Documentation and Architectural Interpretation of

the Panishail Temple Complex, Maulvibazar, Bangladesh.

Kawshik Saha*, Shamsul Arefin, Gourpada Dey

Department of Architecture, Shahjalal University of Science & Technology, Sylhet, Bangladesh

*Corresponding Author's Email: kawshik-arc@sust.edu

Abstract

This article represents survey data of historical and architectural documentation of Sri Radha Binod Ashrama locally known as the Panishail temple. Temple architecture is a common feature of traditional religious architecture practice in Bangladesh. This article is a historical and architectural investigation of a less known and mixed type of Hindu temple style in the Bengal region. The Panishail temple complex has a collection of structures that include tomb, temples, and residences aged between fifty to two hundred years. Over the ages, these heritage buildings have displayed a unique architectural style of ancient Bengal and still serving as a living sacred landscape heritage. However, like most of the ancient monuments of Bangladesh, Panishail structures inside this complex stand against the threat of decay and anthropogenic destruction with no effort to conserve them. There is a need for immediate action of research, exploration and preservation to save this historic landmark. This research aims to investigate historic and physical features of the temple complex through a systematic survey and documentation effort. This research will lay a foundation for future conservation intervention on this site. Moreover, this work will significantly contribute to historic temple architecture study in Bangladesh.

Keywords: Hindu Temples, Sacred landscape, Bhaishnavism, Conservation, Architectural Documentation.

1. Introduction

Sylhet, the Northeastern region of Bangladesh, is often referred to as the spiritual capital of this country. Historically, Sylhet has been serving as a home of two major religious streams of the Indian subcontinent, 'Islam' and 'Hinduism'. Over the centuries, Sylhet appeared as a major religious center of Northeast India to contain spiritual values and spread these ideologies through in the region [1]. This diversity of religious streams has reflected in indigenous literature, music, art, crafts, and mostly in architecture. Reasonably, Sylhet and surrounding areas are home to several Hindu temples that are rich in terms of heritage value [2]. The Panishail temple complex has immense importance in terms of architectural heritage and its overall contribution as a religious institute. Unfortunately, these ancient structures are in fragile condition, threatening by various external factors and requiring major conservation intervention. This research aims to record this heritage site by architectural documentation through developing plans, elevation and 3d models. These documents will lay a foundation for future conservation efforts on this site. The authors have attempted a comparative study of this temple features with temple architectural features developed in Bangladesh. The authors expect that this article will reach a wider range of researchers, heritage experts, conservators, entrepreneurs. Besides, this work will give a basis for future research or any kind of intervention on this historic site. This study will support the department of archaeology of Bangladesh to further study and protect the group of monuments as a national heritage.

2. The objective of the study:

Various international charters (Venice Charter, Athens charter) and conservators have given importance to proper documentation as a fundamental need for conservation [3]. Proper documentation helps to understand the structures and help to make correct decisions. Hence, the primary objective of this research was to make architectural documentation of the existing buildings within the temple complex. Second, to identify the heritage values of these buildings by comparing and analyzing existing temple architecture examples. This research also aimed to inspect the structures to identify the major threats and conservation needs of the structures. The authors also discussed potential issues and directions for sustainable preservation efforts that maybe be put in place for this site.

3. Temple Architecture in Bangladesh: A historical background

The region of Bengal is a geographical, historical, cultural part of the Indian subcontinent. The modern-day Bengal region is now divided into geographic parts of Bangladesh, West Bengal, Jharkhand, parts of Assam and Tripura [4]. In Bengal, Hinduism has been practiced as one of the major religious streams which are reflected through architectural history. Thus, a rich heritage of temple architecture with distinctive styles spread all over the Bengal region. Hindu temples in the Bengal region inherit its legacy from prevailing classical North Indian and South Indian style, with a slight addition of local features. Unlikely to the upward monumental scale of North Indian temples and extensive decoration of Southern India, Bengal temples are modest with their simple approach of construction and rich integration to vernacular values. As George Mitchell [5] stated 'The Bengali temples may be viewed as one of the most important manifestations of the culture of this region, closely associated with contemporary movements in religion, literature and the arts as well as with broader political, social and economic developments.' Thus, Bengal temples resemble as a cultural and political icon of independence Bengal by showing deep association to both Islamic and Hindu architecture of India [6]. The combination of Islamic and Hindu architecture is an intrinsic part of Bengal culture, which has also reflected in Bengal temples [5]. Brick construction techniques were one of the key features of Bengal temple architecture. With an enormous demand for material for large construction and scarcity of stone in Bengal, intrigued by the choice of using clay as an alternative building material [7]. Bangladesh, being a part of the greater Bengal region, holds of a considerable number of Hindu temples that could be distinctly featured as Bengal temple style. Throughout time, a wide range of styles has emerged in terms of style with differentiable features. Based on David McCutchion's [6,8,9] notable work on Bengal temple architecture classification, temples in Bangladesh can be arranged in three phases:

i. Development of ancient temples till the 12th Century.

ii. Sultanate period from the 14th century till late 16th

iii. Hindu revivals from the 16th to 19th centuries.

The earlier temples belong to ancient dynasties of Pala, Jain or Buddhist. Few notable temples of this stage are the *Shiddheswar* temple of Bankura, *Pakhbirra* Temple, Purulia [10]. Earlier temples adopted the *Nagara* style of North India temples. There is not much evidence of early medieval temples found in Bangladesh. Perween Hasan [11] assumed that long time impact of local climate, the impermanence of brick, river erosion may have caused the disappearance of these early temples. Based on limited pieces of evidence, these ancient temples are classified as the *Vadra* type, the *Rekha* type, the *Stupa* type and the tiered type [8,9].

After the establishment of the Islamic Bengal Sultanate on the 13th century, the distinct style of Bengal temple architecture began to flourish in the Sultanate period. During this era, construction techniques like domes and arches were mixed with Bengal vernacular culture of curved cornice from village huts. Muslim patrons developed a taste of covering wall surfaces with terracotta plaques made from clay [12]. Historian Hitesranjan Sanyal states that the Bengal Sultanate was established by defying the imperial authority of Delhi. This isolation triggered a distinct style of Bengal architecture inspired by regional identity, indigenous culture and local environment [13]. This is the period when Bengal's religious architecture, including temples, developed as an Independent regional style of Indian architecture. Bengal temples adopted thatched folk elements like *Chala*, (distinct roofing style of Bengal hut) as major architectural elements [13]. Besides, *Ratna* type temples emerged with a pinnacle roof on top. At the later phase of his period, Hindu temples were more inspired by Orissan style temples where massive curvilinear towers dominated the structure as a roof called *Shikhara*.

