JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Bhitargaon Brick Temple: Architectural Marvel of Gupta Age

Ar. Supri Maheshwari, Assistant Professor,

Department of Planning and Architecture, Dada Lakhmi Chand State University of Performing and Visual Arts, DLCSUPVA, Rohtak

Abstract

Nagara style is one of the most prominent Hindu temple architecture styles in the Indian subcontinent, specifically in the northern region. The ancient brick temple of Bhitargaon is considered the earliest example of the Nagara style. Bhitargaon occupies the most important position, as this 5th Century A.D temple is the earliest brick temple that has survived the ravages of time and man. During the Gupta period, bricks were first used in abundance as a primary construction material; prior to that, temples were mainly constructed of perishable materials like wood. This paper discusses the exemplary architecture of the Bhitargaon temple through a traditional literature review method.

Key Words: History of Architecture, Bhitargaon, Brick Temple, Gupta age, Nagara Style

1.1 Introduction

Hindi's Hindu temples, known as '*Mandir'*, are derived from the Sanskrit word Mandira. Although the architecture of the Indian temple varies across India, its basic elements remain the same. As an architectural entity, the temple in India emerged with certain concepts about God and human beings. The spatial organization of temples kept on changing, starting from the open arrangement of the Harappa period (2000 BC) when the shrines were kept under sacred trees or near water bodies to the closed space concept of the Mahajanapada period (700 BCE). The multistoried temples began to be constructed in the Sunga-Kusana period (200 BCE-200 CE).

In 320 CE, with the establishment of the Gupta Empire, the concept of *Duality in Bhakti* gained prominence. The Concept of *'god'* and the *'devotee'* where the former is the most sacred entity. Translating the above concept in spatial organization, two spaces were provided in the temple, one for the God *(Garbha-griha)* and the other for the devotees *(Mandapa and/or sometimes ardhamandapa)* (fig 1).

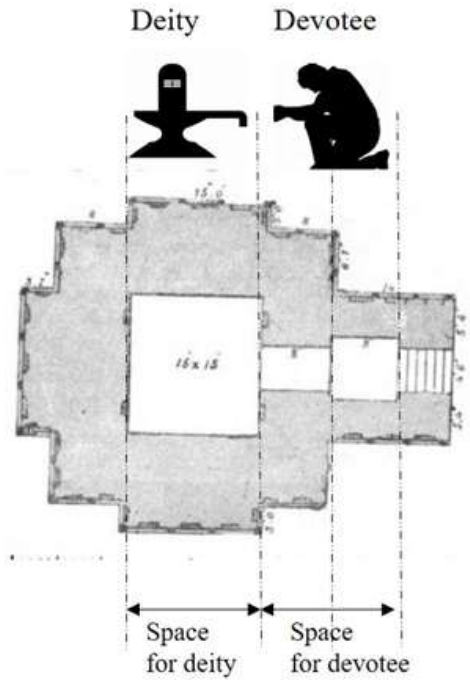


Figure 1: Concept of duality translating into the plan (Author generated)

Limitations to vertical monumentality and height were also broken with the addition of *shikhara or vimana* in Indian temples.

The Gupta Period, widely regarded as the Golden Age of art and architecture in the Indian subcontinent, consolidated the classical phase of Indian art architecture in the Indian subcontinent. One of the most important and probably the earliest brick temples of the Gupta age stands gracefully at Bitargaon Village in the Kanpur district of Uttar Pradesh.

Sir Alexander Cunningham was appointed Archaeological Surveyor to the Government of India in 1861. In the Report of the Gangetic Provinces 1875-76 and 1877-78, he mentioned that Raja Ravi Prasada's friend gave him information on a brick temple near Kanpur with superior terracotta work. Between November 1877 and February 1878, he visited Bhitargaon. Three surveys were made for the documentation of this temple-

1. The first survey in 1878 by Alexander Cunningham
2. Second survey in 1907 by J.P Vogel
3. Third survey in 1909 by A.H Longhurst

Several remarkable terracotta panels, carved bricks and other fragments, along with the whole structure of the temple, were discovered during the survey and excavations.

1.2 Architecture of Bhitargaon brick temple

In this section of the paper the architectural characteristics are discussed in terms of the spatial organization and appearance, ornamentation and the construction techniques used in the temple.

