

*Moreover, a house has been built for him.*

*Despite all these things, he often tells me –*

*'Go to your father's house*

*And bring some hard cash'*

...

...

*Hi! How can I pass my whole life there?*

*Death is preferable to me than enduring these tortures.*

The *bhawaiya* that follows also illustrates the greedy mentality of the narrator's husband. The narrator of the present song is also in acute problem as her husband desires a bicycle as dowry from her poor parents. She reminds her mother of the after-effects if they fail to give her husband his expected dowry. She is telling her how he will make her life hell if a bicycle is not given as dowry. So, the following

folk song is a good example of the psychological tortures that a married village woman has to endure if her husband is not paid dowry as expected –

Original in Bengali

*Khulit alche hauser (hauser) damand*

*Taay chaiche cycle dan.*

*Oki amma-jan!*

*Cycle na dile tak*

*Ulkune maribe hamar jan.<sup>15</sup>*

English Translation

*Your son-in-law has already been in the outer yard.*

*He expects a bicycle from you as gift (dowry).*

*Hi dear mother!*

*If you don't give him his expected cycle,*

*He'll make my life hell*

*Making derisive remarks.*

The first two lines are chilling: to obtain a bicycle from her parents, she has already been sent to her parents' house in order to persuade them. Being doubtful about the way how she deals with her parents to get a bicycle, her husband himself has also been there to keep pressure upon their minds.

The impact of dowry system on village life is immense. If there are some marriageable daughters in a house, their parents lead a life full of tension. They are even to pass sleepless nights as it is difficult to find out worthy grooms for their daughters. The following folk song of this region reveals the reason behind the delay of their daughters' marriage –

Original in Bengali

*Dadare chashar byatar achcha bahar*

*Taka chay ashi hajar*

*Tyamni (temni) byatar biyao nagaibe.<sup>16</sup>*

English Translation

*Hi dada (brother)! What a vanity the farmer's son does have!*

*He expects eighty thousand taka from me as dowry*

*For giving his son in marriage to my daughter.*

Here the narrator is the father who is looking for a groom to whom he will give his daughter in marriage. Although he has managed to find out one, he is not successful in his attempt since the greedy father of the groom demands eighty thousand taka from him as dowry. To a poor village father like him, eighty thousand taka is a huge amount and it is almost impossible for him to pay as dowry. If a father who is burdened with the responsibility of disposing of a marriageable daughter does not have as much money as it is expected as dowry, his family will suffer a lot. If a daughter remains unmarried for a longer period of time owing to her father's financial constraint, there may be a possibility of the daughter to be seduced by any of the wicked lecherous male persons of the society and it may bring untold sufferings to the family. The following statement of Jannatun ara Ahmed can be mentioned here –

In the ancient society the parents had to face ignominy and indignity if they could not wed their marriageable daughters at proper time. The same thing is still existent in our present rural society.<sup>17</sup>

The society still creates numerous problems if a girl is not married off after she attains maturity. Taking it under consideration, some poor parents are seen to borrow money from several persons or take out loan from the NGOs on interest in order to pay a portion of the proposed dowry settled at the time of their daughters' marriage. The parents think that they will pay the rest of the amount of dowry at some convenient time. While it is difficult for them to be free from the debts, it is rarely possible that they will be able to pay their son-in-law the unpaid portion of the dowry in near future. In these cases, most of the parents fall in severe financial crisis. And 'some of them have even been utterly ruined...'.<sup>18</sup> Thus, it is almost impossible for them to pay the rest of the amount of dowry in time. But if the dowry is not paid in full, the bride has to endure sufferings at her husband's house. Some women are given *talaq* (divorce) and some are even tortured to death for the dowry not being paid. In the following folk song, we see that the narrator is talking to her *shakhi* (dearest girl friend to another girl) about her anxiety that she may even be divorced by her husband because of her father's failure to pay the dowry asked for –

Original in Bengali  
*Prano sakhire! Joutuker lagiya*  
*Swami mok dyay (dey) chariya*  
*Ekhon mor ki hoibe upay.*<sup>19</sup>

### English Translation

*Hi friend (as dear to me as my life)! My husband is going to forsake me  
Because of the dowry being unpaid (unfulfilled).  
Now what will happen to me?*

The narrator feels utterly helpless as her husband decides to divorce her. Her father could not give any dowry to her husband at the time of her marriage ceremony. He is still unable to pay him the proposed dowry. At this, her husband becomes very angry with her and her father, and finally decides to leave her forever. Facing the prospect of divorce, the narrator becomes perplexed about what to do. Here she is sharing with her *shakhi* everything unpleasant that may happen to her life if she is abandoned.

### Findings

It has been revealed here that women are vulnerable to abuse and oppression in the northern part of Bangladesh as they are in the other parts of the country. It is also found that the system of paying and receiving dowry strengthens women's low status in the society. This is a sign of gender discrimination. These folk songs help us know why and how womenfolk's fall prey to the evil custom of dowry system and what impacts dowry is leaving on women's physical, psychological, social, cultural and economic lives.

(i) Causes: Hints of the leading factors that cause this biased system to be in continuation in the society of this region are found in some of these folk songs. But 'the reasons for dowry payments are various and differ between rural and urban areas, high and low socioeconomic groups'<sup>20</sup>. Mention has already been made that 'families with daughters often feel obliged to provide dowries for their daughters to protect their wellbeing in the new family, to defend them from hardship and violence from the hands of the in-laws'<sup>21</sup>. Nusrat Ameen shows some practical reasons why dowry system comes into vogue –

The recent emergence of dowry in Bangladeshi society is more due to the simple greed and commercialization of marriage than the impact of traditional culture. Nevertheless, one of the reasons for this persistent demand of dowry is the rising unemployment among young males especially in rural Bangladesh.<sup>22</sup>

And the northern part of Bangladesh is economically and educationally less developed than the other parts of the country as there are almost no big industries where the illiterate or half-educated young people can find jobs. Since most of the young people of this region remain jobless, they want to be established depending on the amount of money given to them as dowry after their marriage. Only a very few people here are service holders and the majority of them are school or college teachers who usually manage their jobs giving a huge amount of bribe or donation to the school or college authority. And to manage money for paying bribe or donation in order to get a job, the father of a person has even to sell some of his lands. So, when a bridegroom of this category decides to marry someone, his father expects a large amount of dowry from the bride's parents so that he can recover his loss. Most of the people of this region live either by cultivation or by small business. When a father of any of these professions decides to give his son in marriage, he too demands dowry from the parents of the bride in the hope that with the amount of money or property given by the brides' family, he can expand his business or cultivate well buying some pieces of land. Ainon Nahar Mizan has found out some additional reasons why this evil custom continues here without any hindrance. She observes –

One of the arguments for dowry coming into vogue has to do with increasing poverty and landlessness. In landowning families the woman's labour in agricultural production process in the homestead, such as preservation and storage of seeds, grains and processing of rice, had significant value. With increased landlessness the basis of earnings for males shifted from the land to the wage economy, whereas no parallel opportunities occurred for the females. Thus women lost their productive role. The current marriage transactions which benefit the groom and his family are the reflection of a wider condition, in which the groom's income potential exceeds the bride's previously valued qualities. Presently, the inflated demand for dowry and the associated misfortunes of divorce, desertion, or, in extreme cases, torture or deaths of women, are further reflections of their devalued roles.<sup>23</sup>

But it is unfortunate that the females and their families are the worst sufferers of this evil practice of dowry.

(ii) Consequences: A woman after marriage will experience continuous malicious comments throughout her life if her parents don't give her husband or her in-laws the

sufficient amount of dowry. 'If agreed dowry is not sent, in-laws might start being violent towards their daughters-in-law and subject them to verbal and emotional abuse.' It is also seen that 'if a wife doesn't bring dowry, sometimes the in-laws will not accept her into the family. She will sometimes be treated like a servant, expected to do all house chores and sexually satisfy her husband to gain her respectable place within the family'. So, the sufferings of married women owing to their parents' failure to pay dowry know no bounds. Sometimes it is seen that the parents-in-law make comparison between (or among) the daughters-in-law based on the amount of dowry each of them has brought. 'The daughter-in-law with most dowries is respected most among all the daughters-in-law in the family.' The parents-in-law usually do it with an intention of belittling the daughter-in-law who has brought fewer dowries than the other, thereby making her feel psychologically disturbed. In addition to mental tortures, the husband and the in-laws of a married woman often persecute her physically.

### Conclusion

The folk songs analysed above portray of the causes and consequences of dowry system. We can come to know how females are discriminated on account of this biased practice of dowry system. To get rid of this evil custom, it is women who should be socially established. Strengthening of woman's position in the family and in the society can safeguard her against all possible aggressions. Establishment may also protect female interests. This is why women themselves should concentrate on their education and career rather than regarding marriage as their 'only way of salvation'. Instead of running after the men of higher status for their daughters' marriage, the parents should make all the arrangements so that their daughters themselves can acquire their own status. However, it is a delightful matter that the government of Bangladesh has taken several steps to uproot this social malady. Besides, in order to educate the girls, the government has made primary education free and compulsory for the girl children (and also for the boys). Moreover, it provides a special scholarship for the girl students ranging from class one to twelve. Books are given free to both male and female students from class one to ten. These efforts of the government create interest in the minds of some of the rural parents to send their daughters to schools. Different NGOs also come forward to making the village people aware of the female rights. All these efforts have a positive effect on socio-economic variables. Early marriage is gradually disappearing from the society. Some of the girls in the village involve

themselves in different economic activities. But the number is still very low. Steps need to be taken to make the housewives to engage in different income-generating activities beside the literate and half-educated females. If all these mentioned above can be made possible, one day our society will be totally free from the discriminatory custom of dowry.