From the 16th to 19th centuries, the temple architecture of Bengal showed the highest pick of evolution and experiments in terms of style. The Hindu revival of art and culture was influenced by the philosophy of *Sree Chaitanya,* who popularized worshipping *Radha-Krishna* as a modern cult [14]. During the 16th to 17th century, numerous richly decorated temples were built as *Radha-Krishna* temples [8]. Thus temple architecture in Bengal emerged as a symbol of society and cultural prosperity. The curved cornice *Chala* temples and *Jor-Bangla* temples are common types found in this period [9].

During the 18th century, the rise of Zamindar culture triggered temples construction in Bengal as it was considered as social pride. During this period, with a continuation of previous styles, new styles emerged as *Ek-Bangla*, *At-Chala*, *Ek-Ratna, Pancha-Ratna*, *Nava-Ratna*, *Dolmancha,* and *Rashmancha* [8]. These temples are mixed with Bengal hut and Islamic style. After the British occupation of Bengal in the mid-18th century, temple forms were highly driven by European taste [9]. Gothic spires were introduced as temple roofs. During this period, tall *Matha* architecture gained very popularly with their stiffly decorated pinnacles. According to Parween Hasan [11], the fashion of extending Spire in the prevailing *Ratna* type temples were often taken from Christian churches. Besides, temples with flat roof *Dalan* types, *Rasmancha* and Dolmancha types emerged as a popular choice. Temples of *Puthia rajbari* in Rajshahi district, are a major example of this period.

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3. Historical background of Panishail temple:

3.1. Location

The Panishail temple complex is popularly named after its location in the village of Panishail. Panishail is a remote rural suburb area near Sylhet-Maulvibazar highway (Latitude 24.643827 ° and longitude 91.916940 °) [15]. The location is situated almost 26 km from the city center (Fig. 1). Settled in a country area, the temple site is surrounded by agricultural land, natural canals and informal settlements. A small village market, also named after the temple called *Akhara* Bazar (Market near the temple), which highlights the importance of this temple to the adjacent community.

3.2. Construction history

For the lack of written documents, the exact history of the temple complex was difficult to reconstruct. It was, therefore, necessary for the authors to focus more on oral information from residents and local Hershey. However, the inscriptions on a few tombs also indicate the actual information on the construction period. The
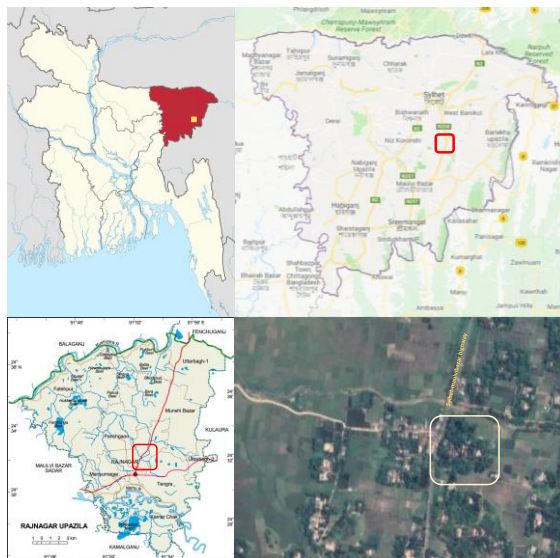

Figure 1 Location of Panishail temple. (Reproduced from google earth.)

Panishail temple was founded by Shantaram Goswami, a migrant priest from the western part of Bengal who settled here between 1730 and 1740 AD. After a few years of living here, a good number of local inhabitants became his followers [16]. Afterward, Shantaram Goswami received a vast area as a 'Divine Property' from local Nawab where he founded this temple.

In terms of socio-religious significance, for years, the Panishail temple complex is serving as a major sub-center to preach *Bhaishnavism* in the Sylhet region [17]. *Bhaishnavism* is a major philosophic stream of Hinduism, which is a relatively popular religious concept in the greater Sylhet region [18]. It is assumed that Shantaram Goswami spent his past life in the

famous *Bithangal Akhara* (located at Habiganj district) as a devotee. *Bithangal Akhara* is one of the major centers of Bhaishnavism to preach *Bhaishnava philosophy* in Northeastern Bengal [19]. Shantaram Goswami, being profoundly influenced by the socialist concept of *Bhaishnavism*, founded the Panishail complex as a school of thought. At present, the temple is occupied by a community of devotees headed by the *Guru* (senior priest) who is the philosophic ancestor of Shantaram Goswami. The religious scholarship is handed over from generation to generation as a continuation of the philosophic practice. The temple used to run by the generous help of locals and pilgrims. While the declining number of followers made it difficult to survive, the temple has now adopted a community-based approach to governance and maintenance of the temple premises. Each year, devotees arrange a series of religious events in the complex, such as *Durga Puja, Janmashtami, Sri kirtan,* which attracts thousands of pilgrims from all over Bangladesh.

4. Methodology

Architectural documentation is a systematic process of recording all relevant historical and functional information on heritage buildings. International charters (Athens Charter, Venice Charter) and conservation experts have given importance of documentation as a key phase for the identification and conservation of heritage structures [20,21]. Architectural documentation is a dynamic and time-consuming process requiring sufficient knowledge and technical support. Often, implementing low-cost documentation techniques is more feasible and efficient [22]. For this research, authors adopted a participatory, low-tech and low-cost method of architectural documentation. As a part of regular academic work, a team of teachers and architecture students carried out the field survey and data documentation (Fig. 2). With a notion of engaging youth to promote conservation awareness and learning, this research included few external volunteers. The survey team surveyed the entire complex in a series of academic field works for data collection. Since there was a lack of secondary data, authors had to rely mostly on oral interviews. Primary data collection methods include field survey, visual observation, oral interview, experts' opinion. In the second stage of the research survey data were graphically reproduced and analyzed. The authors

Figure 2 Students are participating in data collection and measurement.(Photograph by authors)

applied a comparative method to interpret the architectural style of the historic structures. Later, major conservation threats were detected through visual inspection of the structures. Fig. 3 shows step wards methods carried out in this research.