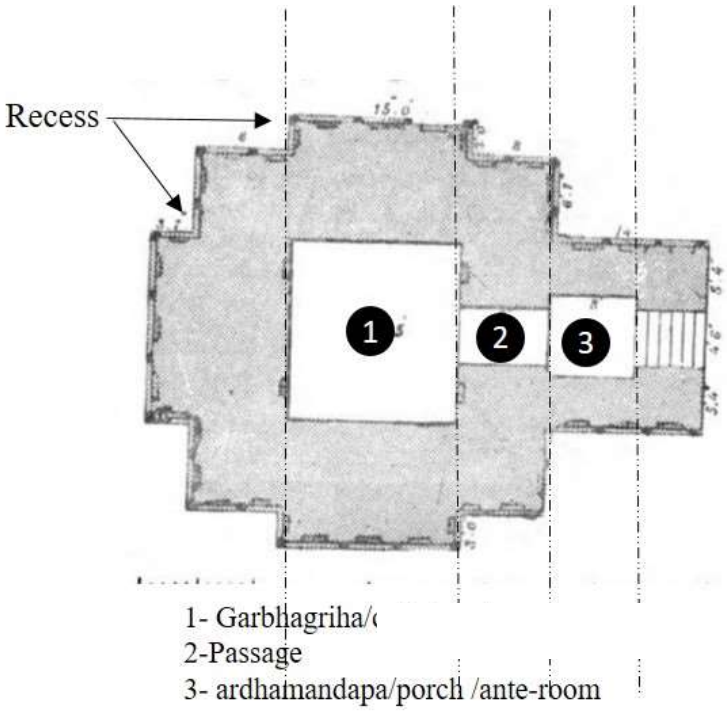


Figure 2:Plan of Bhitargoan temple, Source: R. Nath(1969) & Author

1.3 Spatial Organization and appearance of the edifice

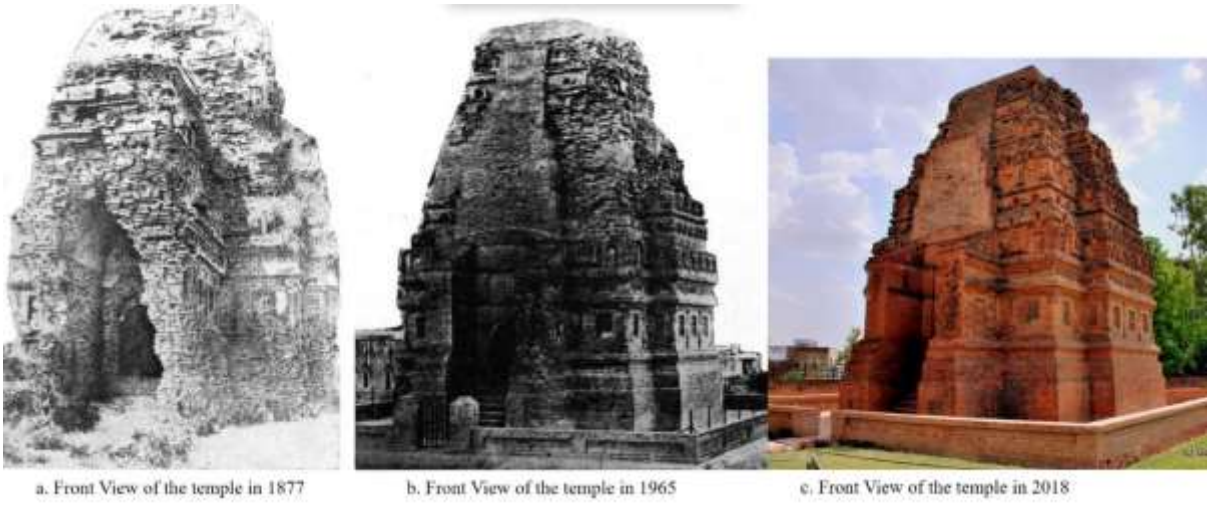
The temple has a square plan. It stands on a raised platform that has been built on cell foundations, like that we find in the stone temples at Deogarh and later at the brick temple of Lakshmana at Sirpur; the cells were spanned with the corbelling system. The massive superstructure, about 70’ in height, has been modified according to the structural exigencies. In plan, it is a square of 66' side exteriorly but has doubly recessed angles, which almost give it a curvilinear character. (Figure 2)

On the east side is projected a porch or the entrance chamber as an anteroom that measures 8' x 7'-3”. A flight of six steps approached it. A passage 8 in length leads from this anteroom into the sanctum or the Cella, which is also a square chamber of 15' side.