### Notes and References

1. Islam, Sirajul (ed), *Banglapedia: National Encyclopedia of Bangladesh* (Bangla & English Combined CD Edition February 2006), Asiatic Society of Bangladesh, Dhaka.
2. 'Bride price', *The Free Dictionary*, Farlex, web. 13 Sept. <<http://www.thefreedictionary.com/bride+price>.
3. 'Dowry', *Encyclopedia Britannica*, Encyclopedia Britannica, Inc. web. 13 Sept. <<http://global.britannica.com/topic/dowry>>.
4. *Ibid.*
5. Jalil, Muhammad Abdul, *Bangladesher Uttar Anchaler Meyeli Geet* (Women's Folk Songs from Northern part of Bangladesh), Bangla Academy, Dhaka 1994, p. 11 [The quotation taken from this book is translated into English by the researcher himself.].
6. Haq, Enamul. "Dowry", *Banglapedia: National Encyclopedia of Bangladesh*, *Ibid.*
7. *Ibid.*
8. Saeed Ali, Tazeen, Gunnhildur Árnadóttir, and Asli Kulane, , "Dowry Practices and Their Negative Consequences from a Female Perspective in Karachi, Pakistan – A qualitative study", *Open Access Journal*, Vol.5, No.7A4, (2013), p. 88. Open Access. Web, 13 July, 2014. <http://dx.doi.org/10.4236/health.2013.57A4012>.
9. Saeed Ali, Tazeen, Gunnhildur Árnadóttir, and Asli Kulane. *Ibid.* p. 88.
10. *Ibid.* p. 86.
11. Collected from Raza Mian, age – 63, Union: Barkatpur, Upazilla: Palashbari, District: Gaibandha, date – 09.02.2011.
12. The translation for this folk song and all other folk songs mentioned here are done by the author himself.
13. Ali, Md. Shohrab, *Housher Kainya* (A Collection of Bhawaiyas). Rangpur: Chamok Shangkritik Shilpigosti, Nagerhat, Kutubpur, Badarganj, 1999, p. 5.
14. Collected from Md. Abdul Kuddus Master, age – 67, Kalupara, Badarganj, Rangpur, date – 01.11. 2008.
15. Collected from Md. Abu Hashem, Senior Lecturer, Badarganj Women's Degree College, Badarganj, Rangpur. 26.03.2010
16. Collected from Khitish Master, age – 60, Lal Deeghi, Badarganj, Rangpur, date – 26.03.2008.

17. Collected from Jutish (a folk singer who lives by entertaining train-passengers), age: 42, Jugipara, Parbatipur, Dinajpur), date – 16.09.2012.
18. Ahmed, Jannatun Ara, *Meyeli Geet* (A Collection of Women's Song), Bangla Academy, Dhaka, 1985, "Introduction", p. kha (Bengali Letter) [The quotations taken from this book are translated into English by the researcher himself.].
19. *Ibid.*
20. Collected from Majibar Rahman, Age: 52, Post: Alomnagar, Rangpur Sadar, Rangpur. Date - 20. 04. 2008.
21. Saeed Ali, Tazeen, Gunnhildur Árnadóttir, and Kulane, Asli, *op.cit.*, p. 84.
22. Smith, N. Diamond; Luke, N., and Megarvey, S., 'Too many girls, too much dowry: Son preference and daughter aversion in rural Tamil Nadu, India'. *Culture, Health & Sexuality*, (2008) vol. 10, pp. 697-708. Doi:10.1080/13691050802061665.
23. Ameen, Nusrat, *Wife Abuse in Bangladesh*, Dhaka [House - 60/A, Road – 27 (old), Dhanmondi R/A]: Bangladesh National Women Lawyers' Association (BNWLA), June 2004, p. 36.
24. Mizan, Aion Nahar, *In Quest of Empowerment: The Grameen Bank Impact on Women's Power and Status*, Dhaka: The University Press Limited (UPL), 1994, 2004 (2nd Impression), pp. 31-32.

## Food and Foraging Pattern of Frugivorous Bird Species in Madhupur National Park and Chittagong University Campus, Bangladesh

Shawkat Imam Khan

### Abstract

Frugivorous birds preferred fruit followed by nectar, seed and bud during lean period. Birds were observed more active during early morning (26 species) and late afternoon (17 species). In Madhupur National Park (MNP), 51.7% species of frugivorous birds were recorded as silent feeder while 48.3% were found to be noisy feeder and in Chittagong University Campus (CUC), 55.6% birds were recorded as silent feeders and 44.4% noisy feeders. The group feeding species were the highest (15 i.e., 51.7%) in MNP but in CUC, solitary feeders were the highest (13 i.e., 48.1%). The Rose-ringed Parakeet used lower and upper canopy in CUC while in MNP it foraged only on upper canopy.

### Introduction

Birds feed on different types of food items. Among these, frugivorous birds usually depend on the fruits that provided by the plants, both natural and planted. However, specific dietary information of frugivorous birds is often limited. In such cases, fruit-seed crushing behaviour, gape width and relative dietary dominance by fruits may be used to describe the role of frugivores in seed dispersal. The availability of season-specific fruits causes dietary shifts of frugivorous animals.<sup>1</sup>

Foraging behaviour is an important component of the plant seed dispersal interaction. It determines how fruits are chosen and seeds are deposited. Toxin content, fruit appearance and nutrient content may influence how fruits are selected and where seeds are deposited. In some fruits, there are natural laxatives, which influence birds for quick defecation.<sup>2</sup> To know the seed dispersal by birds, it is necessary to be familiar with the present status, food-feeding, feeding behaviour and dietary composition of frugivorous birds. But such information is rather rare in Bangladesh. In response to such lack of information, the present study was carried out on the food and feeding of frugivorous birds which may help to set up the base line of the future research work on this aspect. Therefore, efforts were made to (1) find out the food items, (2) determine the foraging time and (3) describe the foraging activities of the frugivorous birds.

## Study Area

The study was carried out at Madhupur National Park (MNP), Tangail and the Chittagong University Campus (CUC), Chittagong, Bangladesh from July 2007 to December 2008. Short descriptions of the two study areas are given here:

### *Madhupur National Park (MNP)*

The Madhupur forest is the largest deciduous forest in Bangladesh. It is the first National Park of Bangladesh. The park is situated in the northern part of Bhawal-Madhupur *Shal* (*Shorea robusta*) forest tract, somewhat 50 km south of the Garo Hills of the Meghalaya State of India, and about 151 km north of Dhaka, the capital of Bangladesh. Geographically, it lies between 24° to 25°15' N latitudes and 90° to 91° E longitudes. The altitude of the park is about 20 m above the sea level. Most of the forest area is in Tangail district and a small portion fall in Mymensingh district. Two rivers run north to south and have many streams and streamlets draining the forest tract to these rivers.

In MNP, the climate is moderate. Warm weather spread over March to October (with the maximum temperature 37.6° C in April 2008) and is quite similar to the weather in Bangladesh. The cold weather lasts from November to February with a minimum temperature of 7.8° C recorded in February 2008. The monthly average rainfall was about 154.7 mm and the yearly total was 2,091 mm. Most of the precipitation occurs between mid June and end of September. There was no rain in December. The average maximum humidity varied from 97 to 100% and minimum 20 to 58%.

Madhupur *Shal* forest includes an area of about 24,150 ha, but the MNP (wildlife and recreation area) encompasses an area of 8,430 ha distributed partially over Jatiya Uddan (national park) and Dokhola Ranges. In general, the MNP is dominated by *Shal* trees associated with other tree species like *Grewia laevigata*, *Zizyphus oenoplia*, *Phyllanthus embelica*, *Terminalia belerica*, etc. The shrub consists of species like *Leea crispa*, *Glycosmis arborea*, *Thespesia lampa*, and *Urena lobata*. The MNP also sustains some climbers such as *Mucuna pruriens*, *Fucus scandens*, *Pothas scandens* and *Smilax macrophylla*, and herbs like *Ageratum conyzoides*, *Desmodium gangeticum*, *Cleome viscosa*, and *Clerodendrum viscosum* are also present. The forest is partly dense, partly thin, and there are scrub jungles also. Among the inhabitants, two indigenous communities (*Garos* and *Koch*) live inside the Madhupur forest area while the Bengalees live in the fringe areas.

*Chittagong University Campus (CUC)*

The CUC stretches over a 512.2 ha landscape of green hills, undulating valleys, moulds, plain grassland, bush, and forests. Seventy-two percent of the campus area is hilly and comprises small hills, and the remaining are either plains or valleys.<sup>3</sup> The valleys are 15 – 90 m high from the sea surface.

The CUC is located in the village, Fatchpur, in Hathazari Upazila of Chittagong District. It is about 23 km north of the Chittagong City and 3 km south-west of Hathazari Upazilla Headquarter and connected with Chittagong-Rangamati road. Geographically it (CUC) lies between 22°27'30" to 22°29'0" N latitudes and 91°46'30" to 91°47'45" E longitudes.