4.1 Methodological steps:

Surveying and documentation of heritage buildings require a scientific methodological process to achieve the desired conservation outcome. Many international
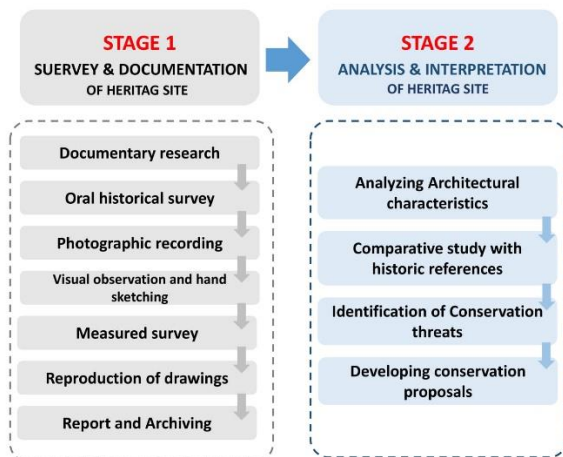
Figure 3 Methodological stages and chronological activities in the research.

and national agencies have their recommendations and guidelines for heritage documentation and survey methods. For this research, authors have adopted the heritage recording guidelines proposed by Historic England. This Historic England guidance sets out the process of investigating and recording historic buildings for historical understanding [23]. Besides, the authors followed another source of guidelines written by architecture conservationist Bob Hill [24]. Based on the guidelines, the following interventions were made in different phases (Fig. 3) :

i) Documentary research:

The first phase of the Sylhet region study contents archival research which explores the socio-cultural and political influences behind the temple construction. A bibliographic survey of existing literature followed this study to get a better insight into the context and historical background.

ii) Historical Oral Survey:

Owing to the lack of adequate literature, oral historical research played a crucial role in recording the history of the background. Oral testimony of users in architectural research can make an important contribution to building the building history [25].

iii) Photographic recording:

Photographic documentation plays a crucial role in architectural documentation. Photographs are a powerful way to capture data more precisely. In this phase of the survey, researchers carried out a full photographic survey of the site. The photographs included building elevations, interiors, architectural details, landscape elements in colored images. The photographs were recorded in RAW format that can allow future modification.

iv) Visual observation and hand sketching:

In this phase, the survey team walked through the project and observed individual monuments to identify the architectural elements. First, every structure of the complex was visually assessed from both exterior and interior. Then initial hand drawings were prepared for a preliminary discussion. A group of students was assigned to each structure to make preliminary sketches of form and elements. These handmade sketches allow the researchers to have a better understating of the building and their scale.

iv) Measured survey:

After observation and hand sketching, measurement data were collected by a physical survey of the site area and individual structures. The structures were surveyed with measuring tools, and the measurements were written on the hand-sketched drawings. The measured survey included the whole complex with vegetation, building locations, plans, section and elevations.

v) Reproduction of drawings:

The measurement data from a physical survey were reproduced in computer-aided design software. The CAD drawings include the master plan of the site, individual building plans, elevation, sections and details. Moreover, researchers adopted photogrammetry [26] method in a limited scope to compare the survey drawings for better accuracy. In this method, photogrammetry data were juxtaposed with physical survey data to get better precision for architectural drawings.

vi) Report and Archiving:

Finally, the data were further discussed, analyzed, documented and archived for presentation and dissemination. A survey report documented all data, drawings, analysis and proposals. All Photographs and CAD drawings were stored in digital format.

4.2 Data collection tools:

Tools and techniques for architectural documentation, surveying and recording are diverse and complicated. Usually, the selection of proper tools depends on the expected intervention outcome of the project. Hence, tools used for an academic research purpose may differ from archeological intervention and more technical structural diagnosis of historic sites [27]. For this particular study, the authors adopted a set of basic, low-tech surveying tools that can be easily used by research participants. As a method, metric surveying and documentation techniques were applied. For a physical survey of site and structures, direct measuring tools like tape measures, levels and total

station theodolites were used. Indirect measuring techniques like 3d scanner, radiography, thermography was avoided as they required expertise and expensive equipment. For digital documentation, computer-aided drafting software has been used. Photographs were taken with DSLR cameras. For 3d modeling of the structure, authors used Google sketch up software as a tool.

5. Result: Components of the Panishail Temple complex

5.1 Planning and zoning system

The Panishail temple complex results from the gradual development of last two hundred and fifty years. Through this period, the authors identified five phases of development. The *Sreemandir* (central shrine) was the first structure constructed on this site. Therefore, the remaining structures were placed by the location and orientation of this key monument. Allocation of other structures shows a logical connection between functions of a typical *Bhaishnava* (a philosophic stream of Hinduism) temple expressing functionality and simplicity. The double entrance tires isolate the complex from the highway. A Lion gate on the entrance welcomes the pilgrims and visitors. Approximately thirty structures of different functions, styles and ages can be seen here. As the master plan (Fig. 4), the complex can be divided into two distinct areas, the east side temple and the west side. Each of

the two complexes has a similar zoning pattern where *Sreemandir* is treated as the central monument. Each complex comprises a group of buildings dedicated to a specific religious function. For instance, *Sreemandir* is the central shrine worshipping *Lord Krishna* (one of the major Hindu Gods) inside it. *Sreemandir* is surrounded by other supporting functions like Nata *Mandir* (a performance hall), *Dolmancha* (a distinct ritual place for worshiping *Lord Krishna*) and *Jhulan Mandir* (a festival venue). Besides, the *Bhakta Nibasa* was built to provide accommodation for devotees and the *Bhog Mandir* to prepare food for rituals. Mausoleum tombs, known as *Matha*, is one of the notable features of this temple complex. Approximately twenty numbers of *Mathas* were found on the site. Out of them, four Mathas are in a ruined state where others need major restoration. The planning of Panishail temple complex follows a simple functional zoning system commonly used in most of Bengal Bhaishnava temples. Structures are allied regarding their functions, following a sequence from the public to private.

