BHITARGARH : A BRIEF DESCRIPTION OF THE ARCHAEOLOGICAL SITE

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Abstract

The archaeological site at Bhitargarh is an ancient fort-city having a well-secured fortification in Panchagarh region, Bangladesh. The site can throw ample light on the history of Bangladesh. In the absence of any previous systemic archaeological investigation in the area, the present work should be seen as a preliminary endeavor. The aim of this work is to understand the town planning of the fort-city as well as the nature of urbanization in this region. However, employment of sampling and other intensive survey techniques was beyond the scope of the present researcher in view of time and resource constraints. Therefore, it was decided to survey the area by undertaking intensive walking across the landscape with GPS using judgmental sampling. Surface survey was undertaken for about 400 person-hours spanning 7 seasons during 2003-2009.

1. Introduction

The archaeological site 'Bhitargarh' stands by the bank of the river Talma, a tributary of Karatoya. The site is a fortified area and stands about 15 km northeast from the district town at Panchagarh (Map 1). Panchagarh is the northernmost district town of Bangladesh (Map 2). The name 'Panchagarh' is derived from the names of five major places ending with the word 'Garh' viz. 'Bhitargarh', 'Debnagarh', 'Meergarh', 'Rajongarh' and 'Hossen Dighirgarh.' Generally, the word Garh is used to indicate high land. Literarily the word signifies citadel or fortified area. In Panchagarh, there are many places named with Garh as the suffix.

So far, no scientific or systematic archaeological exploration or excavation has been done in these areas. The present work reports the result of an exploration in 'Bhitargarh' region from 2003-2009, using about 400 person/hour. A map of the citadel area also has been made using GPS (Geographical Positioning System). Due to the lack of any previous systematic archaeological investigation

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in the area, the present work should be seen as a preliminary effort. So far, Buchanan Hamilton, A.K.M. Zakaria, Prof. Dr. Nazmul Islam, Prof. Dilip Kumar Chakrabarti, Prof. Dr. Sufi Mostafizur Rahman and some other sources have mentioned some information and myth of the site. All the sources mention that the site is a rich archaeological site of pre-Muslim to mediaeval period. However, so far no definite evidence was found to identify it as a pre-Muslim or mediaeval site.

2. Location and Geographical Description

The study area is situated between, 88°35'14'' to 88°35'58'' East and 26°20'58'' to 26°24'12'' North in the Old Himalayan Piedmont Plains. This unit underlies most of Dinajpur region. It occupies an old part of the Teesta alluvial fan at the foot of the Himalayas (Map 3). It comprises a braided river landscape, with complex patterns of broad ridges intermixed with numerous shallow former channels and basins. The sediments are more sandy than those occurring in other major floodplain units: the upland soils and most depression soils have textures between loamy sand and sandy clay loam, and all are underlain by sand. Almost the whole landscape, except for the highest ridge sites, becomes wet or shallowly flooded (by rainwater or the raised groundwater table) during the monsoon season. River channels crossing the unit are entrenched 5-7 m the surrounding landscape and are subject to flash floods following heavy rainfall locally and in the adjoining Himalayas.

2.1 Drainage

2.1.1 Rivers

There are small and big rivers in Panchagarh district (Map 4). The Karatoya is the central river flowing over Panchagarh. In Bhitargarh region, the main stream is Talma, a tributary of Karatoya which starts off from the hilly forestry region of the Boikonthapur, India. It flows by the western side of the site and

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meets Karatoya after traveling 12 km from its origin. A channel named Shalmera was connected to the river Talma, which drained water to the inner fortification and again joined the river Talma at the south-westernmost side of the mud rampart.

2.1.2 Tanks

In the region there are many large and small tanks. Among them the most important tank is known as Maharajar Dighi, measuring about 700m×350m which is very near the outer side of the innermost fortification (Photograph no. 1). Some other tanks which also seem to be of ancient time are Dhobani Pukur, Jhar Pukuri, Ful Pukuri etc. Along with these large tanks there are also few smaller tanks are scattered all over the site and so far 7 tanks have been reported. These tanks provide water for bathing, for pisciculture and also for irrigation. Water of some of the tanks may be used for the purpose of drinking, but with the installation of tube-wells, it is likely that the water of the tanks has ceased to be a major source of drinking water. Most of the tanks are very old and with the laps of time a large part of them has silted up. The local cultivators have brought bringing the silted up portions under cultivation.