The climate of CUC is not generally much different than in Bangladesh. April (2008) is the hottest (37.1° C) month. The cold weather lasted from November to February with a minimum temperature of 11.1° C in December 2007. The monthly average rainfall is about 272.5 mm and the total 3822 mm. Most of the precipitation falls between July and October. There was no rain in December (2007 and 2008). The average maximum humidity ranged from 97 to 100% and the minimum was varied from 20 to 63%.

Vegetation type is mixed-evergreen.<sup>4</sup> The natural vegetation of the campus is affected by biotic and abiotic factors especially due to human habitations and earth erosions. Consequently the primary vegetation of this area is totally lost. After the establishment of the University, the plantation of various tree species was initiated by the Department of Botany. Later, the Institute of Forestry (now Institute of Forestry and Environmental Sciences), Chittagong University included the job in its curriculum. Hence the vegetation of this area is now secondary one. The secondary forest grew with weeds environment such as thickest with a few scattered trees, thatching grasses and some bamboos.<sup>5</sup> Bamboos have also been planted along the creek in the South Campus. The herbs and shrubs cover almost all the area. Various types of vegetable and rice are grown in the plain land and in the small hills. The grass like sedges and reeds are seen in swamps and ditches. Most of the plantations are mixed type, comprising both indigenous and exotic species like *Phoenix sylvestris*, *Bombax ceiba*, *Bombax insigne*, *Cassia siamea*, *Glochidion lanceolarium*, *Macrosolen cochinchinensis*, *Acacia auriculiformes*, *Samanea saman*, *Ficus benjamina*, *Ficus lepidosa*, *Callistemon citrinus*, *Syzygium fruticosum*, *Gliricidia sepium*, *Glycosmis pentaphylla*, *Solanum nigrum*, *Firmiana colorata*, *Trema orientalis*, *Clerodendrum viscosum* etc.

## Materials and Methods

The areas were surveyed fortnightly, usually from 0500 h to 1800 h. The working schedule was 2-3 days in each visit. The observation time schedule varied depending on the seasonal variation. The survey was conducted through simple Strip Transect Sampling technique.<sup>6</sup> As most of the birds are usually diurnally active, data were collected through direct field observations along the predefined transect lines. Each transect was repeated twice in a day. In this method, the observer slowly walks on a straight line and records the data from both sides. The observation range varies from 20 to 25 m depending on the visibility of the study area.

The diets (fruit, seed, nectar, petal and bud) were assessed by direct feeding observations during transect walks. All data were recorded in long hand notes. Data on food preference, foraging time, foraging pattern, feeding association and canopy utilization by the frugivorous birds were recorded during the study. Observations were made with one pair of binoculars (Bushnell 20 X 280 mm with multicoated lens) and also directly when they happened to forage at close range.

## Results and Discussion

### *Food preference*

Fruit production period and duration of fruit availability might influence the fruit choice. Fruit size, fruit quantity, chance of accessibility of birds, plant structure and fruit taste also have impact on the fruit choice of birds. During scarcity period, the frugivorous birds changed their choice from fruit to seed, nectar, and bud and even to flower-petal. The birds of the families Megalaimidae, Centropodidae, Sturnidae and Pycnonotidae regularly check the fruit until ripe.

In both study sites, frugivorous birds preferred fruit followed by nectar, seed and bud (Fig. 1) and only the Red-vented Bulbul in CUC was found to eat flower-petal during lean food period (Table 1).

Many Tanagers (*Euphonia gouldi*, *Tachyphonus delatrii*, *Ramphocelus passerinii*, *Thraupis palmarum*, *Mitrospingus cassinii*) feed primarily on fruits.<sup>7</sup> The two Manakins (*Ripra mentalis* and *Manacus candei*) are perhaps the most common fruit eating birds at La Selva, Costa Rica.<sup>8</sup> The availability of fruit depending on season, causes dietary shifts by frugivorous animals.<sup>9</sup> The birds consumed young leaves or shoots, ripe fruits, husk of fruits and inflorescence in Papua New Guinea.<sup>10</sup> The frugivorous birds takes shoot, buds and flower nectar during fruit scarcity apart from fruits.<sup>11</sup>

Table 1. Food composition (%) of frugivorous birds.

Bird spp.	Fruit		Seed		Nectar		Insect		Bud		Petal		Carrion	
	MNP	CUC	MNP	CUC	MNP	CUC	MNP	CUC	MNP	CUC	MNP	CUC	MNP	CUC
LB	98	99	-	-	-	-	2	1	-	-	-	-	-	-
CB	99	97	-	-	-	-	1	3	-	-	-	-	-	-
BTB	98.5	98	-	-	-	-	1.5	2	-	-	-	-	-	-
AK	96	97	-	-	-	-	4	3	-	-	-	-	-	-
GBM	-	95	-	-	-	-	-	5	-	-	-	-	-	-
RRP	66.7	50	33.3	35	-	15	-	-	-	-	-	-	-	-
RBP	100	60	-	25	-	15	-	-	-	-	-	-	-	-
GHP	-	-	-	60	-	40	-	-	-	-	-	-	-	-
YFGP	100	-	-	-	-	-	-	-	-	-	-	-	-	-
TBGP	100	-	-	-	-	-	-	-	-	-	-	-	-	-
OGBP	100	-	-	-	-	-	-	-	-	-	-	-	-	-
GFLB	-	-	-	-	98.5	-	1.5	-	-	-	-	-	-	-
LCS	100	-	-	-	-	-	-	-	-	-	-	-	-	-
HC	35	25	-	5	-	-	10	20	-	-	-	-	55	50
LBC	30	20	-	-	-	-	8	15	-	-	-	-	62	65
BHO	85	76	-	-	10	20	5	2	-	2	-	-	-	-
BNO	97	80	-	-	-	15	3	5	-	-	-	-	-	-
RT	90	95	-	-	8	-	2	5	-	-	-	-	-	-
BD	-	-	-	-	-	2	-	98	-	-	-	-	-	-
BrD	-	-	-	-	-	2	-	98	-	-	-	-	-	-
CI	45	-	-	-	-	-	55	-	-	-	-	-	-	-
CM	50	60	-	-	18	25	32	15	-	-	-	-	-	-
JM	55	50	15	10	25	30	5	10	-	-	-	-	-	-
APS	45	35	-	-	25	20	30	45	-	-	-	-	-	-
CTS	52	40	26	20	20	30	2	10	-	-	-	-	-	-
GT	-	55	-	-	-	-	-	45	-	-	-	-	-	-
RVB	85	90	3	-	11	8	1	1	-	-	-	1	-	-
RWB	95	98	-	-	5	2	-	-	-	-	-	-	-	-
OWE	65	-	-	-	-	45	35	55	-	-	-	-	-	-
JB	-	-	30	-	-	-	70	-	-	-	-	-	-	-
PS	-	-	-	-	97	75	3	25	-	-	-	-	-	-
LS	-	-	-	-	82	90	18	10	-	-	-	-	-	-
PRS	-	-	-	-	97	85	3	15	-	-	-	-	-	-
PBF	-	70	-	-	-	-	25	30	75	-	-	-	-	-

**Note:** LB – Lineated Barbet, CB – Coppersmith Barbet, BTB – Blue-throated Barbet, AK – Asian Koel, GBM – Green-billed Malkoha, RRP – Rose-ringed Parakeet, RBP – Red-breasted Parakeet, GHP – Grey-headed Parakeet, YFGP – Yellow-footed Green Pigeon, TBGP – Thick-billed Green Pigeon, OGBP – Orange-breasted Green Pigeon, GFLB – Golden-fronted Leafbird, LC – Large Cuckooshrike, HC – House Crow, LBC – Large-billed Crow, BHO – Black-hooded Oriole, BNO – Black-naped Oriole, RT – Rufous Treepic, BD – Black Drongo, BrD – Bronzed Drongo, CI – Common Iora, CM – Common Myna, JM – Jungle Myna, APS – Asian-pied Starling, CTS – Chestnut-tailed Starling, GT – Great Tit, RVB – Red-vented Bulbul, RWB – Red-whiskered Bulbul, OWE – Oriental White-eye, JB – Jungle Babbler, PS – Purple Sunbird, PRS – Purple-rumped Sunbird, LS – Little Spiderhunter, PBF – Pale-billed Flowerpecker

### Foraging time

Both in MNP and CUC, it was observed that all the recorded frugivorous birds visited the food plants throughout the day for foraging. These birds were observed more active during early morning (26 species) and late afternoon (17 species) (Table 2). This is because they eat more food in the morning after an overnight fasting and again consume more food at the late afternoon for taking an overnight fasting preparation. This observation supports the study in the Eastern Ghats

Table 2. Foraging time of the recorded frugivorous bird species.