5.2 The Sreemandir: The Central Temple

The Sreemandir at the western side of the complex is south facing. The rectangular chamber of *Sreemandir* has three parts where the middle one contains the adobe of God *Krishna*, known as the *Garbhagriha* (central womb). This *Garbhagriha* chamber is featured with a typical Bengal style *Chau-Chala* (four-
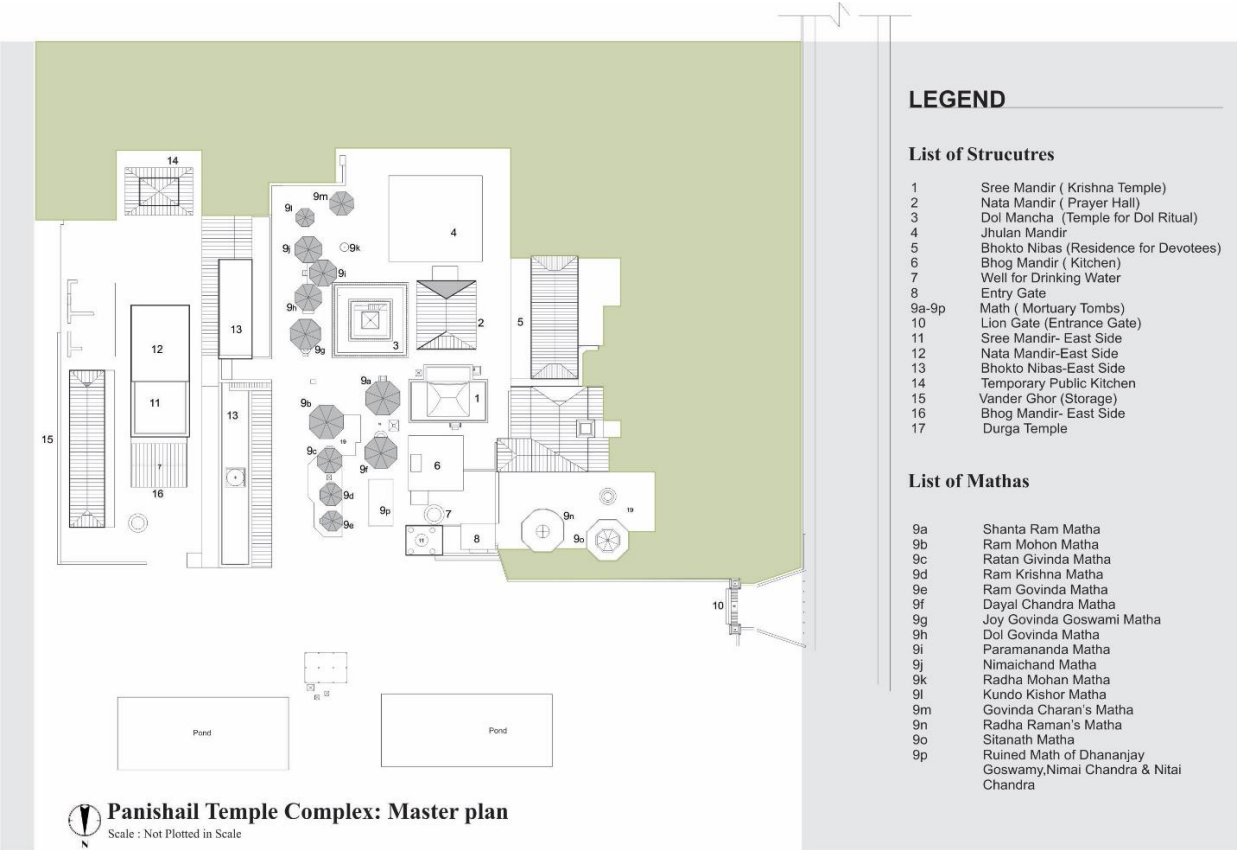

Figure 4 Master plan of Panishail Complex. (Graphics by Authors)

part roof) with a projected flat-roofed semi-outdoor (Fig. 5). This projected semi-outdoor space is decorated with four columns and five circular arches, which act as the entrance to the central chamber. *Sreemandi*r is a brick and lime masonry building with symmetrically arranged plan and elevation. However, *Chau-Chala* roof is made of traditional lime mortar concrete and the entire temple was covered with modern cement plaster during a renovation. The *Sreemandir* of the Eastside Complex is a flat roof temple with three arched semi-outdoor rooms. The structural system of the *Sreemandir* follows traditional construction techniques of Bengal Islamic Architecture. This is entirely a brick masonry structure with 20 inch thick brick walls holding the roof. The projected roof of semi-outdoor is supported by four 17 inch x 17 inch brick columns. The internal ceiling feature shows use of *Chala* type vault. Traditional lime mortar technique have been employed as adhesive element. Walls are covered with lime plastering. The authors found this structure in good shape with minor requirement of restoration.

good shape. This is a European-style flat roof building next to the East *Sreemandir* (Fig. 6). This is a less decorated brick-lime masonry structure. Following the structural techniques of British colonial India, the *Nata Mandir* features a large semi-outdoor hall with I-section iron beam and round arches (Fig. 6). The walls are 27 inch thick and covered with lime plaster. During visual inspection, author didn't find any many issues , so this building seemed well maintained.

5.4 The Bhakta Nibas: The residence for devotees.

Bhakta Nibas is a permanent residence for devotees who have been staying in this complex for years. Devotees are caretakers of this temple responsible to perform a daily ritual for God *Krishna* and organize annual religious festivals. Both residences in the western and eastern parts of the complex have adopted similar architectural styles, except for construction techniques. Buildings are consciously placed in a north-south direction to provide a buffer between the temple and other structures. *Bhakta Nibas* (Fig. 7)has direct visual and physical access to *Bhog Mandir*, *Sree*
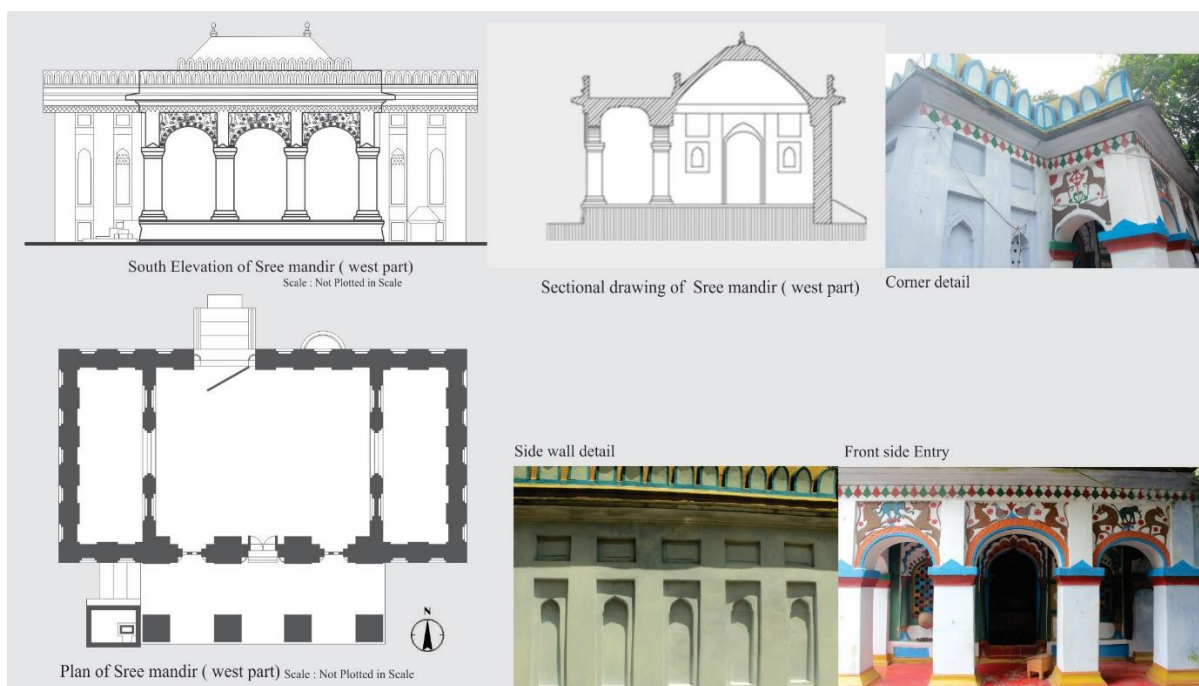