2.2 Soils

The Bhitargarh region occupies a soil unit of the Old Himalayan Pediment Plain named Black Terai Soil (Map 5). The black soils occupy almost three-quarters of Panchagarh region, on both ridge and depression sites. The soils are rapidly permeable but they become wet or submerged in the rainy season and, except on ridge tops, remain wet or moist well into the dry season.

2.3 Climate

Bangladesh has a tropical monsoon climate. In Panchagarh high temperatures, heavy rainfall, often excessive humidity and fairly marked seasonal variations characterize the climate. Three main seasons are recognized: Dry season (summer), monsoon (rainy season), winter. Hot summer, massive rainfall and extreme cold characterized by the northern Himalaya. December and January, is winter. But usually cold starts from second half of October and continues till March. Lowest temperatures are recorded as 6-4 degree salacious. March-May

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has the heights temperatures. June-September is the period of heavy rainfall. Annual rainfall is recorded as 2500 mm. The relative humidity is highest 88% during the month of July and August and lowest 50% in the month of March.

2.4 Flora and Fauna
Bhitargarh region has a wide variety of flora and fauna.

3. Findings

3.1. Fortification
There is a trace of citadel in Bhitargarh region. The total area is measured about 14 sq km. The fortification walls are arranged in three rings of walls, building a box fortification. Detailed information is mentioned in section 4.

3.2. Brick Architecture and Architectural Complex
In 2008 inside the inner fortification an Architectural Complex was discovered, where there were a lot of bricks arranged in a regular pattern consisting of about 900 sq meter of area.

3.3. Bricks
Bricks are found both in the second and inner fortification wall, bank of the pond Maharazar Dighi and scattered all over the site. The bricks are square and rectangular in shape and the sizes are around 19cm×19cm×4.5cm to 21cm×21cm×5.5cm, 22cm×22cm×4cm, 22cm×22cm×4.5cm, 23cm×21cm×6.5 cm and 24cm×18cm×5.5cm. Another source mentions a size measuring 25.4cm×25.4cm×6.35cm (10"×10"×2.5").

3.4. Stone
Large Blocks of stone and boulders are found in the mud rampart. The stone blocks are cut in rectangular or domical form with small holes in the proximal end. Large sized boulders are noticed in the western mud rampart where the river Talma could erode.

3.5. Pottery
During a surface exploration pottery and shards of pottery have been found in some exposed section of a pond. The fabric is grayish and the texture is cement-like. Some sort of black slip has also been noticed. The potteries carry beautiful stamped design in surface and some sort of other beautifully engraved designs are also found. The ceramics are very hard in texture.

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4. Establishment of the Fort-city Bhitargarh

From the beginning of civilization, with the origin of agriculture, trade and commerce developed and subsequently administrative organization was formed commencing human civilization in this territory. However, with the increase of population and established economy, it was felt necessary to protect the urban localities from enemies. In the entire urban-centers fort is seen as an important part. Obviously, majority of the forts and fortifications were raised in suitable geographic positions of strategic importance. Scholars emphasize that the strategy of site location relates to a number of ecological factors like water source, availability of arable land, pasture land, building material and raw material. Besides, there are cultural factors such as trade, political organization, warfare and religion, which also affect the selection of settlement location.

As a riverine country, in Bangladesh most of the forts have been built on the river bank. This satisfies security as well as communication. To strengthen the security system, moat, drains and large ponds were dug. The settlement at the site of Bhitargarh was built and developed by the bank of the river Talma and the settlers built a citadel area alongside the river. According to the nature of the fortification as well as the need of such huge security system, we can assume that this site was an urban center, which is also supported by the ancient Indian texts, archaeological evidences of the early historic, historic and mediaeval fort cities.

5. Scholar’s opinion and the Archeological impression of Bhitargarh

There are ample literary data on town planning for such urban centers. During the second urbanization, we have the evidences of Sixteen Mahajanapada. As described in the Pali texts, the Sodasa Mahajanapadas had their own fortification. According to the Jaina sutras, a city consists of moats, ramparts, shops, markets, crossroads etc. The moats were broad at the top and cut deep down. The ramparts were solidly built and spread in bow-like curves. Panini in his Astadhyayi refers to the Prakara- Rampart, Parikha- moat and Dwara- gate as important parts of the city built for defenses i.e., any city of importance lay within an enclosing wall, itself within a moat. According to Kautilya a settlement, having fortification is defined as city centre. Kautilya in his Arthasastra has described a number of forts to be raised on certain places in different locations namely Sthaniya, a Dronamukha, Kharvatika, Sangrahana
etc., where we find details about the forts. In its chapter dealing with Durga-
Vidhana he also points out that, "the heaven of the king and his army is a strong
fort". A source of the eleventh century AD, Kayaat mentions that a city consists
of high fortification and is surrounded by trenches and there exist the rules and
regulations issued by the guild of craftsmen and businessmen. The development
in planning of forts became most essential part of military engineering hence
the early mediaeval savants put more stress on the engineering of forts in the
Silpasasstras. The Silpasasstras have greatly stressed upon the importance of
forts. Thus, the construction of ramparts encircling a city was considered one of
the important branches of the science of town planning in Ancient India.