Order Family	Common Name	Scientific Name	Silent feeder			Noisy feeder			Group feeder			Solitary & Group feeder			Resident/Migratory			Foraging Time						
			MS F	CU C	CLC P	MS F	MNP C	CLC P	MS F	CU C	CLC P	MS F	CU C	CLC P	MS F	CU C	CLC P	MS F	CU C	CLC P	MS F	CU C	CLC P	
<b>Piciformes</b> Megalaaimidae	1. Lined Barbet	<i>Megalaima lineata</i> (Vieillot 1816)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2. Coppersmith Barbet	<i>Megalaima haemacephala</i> (Muller 1776)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3. Blue-Throated Barbet	<i>Megalaima asiatica</i> (Latham 1790)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Cuculiformes</b> Centropodidae	4. Asian Koel	<i>Eudynamis scolopacea</i> (Linnaeus 1758)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5. Green-billed Malkoha	<i>Phaenicophaeus tristis</i> (Lesson 1830)	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Pittaciformes</b> Pittaciidae	6. Rose-ringed Parakeet	<i>Pittacula krameri</i> (Scopoli 1769)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7. Red-breasted Parakeet	<i>Pittacula alexandri</i> (Linnaeus 1758)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8. Grey-headed Parakeet	<i>Pittacula fuscata</i> (Hume 1874)	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9. Yellow-footed Green Pigeon	<i>Treron phaeocoptera</i> (Latham 1790)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Columbiformes</b> Columbidae	10. Thick-billed Green Pigeon	<i>Treron curvirostra</i> (Gmelin 1789)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11. Orange-breasted Green Pigeon	<i>Treron bichenota</i> (Jerdon 1840)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12. Golden-fronted Leafbird	<i>Chloropsis aurifrons</i> (Temminck 1829)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Passeriformes</b> Irenidae Corvidae	13. Large Cuckoo-shrike	<i>Coracina macroura</i> (Lesson 1831)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14. House Crow	<i>Corvus splendens</i> (Vieillot 1817)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15. Large-billed Crow	<i>Corvus macrorhynchos</i> (Wagler 1827)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16. Black-hooded Oriole	<i>Oriolus chinensis</i> (Linnaeus 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17. Black-naped Oriole	<i>Oriolus chinensis</i> (Linnaeus 1758)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18. Rufous Treepie	<i>Dendrocygna vagabunda</i> (Latham 1790)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	19. Black Drongo	<i>Dicrurus aeneus</i> (Vieillot 1817)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20. Bronzed Drongo	<i>Dicrurus aeneus</i> (Vieillot 1817)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21. Common Iora	<i>Aegithina tiphia</i> (Linnaeus 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22. Common Myna	<i>Acridotheres tristis</i> (Linnaeus 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23. Jungle Myna	<i>Acridotheres fuscus</i> (Wagler 1827)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24. Asian-pied Starling	<i>Sturnus contra</i> (Linnaeus 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25. Chestnut-tailed Starling	<i>Sturnus malabaricus</i> (Gmelin 1789)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26. Great Tit	<i>Parus major</i> (Linnaeus 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paridae	27. Red-vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28. Red-whiskered Bulbul	<i>Pycnonotus jocosus</i> (Linnaeus 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zosteropidae	29. Oriental White-eye	<i>Zosterops palpebrosus</i> (Temminck 1824)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sylviidae	30. Jungle Babbler	<i>Turdoides tristis</i> (Dumont 1823)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	31. Purple Sunbird	<i>Nectarinia asiatica</i> (Latham 1790)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nectariniidae	32. Purple-rumped Sunbird	<i>Nectarinia zeylonica</i> (Linnaeus 1766)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	33. Little Spiderhunter	<i>Arachnothera longirostris</i> (Latham 1790)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	34. Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchos</i> (Latham 1790)	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: \*EM – Early Morning, \*\*LM – Late Morning, \*\*\*AF – Afternoon, R – Resident, M – Migratory

forests of India.<sup>12</sup> The peak activity of fruit-eating occurs in the early morning in tropics<sup>13</sup> and fruit patches become depleted later in the day.<sup>14</sup> *Megalaima* species visited tree all day whilst flower-peckers were rare visitors for the first hour of daylight.<sup>15</sup> There was sometimes a peak in activity at fruiting *Ficus* during the mid-day period.<sup>16</sup> The difference between foraging time-block (early morning, noon and afternoon) and the numbers of frugivorous bird species in this study was statistically significant ( $\chi^2 = 8.348$ ,  $df = 2$ ,  $p < 0.05$ ).

### Foraging pattern

It came out of the observation that frugivorous birds maintained two types of foraging pattern: (1) silent feeder – which took food silently and (2) noise feeder – which make sound during feeding. In MNP, 15 (51.7%) species of frugivorous birds were recorded as silent feeder and 14 (48.3%) were found to be noise feeder (Table 2). Among the silent feeders, 6 (40%) were passerines and 9 (60%) non-passerines, and 1 (6.7%) was migratory and the rest (93.3%) were resident birds. All noise feeder species (100%) were passerines and resident.

In the CUC, 15 (55.6%) birds were recorded as silent feeders and 12 (44.4%) noise feeders. Of the silent feeders, 7 (46.7%) were passerine and 8 (53.3%) non-passerines, and 1 (6.7%) was migratory and 14 (93.3%) were resident species. All the noise feeders (100%) were passerine and resident species. There was no significant difference in foraging patterns of frugivorous bird species observed in two areas ( $\chi^2 = 0.08$ ,  $df = 1$ ,  $p > 0.05$ ).

### Feeding association

Considering feeding association, frugivorous birds were categorized into three groups: (1) group feeders, (2) solitary feeders and (3) group and solitary feeders. Group feeders refer to a group of birds that take food from the same plant or from different plant species at a time; solitary feeders are single birds that take food from an individual plant species; and group and solitary feeders are birds that take food in group or singly. The group feeding species were the highest (15 i.e., 51.7%) followed by solitary feeders (10 i.e., 34.5%) and group and solitary feeders (4 i.e., 13.8%) in MNP (Table 2). Among the group feeders, 10 (66.7%) were passerines and 5 (33.3%) non-passerines and all of these were resident species. In case of solitary feeders, 6 (60%) were passerines, 4 (40%) non-passerines, and 9 (90%) were resident and only 1 (10%) was migratory species. All group and solitary feeders were passerines and resident species.

Table 3. Used plant species by the birds at MNP.

Sl. No.	Family	Scientific name	Local name	Plant type	Local status
1.	Anacardiaceae	<i>Mangifera indica</i> L.	Aam	Tree	R
2.	Anacardiaceae	<i>Lannea coromandelica</i> (Houtt.) Merr	Ziga	Tree	R
3.	Annonaceae	<i>Miliusa velutina</i> (Dunal) Hook. f. & Thom.	Banorkala	Tree	R
4.	Bombacaceae	<i>Bombax insignis</i> Wall	Shimul	Tree	R
5.	Bromaceae	<i>Ananas sativus</i> Schult. f.	Anaros	Herb	C
6.	Caricaceae	<i>Carica papaya</i> L.	Pepe	Herb	FC
7.	Dilleniaceae	<i>Dillenia pentagyna</i> Roxb.	Ajuli	Tree	R
8.	Euphorbiaceae	<i>Antidesma ghaesembilla</i> Gaertn.	Chakai	Small Tree	FC
9.	Euphorbiaceae	<i>Phyllanthus reticulatus</i> Poir.	Chitki	Shrub	FC
10.	Euphorbiaceae	<i>Bridelia scandens</i> Roxb.	-	Small Tree	R
11.	Euphorbiaceae	<i>Bischofia javanica</i> Blume	Kanaidinga	Tree	R
12.	Euphorbiaceae	<i>Melilotus philippensis</i> (Lamk.) Muell.-Arg.	Hindura	Tree	R
13.	Euphorbiaceae	<i>Aporosa aurea</i> Hook.	Chagolnadi	Shrub	FC
14.	Loranthaceae	<i>Scurrula parasitica</i> L.	Pargasa	Herb	R
15.	Mimosaceae	<i>Acacia mangium</i> Willd	Akashmoni	Tree	VC
16.	Mimosaceae	<i>Albizia procera</i> Benth	Koroi	Tree	R
17.	Moraceae	<i>Ficus benghalensis</i> L.	Bot	Tree	R
18.	Moraceae	<i>Ficus hederacea</i> Roxb.	Bot	Tree	R
19.	Moraceae	<i>Ficus lacor</i> Buch.-Ham.	Bot	Tree	FC
20.	Moraceae	<i>Ficus religiosa</i> L.	Bot	Tree	R
21.	Moraceae	<i>Ficus semicordata</i> Buch.-Ham. ex Smith	Bot	Tree	R
22.	Moraceae	<i>Ficus</i> sp.-1	Bot	Tree	R
23.	Moraceae	<i>Ficus</i> sp.-2	Bot	Tree	R
24.	Moraceae	<i>Ficus</i> sp.-3	Bot	Tree	R
25.	Moraceae	<i>Artocarpus chama</i> Hamilton	Chambal	Tree	C
26.	Moraceae	<i>Artocarpus heterophyllus</i> Lamk.	Kanthal	Tree	C
27.	Moraceae	<i>Morus indica</i> L.	Tount	Shrub	FC
28.	Moraceae	<i>Streblus asper</i> Lour.	Sheowra	Tree	R
29.	Moringaceae	<i>Moringa oleifera</i> Lamk.	Sajne	Tree	R
30.	Myrsinaceae	<i>Embelia ribes</i> Burm.	Chakoi	Shrub	FC
31.	Myrtaceae	<i>Eucalyptus citriodora</i> Hook.	Eucalyptus	Tree	R
32.	Myrtaceae	<i>Callistemon citrinus</i> Stapf	Bottle Brush	Shrub	R
33.	Myrtaceae	<i>Syzygium samarangense</i> (Bl.) Merr. & Perry	Zamrul	Tree	R
34.	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeel	Kalozam	Tree	R
35.	Myrtaceae	<i>Syzygium fruticosum</i> (Roxb.) DC.	Puntizam	Tree	FC
36.	Myrtaceae	<i>Syzygium nervosum</i> (Roxb.) Wall.	-	Tree	R
37.	Papilionaceae	<i>Gliricidia septum</i> (Jacq.) Walp.	Honey Plant	Tree	R
38.	Papilionaceae	<i>Butea frondosa</i> Roxb.	Palash	Tree	R
39.	Papilionaceae	<i>Erythrina indica</i> Lamk.	Kantamandar	Tree	R
40.	Rhamnaceae	<i>Zizyphus mauritiana</i> Lamk.	Boroi	Tree	FC
41.	Rutaceae	<i>Murraya paniculata</i> (L.) Jacq.	Kamini	Shrub	R
42.	Rutaceae	<i>Glycosmis pentaphylla</i> (Retz.) A.DC.	Niunda	Shrub	C
43.	Rutaceae	<i>Citrus limon</i> (L.) Burm. f.	Lebu	Shrub	C
44.	Tiliaceae	<i>Grewia asiatica</i> L.	Datai	Tree	C
45.	Ulmaceae	<i>Trema orientalis</i> (L.) Bl.	Nalta	Tree	R
46.	Ulmaceae	<i>Trema amboinensis</i> Bl.	Khulladoma	Tree	R
47.	Verbenaceae	<i>Clerodendrum viscosum</i> Vent.	Bhant	Shrub	C
48.	Verbenaceae	<i>Callicarpa arborea</i> Roxb.	Bormala	Tree	R