Figure 5 Shreemandir on the west part of Complex. (Graphics by Authors)

5.3 The Nata Mandir: The Performing hall

The Nata Mandir is a key part of the *Bhaishnava* temple. Mythically, this is a cultural performing space to worship God by offering dance and music [26]. This is a common feature of Hindu temple architecture to place *Nata Mandir* very next to the *Sreemandir*. Hence, in the Panishail temple complex, the *Nata Mandir* in the east part of the complex faces *Sreemandir* with a linear circulation path in between. At present, there is no evidence of this *Nata Mandir* as it was demolished a few years back. The old *Nata mandir* was replaced by a tin-roofed temporary hall. But *Nata Mandir* of the westside complex is still in

Mandir and *Nata Mandir* through semi-outdoor space. From structural point of view, this building features similar techniques of brick masonry and I-section iron beams. Columns are used to carry roof of semi-outdoor space. Southern part of this linear building is severely ruined which requires major restoration.
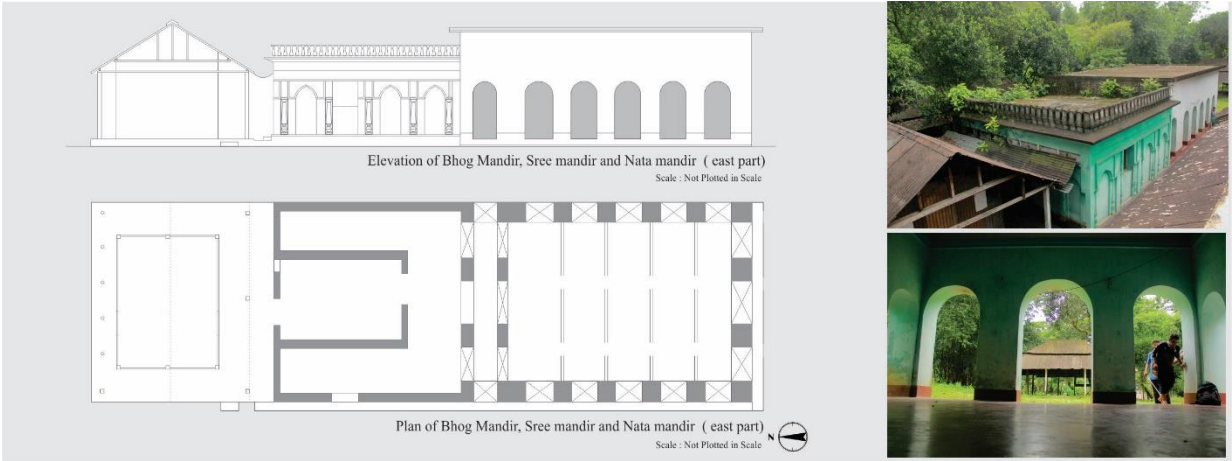
Figure 6 Bhogmandir ,Sree Mandir and Nata Mandir of East part temple . (Graphics by Authors)
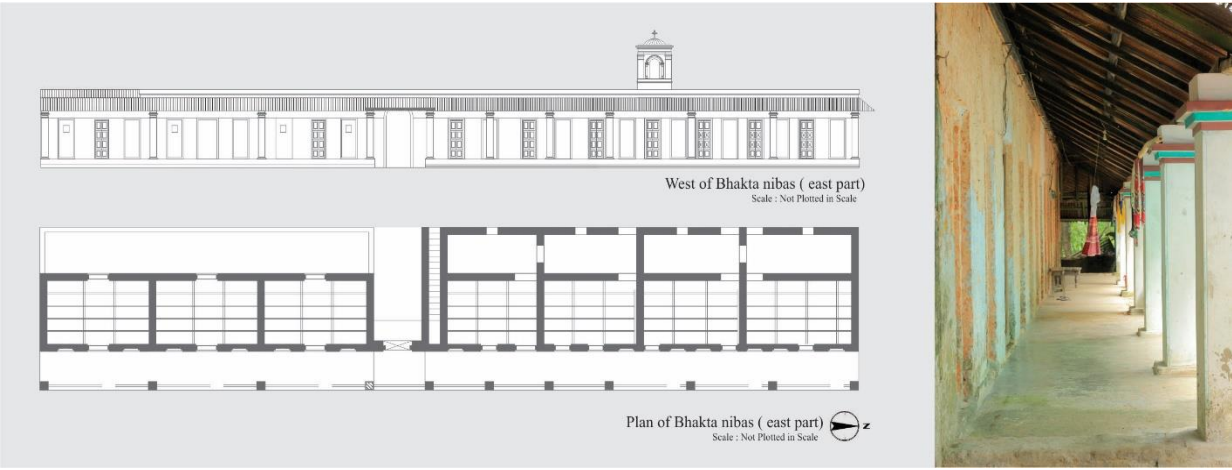

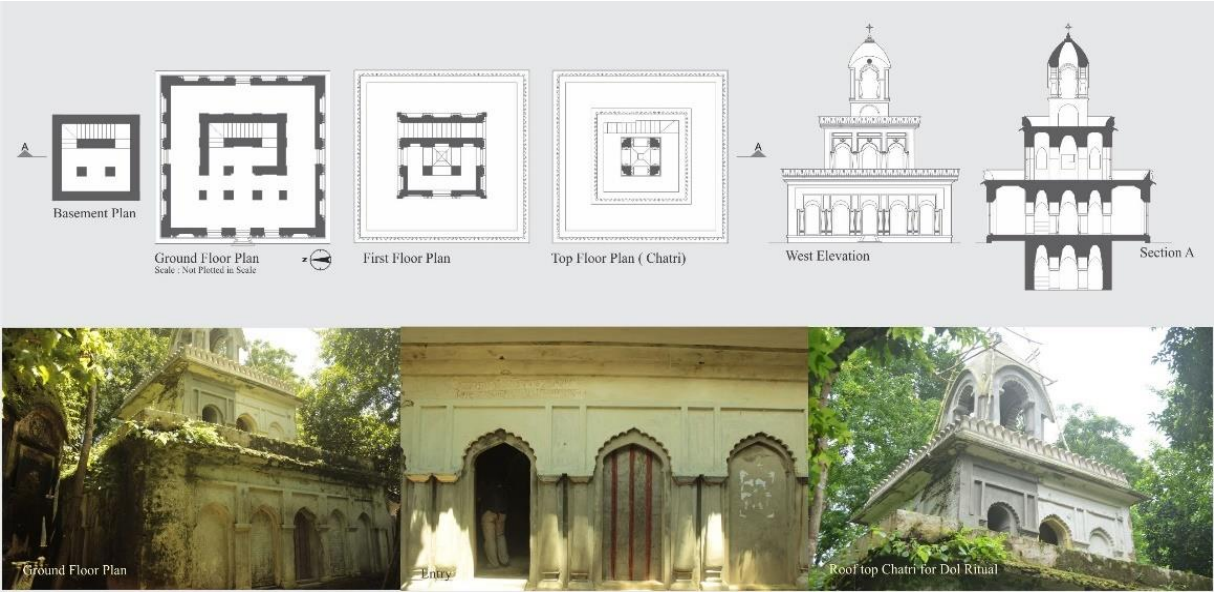Figure 7 Bhakta Nibas of West Side Temple. (Graphics by Authors)