Scholars observe different characteristics in the process of urbanization. Gordon
Child mentions ten important elements essential for urbanization e.g., a) Density
of Population, b) A group of people producing surplus food production
for the people not related with food production, c) King, d) Architecture, e) Administration, f) Practice of writing, g) Knowledge of Science, h) Overseas Trade, i) Craft and j) Good relation among the inhabitants. According to
Adams, population and density is the most essential part of urbanization
whereas in the first stage a different technology is not so essential.\footnote{Robert McC Adams, ‘The Natural History of Urbanism’, Gregory L. Possehl (ed.), Anci
Cites of the Indus, (Delhi 1950), p. 6.} Amolendu Ghos\footnote{A. Ghosh, The City of Early Historical India, (Delhi 1973), pp. 20-21.} says that for the formation of a city administrative unit and development
of business federation is the most essential part. According to Dilip Kumar
Chakrabarti,\footnote{Dilip Kumar Chakrabarti, The Archaeology of Ancient Indian Cities, (Oxford University Press, Delhi 1998), p. 249.} in the final phase of urban growth, the most important single
factor of stimulus was possibly trade. It may, however, be pointed out that all
the urban centers did not develop in all the circumstances mentioned above, the
possibility is that they developed in several contexts where either all the factors
or some of the factors helped to build such urban centers.

From the archaeological point of view the characteristics of a city are different.
It should be noted that the ancient cities are not present in their original form,
but are in ruins. In the absence of detailed exploration or excavation, most of
the characteristics of those ancient cities are not clearly understood.

Cites of the Indus, (Delhi 1950), p. 6.}
\footnote{A. Ghosh, The City of Early Historical India, (Delhi 1973), pp. 20-21.}
\footnote{Dilip Kumar Chakrabarti, The Archaeology of Ancient Indian Cities, (Oxford
University Press, Delhi 1998), p. 249.}
6. Detailed Description about Bhitargarh

The site of Bhitargarh can be divided into habitation, citadel and trade centre. The outermost mud-rampart possesses a periphery of about 15.45 km (western wall of about 4.93 km, eastern wall of about 5.44 km, southern wall of about 3.6 km and the northern wall of about 1.84 km) (Photograph no. 2). The inner fortification (second rampart) made of brick, has a perimeter of about 8.57 km where the western wall is about 3 km long, the eastern wall is about 3.13 km, southern wall is about 1.41 km and the northern wall is about 1.03 km long (Photograph no. 3). Both the fortified enclosures are surrounded by trench. There is another innermost brick fortification measuring 643 m in the west, 686 m in the east, 471 m in the south and 386 m in the north. The width of the earthen rampart was wider than the burnt-brick one. A basal width of about 9.75 m can be noticed in the earthen rampart while the burnt-brick wall is 2.5 m wide. The burnt-brick wall was supported by broken bricks mixed with mud finally makes a width of 5.5 m. The moat encircling the earthen rampart is about 15 m wide, while the width of the moat encircling the brick-fortification is 8.5 m. The large pond 'Maharajar Dighi' out-side from the innermost fortification measures 600m×343m. All the three fortifications seem to build a box-like fortification as seen at Ahichhatra. The size and the co-ordination represent the entire site as the largest and strategically important fort-city of the sub-continent (Map 6). The river Talma flows by the western side of the site and this river seem to have played an important role for the natural protection of the site. It was the natural embankment at the west and used to drain water to the adjacent trench of the entire mud rampart. The second brick fortification which also surrounds by a trench, where water used to enter the trench through a channel named Shalmera that was connected to the river Talma. This channel again drained water to the river Talma. The innermost brick fortification is almost rectangular but the south-west corner and the eastern wall has some zigzag projection. Adjacent to this fortification outside of it there is a large pond named 'Maharajar Dighi' which seems to be an important source of water for the majority of the habitants inside the second and innermost fortified area. Suchi Dayal while describing the pre-medieval Shorapur settlements and tanks

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11 Suchi Dayal, The Historical Archaeology of Shorapur-Doab (Pre-Medieval Period), (Ph. D. Thesis, University of Poona 1997) cited in Shah Sufi Mostafizur Rahman,
Mentions that tank water was for ritual and domestic purposes as well as for irrigation. Thus the large pond could have played an important role in domestic purposes such as drinking, bathing and laundry, and irrigation especially, in times of contingencies like droughts and famines. Even at present, the ancient tank is being used for everyday purposes.