(Note: Family names are arranged alphabetically)

In CUC solitary feeders were larger in number (13 i.e., 48.1%) than group feeders (10 i.e., 37%) and group and solitary feeders (4 i.e., 14.8%) (Table 1). Among the solitary feeders, 8 (61.5%) were passerines and 5 (38.5%) non-passerines, and 12 (92.3%) were resident and the rest (7.7%) migratory. Among the group feeders, 7 (70%) were passerines and 3 (30%) non-passerines and all of these were resident species. All the group and solitary feeders were passerines and resident species.

From Bangladesh in five protected areas 6 species of frugivorous birds as group feeders and 23 as solitary feeders was recorded.<sup>17</sup>

Whether frugivorous bird species were solitary or group feeders was analyzed and it was found that there was no significant variation occurred between the number of recorded bird species of solitary and group feeders ( $\chi^2 = 0.134$ ,  $df = 1$ ,  $p > 0.05$ ). Also the solitary and group feeders frugivorous bird species in two areas did not vary significantly ( $\chi^2 = 1.313$ ,  $df = 1$ ,  $p > 0.05$ ).

#### Used food plants by the frugivorous bird species

A total of 76 food plants were recorded in the two areas of which 18 were found in the both sites. During this study period, frugivorous bird species used 48 species of plants (under 19 families) as food in MNP (Table 3). These food plants include 12 (25%) species cultivated and 36 (75%) species of forest plants. In CUC, 46 plants species under 27 families were consumed by the frugivorous bird species (Table 4). Among the used plants, 35 (76.1%) species were cultivated and the rest (11 species i.e., 23.9%) forest plants.

In both study areas, frugivorous birds preferred eating food from trees than others. At MNP, 34 (i.e., 70.8%) of the 48 food species were from large trees and the rest from small trees (2, i.e., 4.2%), shrubs (9, i.e., 18.7%) and herbs (3, i.e., 6.3%) (Table 3). At CUC there were 35 trees (i.e., 76.1%) out of 46 food plants identified and the remaining were shrubs (6, i.e., 13%) and herbs (5, i.e., 10.9%) (Table 4).

Plant types used by frugivorous birds in two areas varied insignificantly ( $\chi^2 = 0.492$ ,  $df = 2$ ,  $p > 0.05$ ).

Frugivorous birds preferred trees for food, because trees provide highest density of fruit crop and can support maximum number of bird species allowed for foraging at a time than shrubs and herbs. In an earlier study, however, stated that the highest diversity of frugivorous birds was recorded in the shrubs than trees and herbs in CUC.<sup>18</sup>

The Family Moraceae comprised the highest number of plant species that provided foods to the frugivorous birds in both the study areas (12 species, i.e. 25% in MNP and 8 species, i.e. 17.4% in CUC). The second highest Family was Myrtaceae (6 species, i.e., 13%). In Neotropical region, however, three Families Lauraceae, Burseraceae and Palmae get the outstanding importance by the frugivorous birds.<sup>19</sup> It was also stated that fruits of Myrtaceae are regularly taken by both specialized and unspecialized frugivores in all regions.<sup>20</sup> Like the Myrtaceae, many genera of the Euphorbiaceae provide fruits that are eaten by frugivorous birds.<sup>21</sup>

Table 4. Used plant species by the birds at CUC.

Sl. No.	Family	Scientific name	Local name	Plant type	Local status
1.	Arecaceae	<i>Cocos nucifera</i> L.	Narikel	Tree	C
2.	Arecaceae	<i>Phoenix sylvestris</i> (L.) Roxb.	Khejur	Tree	R
3.	Arecaceae	<i>Livingstonia</i> sp.	-	Tree	R
4.	Averrhoaceae	<i>Averrhoa carambola</i> L.	Kamranga	Tree	R
5.	Bombacaceae	<i>Bombax ceiba</i> L.	Shimul	Tree	FC
6.	Bombacaceae	<i>Bombax insigne</i> Wall	Shimul	Tree	FC
7.	Burseraceae	<i>Garuga pinnata</i> Roxb.	Kharapata	Tree	R
8.	Caesalpinaceae	<i>Cassia siamea</i> Lam.	Koroi	Tree	FC
9.	Caricaceae	<i>Carica papaya</i> L.	Pepe	Herb	C
10.	Compositae	<i>Helianthus ananus</i> L.	Surjomukhi	Herb	FC
11.	Cucurbitaceae	<i>Luffa cylindrica</i> (L.) Roem.	Dhundol	Herb	FC
12.	Euphorbiaceae	<i>Glochidion lanceolarium</i> Dalz.	Anguti	Tree	R
13.	Loranthaceae	<i>Macrosolen cochinchinensis</i> (Lour.) Van Tiegh.	Porgasa	Shrub	R
14.	Malvaceae	<i>Hibiscus syriacus</i> L.	Sadajaba	Shrub	FC
15.	Meliaceae	<i>Azadirachta indica</i> A. Juss.	Nim	Tree	R
16.	Mimosaceae	<i>Acacia mangium</i> Willd	Akashmoni	Tree	VC
17.	Mimosaceae	<i>Acacia auriculiformes</i> A. Cunn. Ex Benth	Akashmoni	Tree	FC
18.	Mimosaceae	<i>Samanea saman</i> (Jacq.) Merr.	Koroi	Tree	FC
19.	Moraceae	<i>Ficus benghalensis</i> L.	Bot	Tree	FC
20.	Moraceae	<i>Ficus benjamina</i> L. var.	Bot	Tree	R
21.	Moraceae	<i>Ficus hispida</i> L.f.	Kakdumur	Tree	FC
22.	Moraceae	<i>Ficus lepidosa</i> Wall.	Jir Bot	Tree	R
23.	Moraceae	<i>Morus indica</i> L.	Tount	Shrub	R
24.	Moraceae	<i>Artocarpus chama</i> Hamilton	Chapalish	Tree	R
25.	Moraceae	<i>Artocarpus heterophyllus</i> Lamk.	Kanthal	Tree	C
26.	Moraceae	<i>Artocarpus lakoocha</i> Roxb.	Deuwa	Tree	FC
27.	Moringaceae	<i>Moringa oleifera</i> Lamk.	Sajne	Tree	R
28.	Musaceae	<i>Musa paradisiaca</i> L. var. <i>sapientum</i>	Kola	Herb	FC
29.	Myrtaceae	<i>Eugenia</i> sp.	-	Tree	FC
30.	Myrtaceae	<i>Callistemon citrinus</i> Stapf	Bottle Brush	Shrub	FC
31.	Myrtaceae	<i>Syzygium samarangense</i> (Bl.) Merr. & Perry	Jamrul	Tree	R
32.	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeel	Kalo jam	Tree	FC
33.	Myrtaceae	<i>Syzygium fruticosum</i> (Roxb.) DC.	Puti jam	Tree	C
34.	Myrtaceae	<i>Psidium guajava</i> (L.) Bat.	Peyara	Tree	FC
35.	Papilionaceae	<i>Butea frondosa</i> Roxb.	Palash	Tree	FC
36.	Papilionaceae	<i>Gliricidia septium</i> (Jacq.) Walp.	Honey Plant	Tree	R
37.	Rhamnaceae	<i>Zizyphus mauritiana</i> Lamk.	Boroi	Tree	C
38.	Rubiaceae	<i>Anthocephalus chinensis</i> (Lamk.) Rich. ex Walp.	Kadam	Tree	FC
39.	Rutaceae	<i>Glycosmis pentaphylla</i> (Retz.) A. DC.	Datmajan	Shrub	FC
40.	Sapindaceae	<i>Litchi chinensis</i> Sonn.	Litchu	Tree	R
41.	Sapotaceae	<i>Mimusops elengi</i> L.	Bokul	Tree	FC
42.	Solanaceae	<i>Solanum nigrum</i> L.	Phutibogun	Herb	FC
43.	Sterculia	<i>Firmiana colorata</i> R. Br.	Patagota	Tree	R
44.	Ulmaceae	<i>Trema orientalis</i> (L.) Bl.	Bonjiga	Tree	FC
45.	Verbenaceae	<i>Gmelina arborea</i> (Roxb.) DC.	Gamar	Tree	FC
46.	Verbenaceae	<i>Clerodendrum viscosum</i> Vent.	Bhant	Shrub	FC

(Note: Family names are arranged alphabetically)

### Canopy used

Canopy was classified as lower (0 – 5 m), middle (5 – 10 m) and upper (10 m >). Some species of frugivorous birds used all canopies for foraging (8 i.e., 27.6% species in MNP, 6 i.e., 22.2% in CUC); some used only upper canopy (6 i.e., 20.7% in MNP, 4 i.e., 14.8% in CUC); and on the other hand, quite a large number of species preferred middle and upper canopies (15 i.e., 51.7% in MNP and 16 i.e., 59.3% in CUC) (Fig. 2). The middle canopy was mostly used (44%) by frugivorous birds, followed by lower canopy (28%), upper canopy (23%) and forest floor (5%).<sup>22</sup> Foraging habits of the number of frugivorous bird species in three categories of canopy layers (upper, middle and lower canopies) did not vary significantly ( $\chi^2 = 5.198$ ,  $df = 2$ ,  $p > 0.05$ ). And the difference of using forest canopies by the number of frugivorous bird species in two areas did not also differ significantly ( $\chi^2 = 0.554$ ,  $df = 2$ ,  $p > 0.05$ ).