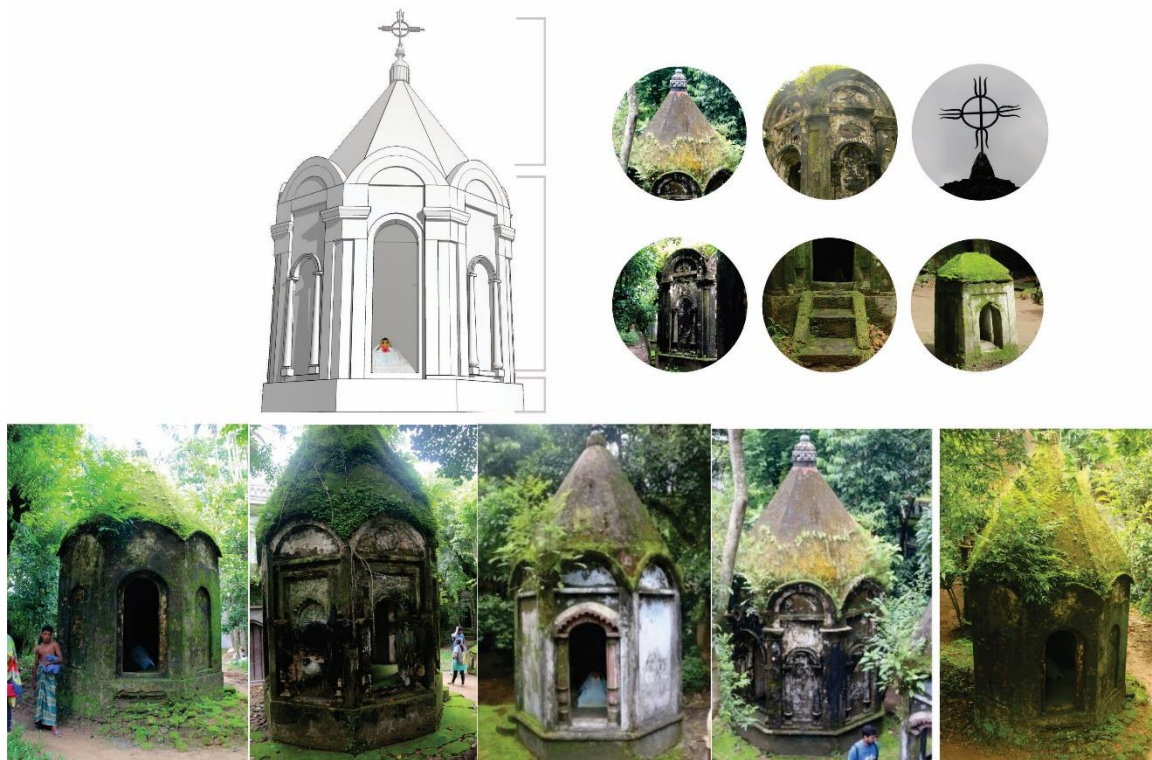Figure 8 Dolmancha of West part temple. (Graphics reproduced by Authors)

Figure 8 Different types of Mathas of the Temple complex. (Photograph taken by Authors)

5.5 The Dolmancha : The stage for a specific festival

Bhakta Nibas on the east side is a flat-roofed The *Dolmancha* is one of the emblematic structures of the Panishail complex due to its unique architectural style. This house is used as the adobe of Lord *Krishna* at the *Dol* Festival. *Dolmancha* of the western side of the temple is a three-story building whose stories are dwindling upward to form a pyramid shape. (Fig 8). The ground floor was 29 ft x 29 ft and contains a narrow stairway leading to the top floor of *Dolmancha*. Each story is surrounded by an arched colonial-style building with a semi-outdoor elongated by a central structural core. This core is a combination of thick brick walls and columns (fig 7) which also supports the ascending stair. The external walls of the ground floor is decorated with blind arcading and false columns. The structural techniques are similar to the *Sreemandir*, entirely made with traditional brick-lime masonry. During site visits, this structure was seen under a restoration process by temple authority. Without the involvement of any conservation expert, few faulty measures were taken while restoring the structure. For example, lime plasters were replaced with cement-sand plasters, old decorative elements were removed to install newly designed ones.

5.6 The Mathas: The Mausoleum Tombs

As mentioned earlier, the mausoleum tombs known as *Mathas* are the most emblematic monuments of the Panishail temple complex. A total of 20 full-scale *Mathas* and 7 *Bhandari* tombs were identified inside the premises (Fig 9). Most of the tombs are standing on a high plinth, but some *Mathas* are attached to a common base. Traditionally, in *Bhaishnaba's* philosophy, when a saint breathes his last, his followers always bury him in a particular posture known as the *Samadhi*. Each *Matha* is built on the Samadhi, the burial ground of a saint. A series of *Mathas* was built in the Panishail temple complex over the years, after the death of each head saint of the complex. Besides, a miniature tomb known as the *Bhandari* tomb is placed next to each *Matha*. Metaphorically, a *Bhandari* tomb is a memorial to the corresponding *Guru's* wife. The *Sharavuja Mahaprovu* (a figurative form of God) is placed inside the chamber of the tomb as a representation of the late Guru (Fig 9). Based on physical appearance and construction techniques, The *Mathas* could be classified into three groups. The first groups of *Mathas* are the oldest ones with very simple ornamentation and modest outlook. The octagonal thick brick masonry walls are covered with a corbelled roof. The roof edges are visible and form a curvilinear projection. These forms are plastered with lime plastering. The second group of *Mathas* has a more decorated surface with round archways and columns. These brick masonry walls are covered with a conical corbeled roof. The roof corners are hidden by arched details of the surface. The third group of *Mathas* has been constructed later period. The Radha Raman and The Sitanath Mathas are newly built tombs with modern post lintel structure. These tombs have ambulatory space surrounding the chamber. Reinforced concrete techniques have been employed. Structures are covered with sand-cement plaster. The central chambers are covered with octagonal slopped

roof made out of concrete. Old *Mathas* placed on the Southern part of the complex are in a ruined state than Northern tombs. The foundations and entry porches are ruined. Most of the tombs are effected by growing vegetation and moss on the wall and roof surfaces.