Presence of brick in the bank of the pond, inner fortification, brick fortification and outer mud rampart keeps the evidence to make the all three fortification to be of same time bracket. Bricks, Stone blocks and boulders were set at the corner of the earthen rampart to preserve it from the scouring action of the river. It seems that stones were used to make stone-dam for river training. There is square curving in the stone blocks are seen in the proximal end of the blocks that seems to be used to bond the blocks each other using nails. The use of wooden sleepers in the body of the ramparts to protect it from erosion also has been noticed from Ujjayini and Rajghat. Burnt-brick was extensively used for building fortification wall. The extensive use of burnt-bricks indicates affluent condition of the settlers. It reveals the plentiful availability of raw material i.e. clay for making bricks and fuel i.e. trees used for burning the bricks. The ethnographic evidence supports the practice of large cultivation and mixed farming in this deposit. It is also supported by the presence of footprint of cow and dog in the fired bricks that these two animals were domesticated for cultivation i.e. the inhabitants exploited such resource for agricultural production. Archaeological evidence and ethnographic data support large-scale agricultural production in this area. Besides, providing water for irrigation and domestic needs, the rivers might have played a crucial role in shaping trade and commerce in the area. From the above-mentioned discussion, we can assume that Bhitargarh enjoyed trade with the Himalayan regions. It should be noted that big stones are not available at Panchagarh though the presence of boulder conglomerate layer is seen in the geological stratum. Big stones along with big boulders are noticed in the area. The important point is that, to collect the big stones the settlers would depend upon the Himalayan region, which indicates the trade between Bhitargarh and Sub-Himalayan region through the Karatoya and the river Talma. In the geological strata of the Panchagarh region, a layer of

boulder conglomerates is seen 20-30 feet below the surface. From the use of boulders in the earthen rampart, it is clear that they had to depend on the boulder conglomerate layer. For collecting big-sized boulders they must have had used the technique of mining, as without having good knowledge of mining technology it is not possible to collect the boulders. At present stones are being collected from the boulder conglomerate layer using lot of technology by the stone businessmen. The position and the co-ordination of the fortification wall give the mark of good knowledge on geometry of the settlers as well as the presence of strong security system gives the indication of good knowledge of military engineering. One more point, to be noted that to build such a large fortification, large number of labors would have appointed. It is quite possible that a political system like a civic body existed for controlling and managing the settlement system.

The city lay within three rings of fortification. The city of Vaisali is also said to have possessed three ringed of walls. According to the presence of such large box fortification, one important question arises: why such a large security system was needed for the region? The possible answer might be that it was the capital city or an important centre of an independent kingdom having an upper town (the innermost brick fortification), a middle town (the second brick box fortification) and the lower town (the mud rampart, surrounding the entire settlement). On the other hand, the site could be used as a cantonment to protect a kingdom from foreign invasion. As no structural evidences (except the ramparts and two mounds, one in the middle of the inner fortification and the other at the out side of the inner fortification), were found in the region, it seemed that the entire region was used as a cantonment for the troops to protect a kingdom beyond the citadel, which were being used only during war emergency. But in recent exploration (2008) a 50 sq.m. area with well distributed bricks were found beside the mound of the inner fortification that might be a basement of an architectural complex. Moreover, the pond Maharaj Dighi was used to supply water for the troop. Whether the place was an independent kingdom or a cantonment the entire town planning is amazing. The fortification walls were being used multiply configuring a stratified security system, which is the indication of a large security.

\[13\] Ibid, p. 256.
7. Science and Technology

7.1. Stone Dams
Stone was enormously used to build water dams to preserve the fortification from the scouring action of the river or water. Large stones were coming from the Himalayan region, which were cut into blocks and then small holes were curved on the proximal ends of the blocks (Photo no. 4). Then the blocks were joined together using pegs made of either metal or stone (Plate no. 1). Thus, the joined blocks were set in the bank of the river or adjacent trenches to protect the entire fortification wall from the erosion of water. Along with the stone blocks, boulders and bricks were also used for protection. This technology for building dam was quite advanced and reflects knowledge of water engineering.