In CUC, only one species (Rose-ringed Parakeet) recorded to use lower and upper canopies, whereas in MNP it used only upper canopy. The Rose-ringed Parakeet used lower canopy in the CUC because the height of one food species (*Halianthus ananus*) is limited lower canopy only and this food species is not found in the MNP.

### Monthly variation of frugivorous bird species

The number of species of frugivorous birds varied monthly at both study sites. At MNP, the highest number of species recorded in February and May 2008 (18 species, 52.9% of the total frugivores and 62.1% of the total bird species recorded at MNP) and lowest in September 2007 and October 2008 (2 species, 5.9% of the total frugivores and 6.9% bird species of the MNP). Whereas at CUC, the highest number of species seen in March 2008 (14 species, 41.2% of the total frugivores and 51.9% of the CUC) and lowest in August 2007 (1 species, 2.9% of the total frugivorous birds and 3.7% of the CUC) (Fig. 3). The monthly variation in the number of frugivorous bird species was due to the availability of few fruits in the study sites. The majority species of frugivorous birds were found to forage between May-October in CUC.<sup>23</sup>

### Seasonal variation of frugivorous bird species

Due to seasonal variation, the recorded number of frugivorous bird species (including other plant parts users) fluctuated, but the variation in the number of frugivorous bird species was not statistically significant ( $\chi^2 = 0.336$ ,  $df = 2$ ,  $p > 0.05$ ). In winter (November – February) and pre-monsoon (March – May), the highest number of species was recorded in MNP (22 species, 64.7% of the total frugivores and 75.9% bird species recorded at the MNP). On the other hand, the

highest number of species was recorded in CUC in winter only (23 species, 67.7% of the total frugivores and 85.2% bird species of the CUC) (Fig. 4). Seasonal variation in the number of frugivorous bird species recorded in the two study areas did not vary significantly ( $\chi^2 = 0.494$ ,  $df = 2$ ,  $p > 0.05$ ).

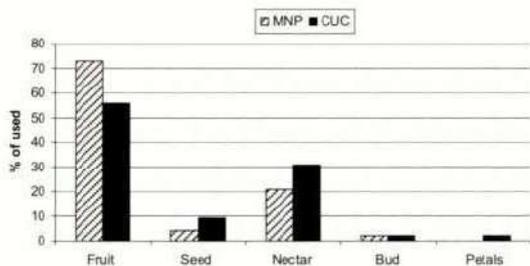


Fig. 1. Percentage of food plant species used in relation to food items.

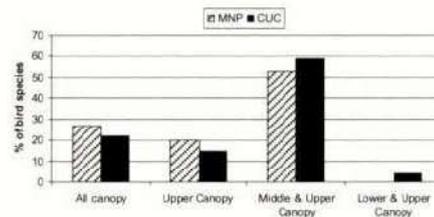


Fig. 2. Canopy used by the frugivorous birds.

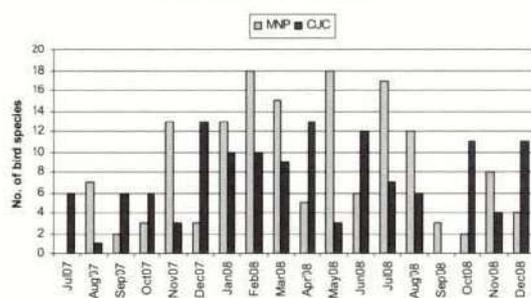


Fig. 3. Monthly variation of frugivorous bird species.

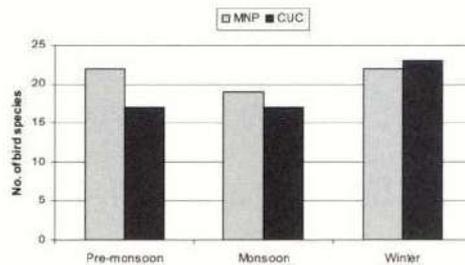


Fig. 4. Seasonal variation of frugivorous bird species.

The highest number of species (8 species) during monsoon in CUC.<sup>24</sup> The population of frugivorous birds was higher in the fall (September – November) in temperate forest of central Japan.<sup>25</sup>

In MNP, the lowest number (21 species, 61.8% of the total frugivorous bird species recorded in both sites during this study and 72.4% frugivores recorded at the MNP) of frugivorous birds was recorded in monsoon (June – October) while the number was lowest (17 species, 50% of the total and 62.9% of the frugivores of CUC) in pre-monsoon and monsoon in CUC. The seasonal variation in the number of frugivorous bird species was due to the seasonal abundance of food plants in the study area. But the lowest number (4 species) in winter season in CUC.<sup>26</sup> On the other hand, the lowest population of frugivorous birds was recorded in winter (December – February) in central Japan.<sup>27</sup>

## Conclusion

MNP is a coppice *shal* (*Shorea robusta*) dominated forest with flat ridges, gentle slopes and depressions. It is one of the large protected areas in Bangladesh, while CUC is comparatively a small area with secondarily planted undeclared protected area with undulating hills, flat ridges, depressions and marshy areas. MNP supports higher fruit-plant species and slightly higher number of frugivorous bird species, but CUC safeguards higher diversity of bird species. However, increased human population habitation inside MNP has increased conversion of land to agriculture and illegal felling of trees for fuel wood collection and fire resulted in more fragmentation of forests and decrease in regeneration of trees and animal diversity. Similarly, in CUC, increased human habitation in galleys, fuel wood and liter fall collection have decreased natural environment for wild animals and increased cultivated crops and vegetables. Beside this, land slits due to heavy rain have caused soil erosion in CUC resulting in loss of habitats.

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## References

1. Blake, J. G. and Loiselle, B. A., 'Fruits in the Diets of Neotropical Migrant Birds in Costa Rica.' *Biotropica*. Vol. 24, 1992, p. 200.
2. Levey, D. J., Silva, W. R. and Galetti, M., *Seed Dispersal and Frugivory: Ecology, Evolution and Conservation*, CAB Publishing, Wallingford, 2002, pp. 511.
3. Islam, A. T. M., Chowdhury, M. S., Hoque, A. K. M. M. and Malek, S. A., *Detailed Soil Survey in Chittagong University Campus*, Department of Soil Survey, Chittagong 1979, p. 207.
4. Champion, H. G., 'A Preliminary Survey of the Forest Types of India and Burma', Indian Forest Records (new series). *Silviculture*. Vol. 1, No. 1, 1936, p. 365.
5. Chowdhury, M. S. H., *Forest Management Plan for the Working Plan Estate of Chittagong University 2002-2003 to 2012-2013*, Unpublished Project paper, University of Chittagong, 2002, p. 148.