6. Discussion:

6.1 Panishail temple as a synthesis of architectural styles

The first *Sreemandir* of the Panishail temple complex was built between 1770 CE and 1780 CE. Since then several structures were added one after the other for the next two hundred years to form the complex. The

roof crowning the *Garbhagriho* with its projected semi outdoors (Fig. 5) depicts its influence from the local huts of the Bengal region. It is a transformation of the vernacular Bengal hut into a *Bhaishnava* temple. However, the outer shell is decorated with Mughal details like blind windows, brick screen wall and floral cornice motifs (Fig 13).

As it was mentioned earlier, the east side of the temple complex was constructed much later than the west side. This part of temple form is featured with architectural elements of colonial India, including flat roof, semi-circular arches, plaster covering, an I-section iron beams, less ornamentation (Fig 6). This
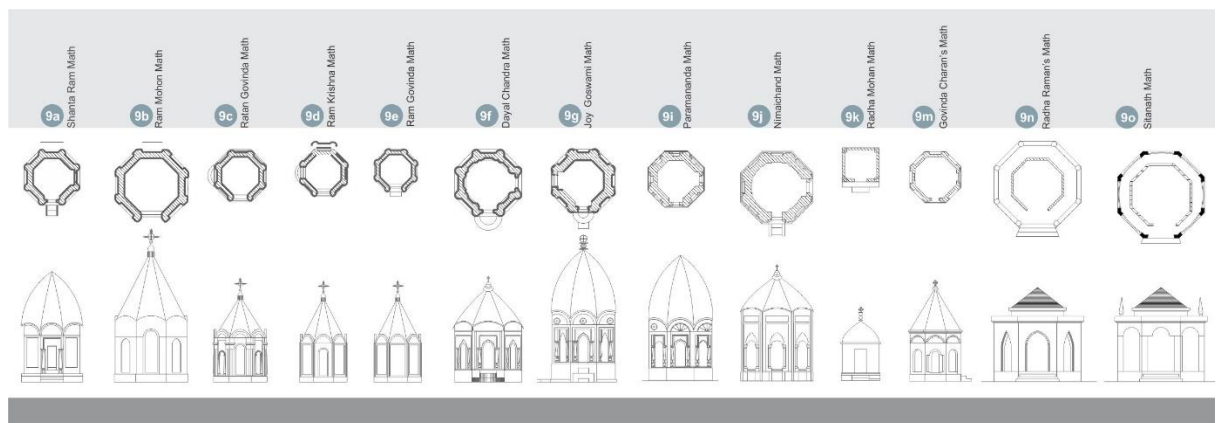

Figure 9 Chronological evolution of Matha form with time.(Graphics by authors)

structures were built under the supervision of various generations of religious saints and designed by local masons. Instead of posing a particular style, the architecture of the Panishail temple comprises mixed elements of the prevalent Bengal architectural style. Individual monuments are hybrids of different components of the Indian temple style blended with Bengal styles, such as the Bengal Sultanat period, Mughal architecture and British colonial style (fig 9). Eventually, this makes the Panishail temple complex as an inventory of Bengal architectural heritage. The architecture of Panishail shows how various iconic designs, construction techniques have been locally adopted into craftsmanship, traditional skills and vernacular concepts of small-scale building. Based on architectural principles, the Panishail temple complex can be characterized by two distinctive design approaches. One group includes Krishna temples with *Nata Mandir* on the front, complemented by *Dolmancha* and *Jhulan Mandir*. The second group comprises mortuary tombs known as the *Mathas* (Fig. 9). The first group of structures are traditional examples of *Bhaishnava* temples known as *Akhara*, which are commonly practiced archetypes in the Bengal region.

Sreemandir is a rectangle planned temple connected to the front of a semi-outdoor veranda. The central chamber *Garbhagriha* holds the adobe of God *Krishna*. *Sreemandir* is connected to a wide semi-outdoor hall called the *Natamandir*. The *ChauChala*

temple style has been categorized as a flat-roof type or *Dalan* type temple style by historians [29]. Besides, the east side of *Bhakta Nibas* is a linear brick masonry structure with a projected semi-outdoor, which is a good example of a hybrid of British colonial style and local vernacular archetypes (fig 7).

One of the notable structures of the Panishail temple complex is the three-storied *Dolmancha* (Fig 8). Built-

Figure 10 Narrow Connection between spaces: Pedestrian Experience. (Photographs by Authors)

in receding stories on a square plan, the shape of *Dolmancha* is very similar to the temple of *Puthia Rajbari* located in the district of Rajshahi (Fig12). It is

with a top finial. These matha-style temples are commonly seen in the late 18th or 19th century temples, which are thought to be influenced by

Figure 11 Classical references from Bengal, Islamic & European architecture used in Panishail temple. Structures constructed in different time line indicates different styles and construction techniques.(Prepared by authors)

understood that the *Dolmancha* in Panishail is inspired by *Dolmancha* in Puthia, a descendant of the famous *Pancha Mahala* of Fatehpur Sikri in North India [28]. This structure also features details inspired from classical Hindu and Islamic Architecture.

The Mausoleum tombs or *Mathas* are key elements of Panishail temple, contributing to the unique morphological character of this heritage site (fig 9). Octagonal planned single chamber *Mathas* are crowned with a *Shikhara* type roof (octagonal *Chala*)

Bengal, Islamic and European styles [29]. The first two tombs in Panishail are clearly inspired from curvilinear roof and *Chala* style. Shantaram tomb, the first one built in Panishail, bears a resemblance to the octagonal *Chala* Shiva temple (Fig 12) in the Jhenaidah district, with a curvilinear cornice and a pointed conical roof. There is, however, a shift of style that can be seen in the later-constructed *Mathas* (fig 10). In these structures, the projected cornices were replaced by the decorative arch pilasters of the tomb

Figure 12 Comparison of Panishail Temple structures with Temple classification by David McCutchion . This graphics shows that elements of Panishail are inspired from various temple types. (Reproduced by Authors)

walls and the roofs were transformed into a more geometric conical shape. Pilaster details are inspired by European style. However, few tombs are decorated with Mughal Shajahani arch and columns (Fig 13). The *Matha* of Saint Radha Mohan and Shitanath are constructed recently. So these structures are modern looking with   RCC framing with ambulatory semi outdoors. Despite of architectural styles, *Mathas* share a common octagonal planning system and solid load-

bearing wall system with no window. The *Matha* structures of Panishail temple are a good example of how structural techniques and visual style have transformed over time (Fig 10). Since the tombs are constructed in different phases, they exhibit a chronological evolution of *Matha* architecture in Bengal context (Fig10).