7.2. Mining technology
In Panchagarh region, a layer of boulder conglomerate is seen in the geological strata of about 1.5-2 m thickness and about 15-20 m bellow the present day surface. At present it has been noticed that many labors are employed to collect the boulders from that layer for exporting stones from Panchagarh. The system has established a business network in this region. Moreover, the most common employed technology deals with the open pit mining. Hence, they pump out the underground water using motor generator with long pipeline. Some times automatic machines are engaged to collect the boulders. The use of boulders to build dam in defense wall, it is clear that the habitants of the fort-city invented the layer and how they pumped out the underground water, which obviously the mark of knowledge on mining.

7.3. Civil Engineering
Bricks were used enormously in making structures like the fortification walls and the bank of the pond. It is possible that there was some other structures made of bricks (the 50 sq. m area with well distributed bricks; might be a basement of an architectural complex) and two mounds, both are presently being used as graveyards where in the basement bricks are found in situ and scattered hither and thither. Clay was used as the bonding material. The brick shape varies from square to rectangular and the sizes are almost 21cm×21×5.5 cm and 24cm×18cm×5.5cm. Another source mentions a size measuring 25.4cm×25.4cm×6.35cm (10”×10”×2.5”).14 According to the security system

14 Haque, Op cit, p. 142.
needed, trenches were excavated and the extracted soil was used to build the mud rampart. Trenches were also dug beside the brick fortification. The total system implies that the inhabitants were skill in military engineering. Again, according to the co-ordination of the fortification wall, it can be assumed that they had good knowledge on geometry and measurements. To carry water to the trenches adjacent to the brick built fortification, a channel named Shalmera was joined from the river Talma at the north-west, to the trenches and again it carried water to the river ending at south-west. The combination of the fortification wall and the settlement altogether gives an idea of well-accomplished town planning as well civil engineering.

8. Chronology

In absence of any systemic excavation it is difficult to date the site. On the basis of presence of brick in the bank of the pond, inner fortification, brick fortification and outer mud rampart keeps the evidences to make the all three fortification to be of same time bracket. Scholars have proposed a medieval or early medieval time bracket for the site but there were no systemic exploration or excavation so far. A fortified site, Nal Rajar Garh in Indian portion near about 10 km away from Bhitargarh was excavated by Sudhin De in the year 1986-87. In his report the researcher proposed that Nal Rajar Garh is a site of Gupta and Pala period on the basis of architectural feature. But there are no C-14 dates or any other sort of specific dating. The nature of this site is very much similar to Bhitargarh. Again the coordination of the fortification is almost similar to the early historic cities of the sub continent. On the basis of the planning of the early historic cities, Bhitargarh region could go back to early history to early medieval time frame. For a detailed information we have to work more scientific research e.g., C-14 test or other specific dating method.

9. Conclusion

Due to the absence of any previous systemic archaeological investigation in the area, the present work should be seen as a preliminary endeavor. Considering the size of the Bhitargarh Citadel area, we can assume that the citadel area was

17 *Ibid*, p. 244.
used as a cantonment in case of emergency as no permanent structures have yet been found except two mound, one inside the innermost fortification and the other outside of the second brick fortification. No extensive brick structures have ever been found from inside the fortified area. A plausible question may arise that how this fort could provide shelters to the huge number of army. Or how they would take refuge in the fort? As a response from the research we can assume that it is more likely that in the past there were wooden shelters or houses for the army which have been turned to perish or buried under the effect of local climatic conditions. In the Himalayan foothills or mid region the practice of dwelling in the wooden houses is well-known.\textsuperscript{18} There are brick structures laying buried under the surface, which can be exposed by an extensive horizontal excavation. On the other hand, this site could be seen as a capital city of some early historic state although no direct evidence is found.

\textit{Bhitargarh}, is located in the bordering region of Bangladesh. Its massiveness, extend of area, strategic importance, dwelling facilities for the cantonment all these might have encouraged its potentiality to as a fort in time of warfare. As a matter of fact, this fort during the time of early history and even mediaeval period always had been in the position of a well protected military station. From all respect, this fort is the single example of its kind in eastern India.

\textsuperscript{18} Dasgupta, P.C. \textit{Aranya Chhayer Durge}, (Government of West Bengal, Calcutta 1969).
Map 1
Map 5
Map 6

The big pond Maharsar dighi

Photograph 1
Mud rampart along with trench

Photograph 2

Brick fortification, Second mud rampart, Western part

Photograph 3
1: Making hole in Stone Block

2: Close together the Stone Blocks

3: Joining the Stone Blocks with Pin

4: Adjoining the Blocks Finally

Fig: Adjoining Stone Block to build River or Water Dam