6. Buckland, S. T., Anderson, D. R., Borchers, K. P., Laake, J. L., Borchers, D. L. and Thomas, L., *Introduction to Distance Sampling: Estimating Abundance of Biological Populations*, Oxford University Press, Oxford 2001, p. 432.
7. Snow, B. K. and Snow, D. W., 'The Feeding Ecology of Tanagers and Honeycreepers in Trinidad', *Auk*, Vol. 94, 1971, pp. 623-645.
8. Levey, D. J., 'Seed Size and Fruit-handling Techniques of Avian Frugivores', *The American Naturalist*, Vol. 129, No. 4, 1987, pp. 471-485.
9. Blake, *ibid*, p. 200
10. Fatem, S., Sawen, D. and Kilmaskossu, M. S. E., 'Dry Matter and Organic Value of Cuscus Diet in West Papua', *Tigerpaper*, Vol. 35, No. 2, 2008, pp. 7-21.
11. Anon., *Populatio Density and Feeding Pattern of Frugivorous Birds in five Protected Areas of Bangladesh*, Unpublished M. Sc Thesis, Department of Zoology, Jahangirnagar University, Dhaka, 2008, pp. xi+98.
12. Raju, A. J. S., 'Passerine Bird Pollination and Seed Dispersal in Woodfordia Floribunda Salisb (Lythraceae), a Common low Altitude Woody Shrub in the Eastern Ghats Forests of India', *Ornithological Science*, Vol. 4, 2005, pp. 103-108.
13. Howe, H. F., 'Bird Activity and Seed Dispersal of a Tropical Wet Forest Tree', *Ecology*, Vol. 58, 1977, pp. 539-550.
14. Lambert, F. R., *Fig-eating and Seed Dispersal by Birds in a Malaysian Lowland Rain Forest*, Unpublished PhD Thesis, University of Aberdeen, Aberdeen, 1987, pp. 310+xlvi.
15. Brockelman, W. Y., 'Observations of Animals Feeding in a Strangler fig *F. Drupacea* in South-east Thailand', *Natural History Bulletin of the Siam Society*, Vol. 30, 1982, pp. 33-44.
16. Leighton, M., *Fruit Resources and Patterns of Feeding, Spacing and Grouping Among Sympatric Bornean Hornbills (Bucerotidae)*, Unpublished PhD Thesis, University of California, Davis, 1982.
17. Kamruzzaman, M, Asmat, G. S. M. and Banu, Q., 'Food and Feeding Activities of Frugivore Birds of the Chittagong University Campus'. *Journal of the Asiatic Society of Bangladesh, Science*, Vol. 32, No. 1, 2006, pp. 158-164.
18. *Ibid*, pp. 158-64.
19. Snow, D. W., 'Tropical Frugivorous Birds and Their Food Plants: A World Survey', *Biotropica*, Vol. 13, No. 1, 1981, pp. 1-14.
20. *Ibid*, pp. 1-14.
21. *Ibid*, pp. 1-14.
22. Anon, *Ibid*, pp. xi+98.
23. Kamruzzaman, M. and Asmat, S. M., 'Seasonal Variations of Fruit among Frugivorous Birds in Chittagong, Bangladesh', *Bangladesh Journal of Zoology*, Vol. 36, No. 2, 2008, pp. 187-206.
24. *Ibid*, pp. 187-206.
25. Takanose, Y and Kamitani, T., 'Fruiting of Fleshy-Fruited Plants and Abundance of Frugivorous Birds: Phenological Correspondence in a Temperate Forest in Central Japan'. *Ornithological Science*, Vol. 2, 2003, pp. 25-32.
26. Kamruzzaman and Asmat, *ibid*, pp. 187-206.
27. Takanose and Kamitani, *ibid*, pp. 25-32.

## Long-Horned Beetle: Deterioration of Wooden Materials and Preventive Measures

Ali Azam Akand-Al-Faraijee

### Abstract

Study on activity in deterioration of wooden material by Long-horned Beetle (*Aeolesthes induta*) in Bangladesh National Museum was carried out during a period from January 2007 to December 2009. External morphology and developmental stages of the insect were recorded in wood-based objects. Mating lasts for twenty-four hours. Male dies after mating. Female dies after nine days of egg-laying. The newly hatched larva enters into wood through the wood cracks and stays inside the wood up to pupation. The pupa spends its whole stage without movement and feeding. Development of all body parts occur at this stage. The major damages are done at their larval stage. Using sodium fluoride (NaF), mercuric chloride ( $\text{HgCl}_2$ ) and dieldrine in different dosages, we find all insects dead. Before seasoning the woods treated with 5% aqueous solution of copper sulphate ( $\text{CuSO}_4$ ), effective treatment stands to prevent wood logs and wooden furniture etc. from the wood pests.

### Introduction

The wooden material and all kinds of furniture in the museum are attacked by wood-boring beetles. The insect pest is a great menace to museum objects. The nature of the damage depends on the type of infestation, which varies in different parts of the world.<sup>1</sup> The Long-horned Beetle *Aeolesthes induta* (Cerambycidae) is phytophagous. The larvae feed by boring both living and dead plants.<sup>2</sup> There are 35000 species world wide under the Family Cerambycidae, and 16 species in Bangladesh.<sup>3</sup> Many species are pests of commercial forests attaining the status as timber beetles. The adults are with antennae that are at least half as long as their body and many others with antennae greater than body length. They have long, narrow bodies and long legs. The adults feed on sap, pollen and nectar, and are often very beautiful, but their larvae make tunnel in wood eating as they go by strategic process. The larvae are fleshy and cylindrical.

They eat cellulose, wood sugar and other constituents of wood digesting and excrete out as wood powder. As a result, damage is caused to wood and plant. Scientists in Bangladesh are with limited works only to identify the species under

the family Cerambycidae. Detail work is lacking on their life cycle, deteriorating activities in wooden materials and its preventive measures. Through this study, it was tried to find out the status of degradation done by the Long-horned Beetle and identify most effective preventive tool to save wooden furniture from its attack.

### Material and Methods

One Palki and a showcase of Bangladesh National Museum affected by the wood-boring beetle were taken under experiment in 2007. The Palki made of wood of Koroi (*Albizia procera*) and showcase, made of sapwood of Segun (*Tectona grandis*) and Garjan (*Dipterocaropus alatus*).<sup>4</sup> They were significantly damaged by the attack. The infected materials were investigated by using sounds produced by the beetle.

Four linen net traps were placed on areas of experimental materials (wooden) from where the sounds of wood cutting came out. The regular records were made from 0900 hrs to 1700 hrs. Two adults (brown colored) beetles were caught into traps. Another two pairs of such beetles were collected from outside. Measurement of beetles and opening of nest-holes were recorded.

### Study Area

The study was made out in the Department of Conservation Laboratory of Bangladesh National Museum during January 2007 to December 2009. Bangladesh National Museum is one of the largest national organizations. It is situated at Shahbag in capital City (Dhaka) of Bangladesh.

### Results

#### Description of the insect

The adult beetle looks brown in colour. Length and width of the insect was 2.7-3.2 cm ( $2.9 \pm 0.1$  cm) and 0.6 – 0.8 cm ( $0.7 \pm 0.05$  cm) respectively (Table 1). Its body is divided into three segments: head, thorax and abdomen (**Fig. 1**). The abdomen is bigger part than the other two parts together. Weight of the adult beetle is 0.2 – 0.6 gm ( $0.4 \pm 0.01$  gm). The female is larger than the male.<sup>5</sup> The female has two circular dark brown spot on two sides of the thorax. They had two ash coloured compound eyes and two bent, hard, sharp and brown mandible, which exposed out side of the mouth. Two antennae are there at two sides of the head, which were gradually narrow towards the tip, and divided into ten segments. Each of the antennas was 5.5 – 5.9 cm ( $5.7 \pm 0.01$  cm) long. Legs three pairs, one pair attached with the thorax and the other two pairs with the abdomen. The

forelegs are smaller than the hind legs. Each of the forelegs had three small segments and hind legs had four segments. Every leg had two sharp and pointed parts at the apex, which help the beetles to hold the surface firmly at the time of sitting. One pair of brown colored wings came out from the joint of head and thorax, which cover the whole abdomen.<sup>6</sup> There were one pair white and very thin wings under the main wings. The beetle used both wings during flying.

Table 1. Measurement of beetles and its nest opening.

No. of observations	Size of the beetles	Weight of the empty net ( $W_0$ ) (gm)	Weight of the net with beetle ( $W_1$ ) (gm)	Weight of the beetle $W_1 - W_0 = W_2$ (gm)	Average weight $t \pm SD$ (gm)	Length of beetle (cm)	Average length $\pm SD$ (com)	Width (cm)	Average width $\pm SD$ (cm)	Diameter of opening of the nest hole (cm)	Average diameter of opening of the nest hole $\pm SD$ (cm)
1. 2. 3.	Large " "	1.7 1.7 1.7	2.3 2.2 2.2	0.6 0.5 0.5	$0.5 \pm 0.06$	3.2 2.9 3.0	$3.0 \pm 0.15$	0.8 0.7 0.8	$0.8 \pm 0.06$	1.3 1.1 0.9	$1.1 \pm 0.2$
1. 2. 3.	Small " "	1.0 1.0 1.0	1.3 1.2 1.3	0.3 0.2 0.3	$0.3 \pm 0.06$	2.8 2.8 2.7	$2.8 \pm 0.06$	0.6 0.5 0.6	$0.6 \pm 0.06$	0.7 0.8 0.8	$0.8 \pm 0.06$

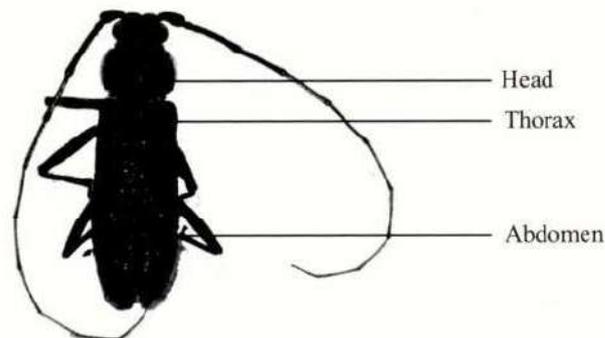


Fig. 1. An adult Long-horned Beetle (*Aeolesthes induta*).

## Life cycle

To study the life-cycle, two pairs of beetles ( $\text{♀} \times \text{♂}$ ) were selected and kept in two glass-beakers. Fresh and soft wood-dust, sugar and soft leaves were supplied as its food. After 5 days of capture, mating started. The mating lasted for twenty-four hours. After mating was over, the male died. 7 days after copulation, the female began to lay eggs. Eggs were laid in cluster and the clutch size varied with 289 – 300 eggs. Nine days after laying of eggs, the female died. The life cycle of the beetle consists of four stages, i.e. egg, larva, pupa and adult (**Fig. 2**).