One of the major objectives of this research was to interpret the architectural significances of the Panishail temple concerning Bengal temple heritage. As a method, the authors undertook a comparative analysis of architectural elements. The drawings and photographs prepared from site survey data were compared with classical examples of temple heritage. Therefore, after surveying the structures based on their architectural style, a graphical comparison has been attempted by authors (fig 12). The pictorial classification of Bengal temple architecture used in this figure is adopted from David McCutchion's widely accepted study on Bengal temples. Hence, after correlating with the classification, this can be seen that the formal expression of Panishail temple elements resemblance with various temple styles of Bangladesh. Authors have developed a list of visual indicators which belong to a different phase of temple styles. Fig 13 shows the list of indicators regarding various phases of the Bengal temple style. Fig 12 and fig 13 depict that Panishail temple complex is a synthesis of various architectural styles formed in the Bengal region from classic to modern period.

6.2 A thoughtful place-making of spirituality

In the master plan, *Mathas* were placed side by side to creating a longitudinal perspective on the eyes of the observer. Moreover, the monolithic scale of the *Mathas,* with projected *Shikharas* towards the sky, symbolizes the relationship between heaven and life through soul purification and inner devotion. Besides, the Panishail temple complex indicates the intention of making a logical connection of ritual spaces through public movements (Fig. 11). When wandering through the temple site, gradually unfolding spaces create a sense of curiosity. The spaces provide an implied scale for the pilgrims, which reflected the down to earth and altruistic approach of the *Bhaishnava* temples. This place is more than a temple, but a household to live with the god of Krishna and make a path to heaven by devotion and self-development (Fig. 9). Panishail is a simple example of how architecture can content spirituality and convey the essence through form and space to the devotees. Moreover, the inter-dialogue between built forms and natural landscape creates a peaceful serenity in which the perceiver can listen to the whisper of nature and the Holy Spirit. The place where the Panishail temple was performed reveals an important spatial representation of spirituality, inspired by the essence of Bhaishnavism. Hence, the late medieval Bengal temple style has been blended with the *Bhaishnavism* sense of place. The conventional monumental approach of temple design was deliberately replaced by a low-scale, down to earth, anti-monumental approach. This approach is profoundly inspired by the Socialistic view of Bhaishnavism. In the Panishail complex, a marvelously synthesized style of architecture is seen, where Bengal classical architecture harmonizes with vernacular spirit and rural cultural landscape.

6.3 Assessment of the structural systems, physical condition and conservation needs:

The authors carried out a visual inspection survey of existing structures to identify potential threats to the physical condition. Over time, most of the Panishail temple complex structures experienced actions from both natural and human-induced sources that caused damage to the structures. Brick-lime masonry structural work fairly caused the building to be vulnerable to current climatic conditions with heavy rainfall and high humidity. One of the major threats identified by the authors is the growth of vegetation and moss on the surface of the buildings. Sylhet is an

Figure 13 Physical condition and threats on the structures. (Graphics reproduced by Authors)

area of heavy rainfall all year round, which creates an appropriate condition for the rapid growth of organic substances on the structures (Fig. 11). Wall-born cracks, deterioration of building components are another danger which is destroying the structures. The absence of regulatory maintenance and sufficient conservation awareness is the primary cause of the fragility of the structures. The inappropriate alteration, modulation of old structures for so-called maintenance, without prior knowledge of conservation, is another threat to the future survival of this complex. To get more technically accurate conservation issues, a proper structural diagnosis is required by involving experts. Based on preliminary visual inspection, the authors suggest the following conservation recommendations for the structures:

i. Few structures are in a severe stage of destruction and need immediate structural stabilization. The *Dolmancha, Bhakta nibas* of the east side, Tombs of *Shantaram, Ram Mohan, Ram Govinda* are key buildings that need proper structural repairing work.

ii. Over time, lime mortar plasters on structures were replaced with cement sands. This caused major damage to the internal brick wall. The cement plaster

needs to be removed and restored with traditional lime mortar.

iii. Vegetation, moss, biological substances grown over structures should be removed with hands, brushing and chemical biocides where necessary. Regular monitoring of structures is needed to avoid unnecessary vegetation growth. This is important to apply water repellent and waterproof coating masonry surface area.

iv. Improper alteration of architectural details and motifs is a major problem of this site. Without involving experts, these changes are often done by local builders. These details should be removed and replaced with authentic ones.

v. One of the major problems of Panishail temple structures is dampness and unwanted moisture inside structures. Appropriate conservation measures techniques are required to avoid moisture damping. For example, the foundation of the structure need to isolate from rainwater, wall plasters need to be replaced with lime mortar to let the wall to breathe. The ventilation facility needs to be installed where needed, the exterior wall needs to seal with damp-proof material. Need to apply a regular maintenance procedure to eliminate standing water and vegetative threats to building/site

vi. Landscape and Environment is one of the major element of Panishail temple site. An ecological survey of sites and surroundings is required. The conservation plans should include an environmental management plan including flora and fauna to preserve the visual integrity.

vii. A proper drainage system needs to install in the complex. Water clogging because of heavy rainfall makes damage to the building foundation. Every structure needs to be connected with a central rainwater management system.

viii. Sylhet is located in an earthquake-prone area and special measures should be taken for seismic protection of the individual structures. Adopting preventive conservation measures may help the structures from severe damage from earthquakes.

7. Conclusions and recommendations:

From the above discussion on Panishail temple heritage, authors have come with few conclusive points. First, the Panishail temple possesses substantial heritage values in terms of social, cultural, scientific, architectural significances. The history of this complex is deeply associated with the socio-political history of the Sylhet region. Hence, the lack of historic shreds of evidence should be covered by more intensive historic research on this site. Second, the Panishail temple complex showcases a range of temple styles in terms of architecture and construction techniques. From medieval to modern, this historic site is a unique inventory of temple heritage where diversity nested inside a limited geographic boundary.

Third, this historic site is a major source of intangible cultural values connected to local communities. This living heritage site is a center of local myths, religious gospels, devotional songs, festivals. Besides architectural conservation, equal importance should be given to document and preserve these intangible cultural heritage elements. Community-based preservation by education and training the local community would be useful. Finally, the stunning scenic beauty of the site surroundings gives an added value to this heritage site. This site and surroundings can emerge as a potential tourism spot by ensuring tourism facilities.

Transcending time and space, good architecture remains communicative and interactive all the while through its spatial qualities [30]. Temple complex of Panishail is a good example of this place making where architecture is a mediator between spirituality and self-consciousness. Moreover, this is a widely characterized cultural landscape where interaction among nature, architecture and people has created a living heritage. This research was an attempt to put a light on this forgotten part of the history and heritage of the Sylhet region. But there is a lot of work to be done. This heritage site requires more assessment of the structures and community identification and promotion of cultural elements and to develop a sustainable conservation policy. These interventions can have a positive impact on the existing heritage and community development. Authors expect that responsible government agencies, institutes, will take steps to carry further research and conservation activities to save this heritage site.

Acknowledgment

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