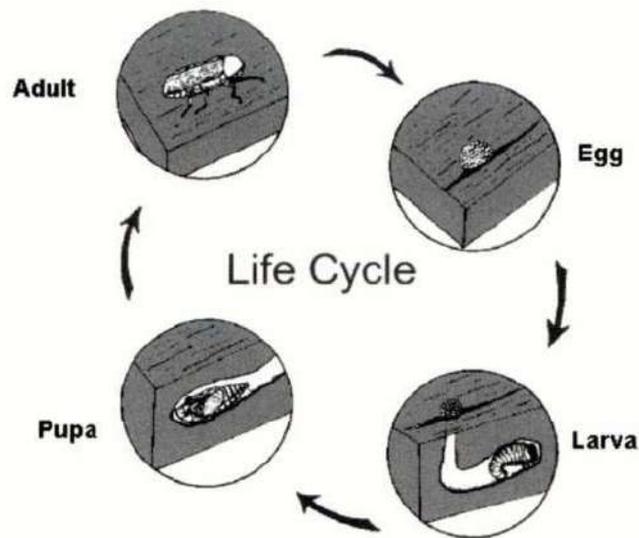


Fig. 2. Stages of life cycle of Long-horned Beetle.<sup>7</sup>

*Egg* : The eggs were small, white and nearly spherical but pointed at the two ends. It was 1.8 – 1.9 mm ( $1.8 \pm 0.1$  mm) long and 0.5 – 0.6 mm ( $0.5 \pm 0.1$  mm) wide. Eggs were fixed on the wall of nest hole by the secretion of female insect.

*Incubation period* : The incubation period was 21 -27 days ( $23 \pm 0.1$  days).

*Hatching to larva* : Eggs were hatched to larva at normal temperature. After three week eggs hatched out to larva.

*Larva* : The newly-hatched larva enters into wood through the wood cracks or cleavage and stayed inside the wood up to adult form. The larva moves towards by eating the wood fibers and makes several tunnels inside the wooden furniture or material (**Fig. 3**).



Fig. 3. A larva of Long-horned Beetle (after 45 days of hatching).<sup>8</sup>

The length of larval duration varied depending on the temperature and relative humidity within the wooden material. It was found that newly-hatched larvae require 60% to 70% relative humidity, but the requirement for ultimate instars of larvae was less than 65%. A high relative humidity was essential for their development. The moisture content of wood depends on the relative humidity of the atmosphere with which wood is always in equilibrium. It was also observed that larvae of this beetle were to spend about two years tunneling into wood. When the larva was fully fed the wood commences to bore in a straight line towards the peripheral side the wood. A short distance from the surface the larva halts and eats out a chamber in which it seals itself by constructing a web or diaphragm. The larvae straighten out and within a few days, the pupal stage starts.

*Pupa* : The pupa spend time within diaphragm without feeding. At this stage, the development of body parts like antennae, wings and legs occur and appearance becomes distinct. The pupa matured within six months.

*Adult* : After pupal period is over, the adult insect came out from its nest-tunnel during April to May. It is found that, the adult insect preferred night to emerge out of the nest (Table 2). The adult insects last for a short time, only for one month. Within this period, they complete their reproductive activities.

#### Activity in damaging wooden materials

The beetle can grow more or less in all kinds of wood, but sapwood fibers were found more attractive as food. Moisture content of the sapwood in humid atmosphere was higher than the hard-wood. The larvae need minimum 18% to

25% moisture content of wood for their survivals but the higher moistures content accelerates its growth.

Table 2. Hatching time of the Long-horned Beetle

Hatching time	Name of the furniture from where the beetle hatched out	Type of wood
Night	Palki	Koroi
"	Table	"
Evening	Showcase	Garjan
Night	"	"
Early morning	Meat shelves	Koroi
Night	"	"
"	Door	Am
Early morning	Planquin (khat)	Koroi
Evening	Alna	Garjan
"	Alna	"
Night	Planquin (khat)	Koroi
Evening	Window frame	Am
"	"	"
"	Dressing table	Segun
"	Wear drove	Koroi
Night	Meat shelve	Shimul
Evening	Almirah	Segun
Night	"	"
Night	Show case	Koroi
Evening	Meat shelve	Shimul
Morning	Wear drove	Koroi
"	Planquin (khat)	Garjan
Night	Planquin (khat)	"
Night	"	"

Major damages are made at their larval stage. The larvae eat wood fibers during boring or making tunnels and make them powder by their metabolic process. It secretes digested wood fibers through their mouth as cigar shaped pellets, which turn into powder after drying. Its activity of making wood fiber into powder was invisible from outside but only the sound of wood cutting came out which made us curious to find out its location. The confirmed location could not be surely traced out because no indications remain except sound. From the study it was noted that three to five pairs of larvae work at a time in damaging a single wooden object.

### Affinity of attack

This beetle liked to eat more or less all kinds of sapwood but during this study, it was observed that the affinity of attacking wood were in the following order (Table 3).

Table 3. Affinity order to attack the wood

Order of preference	Local name of wood	Botanical name of wood
1 <sup>st</sup>	Shimul	<i>Bombax ceiba</i>
2 <sup>nd</sup>	Bansimul	<i>Salmalia insignis</i>
3 <sup>rd</sup>	Kadam	<i>Anthocephalus chinensis</i>
4 <sup>th</sup>	Koroi	<i>Albizia procera</i>
5 <sup>th</sup>	Am	<i>Mangifera indica</i>
6 <sup>th</sup>	Sisu	<i>Dalbergia sissoo</i>
7 <sup>th</sup>	Garjan	<i>Dipterocarpus alatus</i>
8 <sup>th</sup>	Segun	<i>Tectona grandis</i>

### Preventive measure

Preventive measure is very difficult to take against this beetle. For, their boring is invisible in the wooden materials like furniture, architectural pieces, wood carvings and sculptures etc. From the observation, it was seen that the small larva enter through cracks, joints and cleavages of the wooden material where the eggs were hatched. This entrance was mini hole which was like a pore into the wood.<sup>9</sup>

From the experiment, the locations of the sound had been detected and ten holes were made with the help of iron nail, through which insecticides like sodium fluoride (NaF), mercuric chloride (HgCl<sub>2</sub>) and dieldrine of different strength were injected separately. Eight hours after injection, the wood cutting sound stopped. This technique had 75% success.

Some larvae were picked up by breaking the frame of showcase and the above-mentioned insecticides of 5,10,15 and 20% strength were applied upon the larvae. The results obtained are shown in Table 4.

Table 4. Action of insecticide used on larvae and adult beetles.

Sl. No.	Name of insecticide	Strength of solutions in%	Reaction on larva		Reaction on adult		Required time for death in minute	Comment
			Positive	Negative	Positive	Negative		
1.	Aerosol	original concentration		+		+		No response
2.	Sodium Fluoride (NaF) in water w/v	5				+		No response
	"	10		+		+		"
	"	15	slightly		slightly		stop movement	" movement reappears within 30 minutes.
	"	20	+		+		5 minutes	completely died
3.	Dieldrin in water v/v	5		+		+		No response
	"	10	+		+		8 min	completely died
4.	Mercuric Chloride in water w/v.	5		+		+		No response
	"	10	slightly		slightly		stop movement	" movement reappears within 35 minutes
	"	20	+		+		4 minutes	completely died

### Suggestion for prevention

Before making furniture the necessary amount of wood has to be soaked with kerosene and dried at room temperature. Three times of soaking in this way produce resistance in the wood to prevent the attack of furniture beetles.

Before seasoning, planks, beams and other type of woods may be treated with 5% aqueous solution of copper sulphate ( $\text{CuSO}_4$ ). This treatment has the good effect to prevent such beetles.

Their invisible damages inside the decorated and valuable wooden furniture are never be compensated because the wood fibers (cellulose) which bear the strength and stability of the objects are the main food of the larvae of this beetle. After

digestion, wood fibers turn into dusts, which have no load-bearing capacity; as a result, the objects tend to break down. Therefore, precaution should be taken before making of furniture.

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### References

1. Plenderleith, H. J. and Werner, A. E. A., *The Conservation of Antiquities and Works of Art*, (2<sup>nd</sup> edition), Oxford University Press, London 1971, pp. 129-130.
2. Ahmad, M., Kabir, S. M. H., Ahmed, A. T. A., Ahmed, Z. U., Begum, Z. N. T., Hassan, M. A. and Khondker, M. (eds.), *Encyclopedia of Flora and Fauna of Bangladesh*, Vol.22, *Pterygota (Part)*, Asiatic Society of Bangladesh, Dhaka, 2009, pp. 426+xxxx.
3. *Ibid*, pp. 426+xxxx.
4. Huq, A. M., *Plant Names of Bangladesh*. Bangladesh National Herbarium, Dhaka, 1986. p. 289.
5. Wood, R. J. G., *Insect at Home*, Longsman Green and Co, London 1872, pp. xx+670.
6. Newman, L. H., *Man and Insects*, The Natural History Press, New York, 1966, p. 252.
7. <http://www.carronleesgspstmanagement.blogspot.com>. Accessed date: 04-11-2013.
8. <http://www.sisdisinfestazionit.it>. Accessed date: 04-11-2013.
9. Lahiri, A. K., *Kāth Sangrakshan Bijñān* (Wood Preservation Science), Vol. 1, Bangla Academy, 1995, pp. viii+184.

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