The temple has outstandingly important features, making it a unique structure of the Gupta period. Among them are its unique construction techniques and the terracotta ornamentation.

Bhitargaon is the earliest example of a temple where the ancient builders attempted Shikhara. When the temple was discovered in 1877, all three spaces, namely Cella, Passage and Porch, could be seen (Fig .3 (a)). But within the next two years of discovery, the porch and passage were collapsed. Only the *Garbhagriha* exists after ASI has done a lot of restoration over the years. (Fig 3 (c)).

Figure 3 Front view of the temple over the years



source 1 Zaheer.M & https://twitter.com/gauravg85/status/1003262819637211136/photo/1

1.4 Construction technique

Construction techniques used for gaining the span and height in the temple are discussed below.

The technique used for Gaining the Span:

The construction technique used to span the space in the Bhitargaon temple is corbelling and the use of arches. The arches certainly formed part of the original fabric at Bhitargaon. The two passages are roofed with semi-circular vaults, and the porch and the sanctum are sanctified by pointed domes or circular soffits. The vaults in both cases are arcuate, wherein the load rests vertically. Of course, the bricks have been placed edge to edge instead of face to face, representing an early stage of this technique in India.

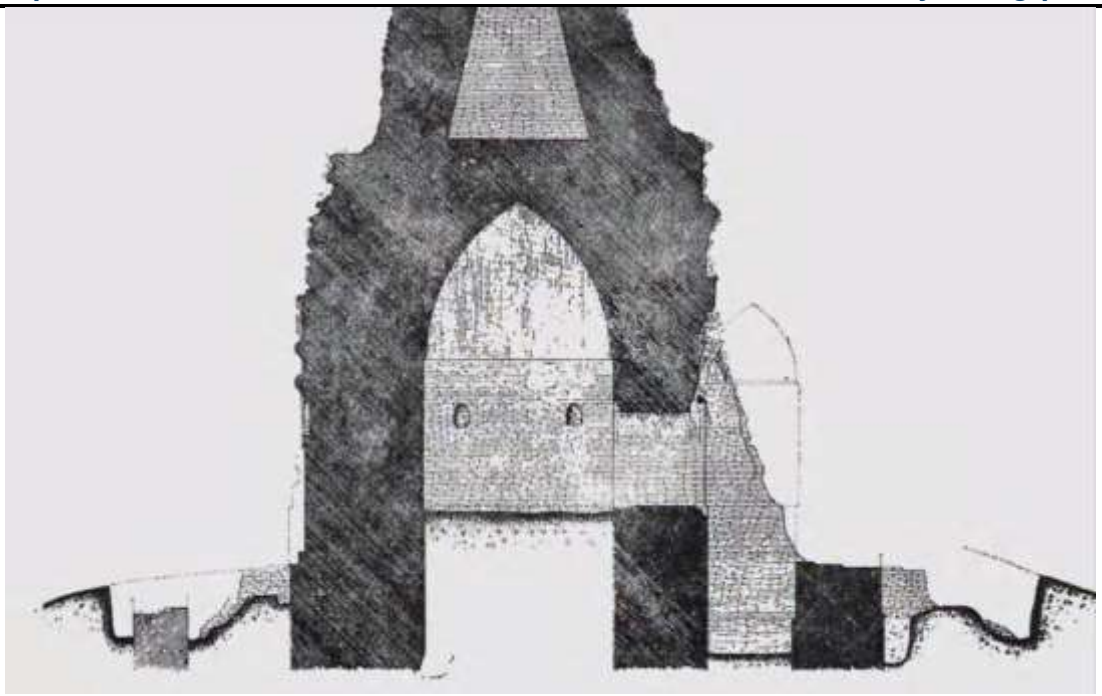


Figure 4 Section of Bhitargaon Temple, Source Nath, R. (1969)

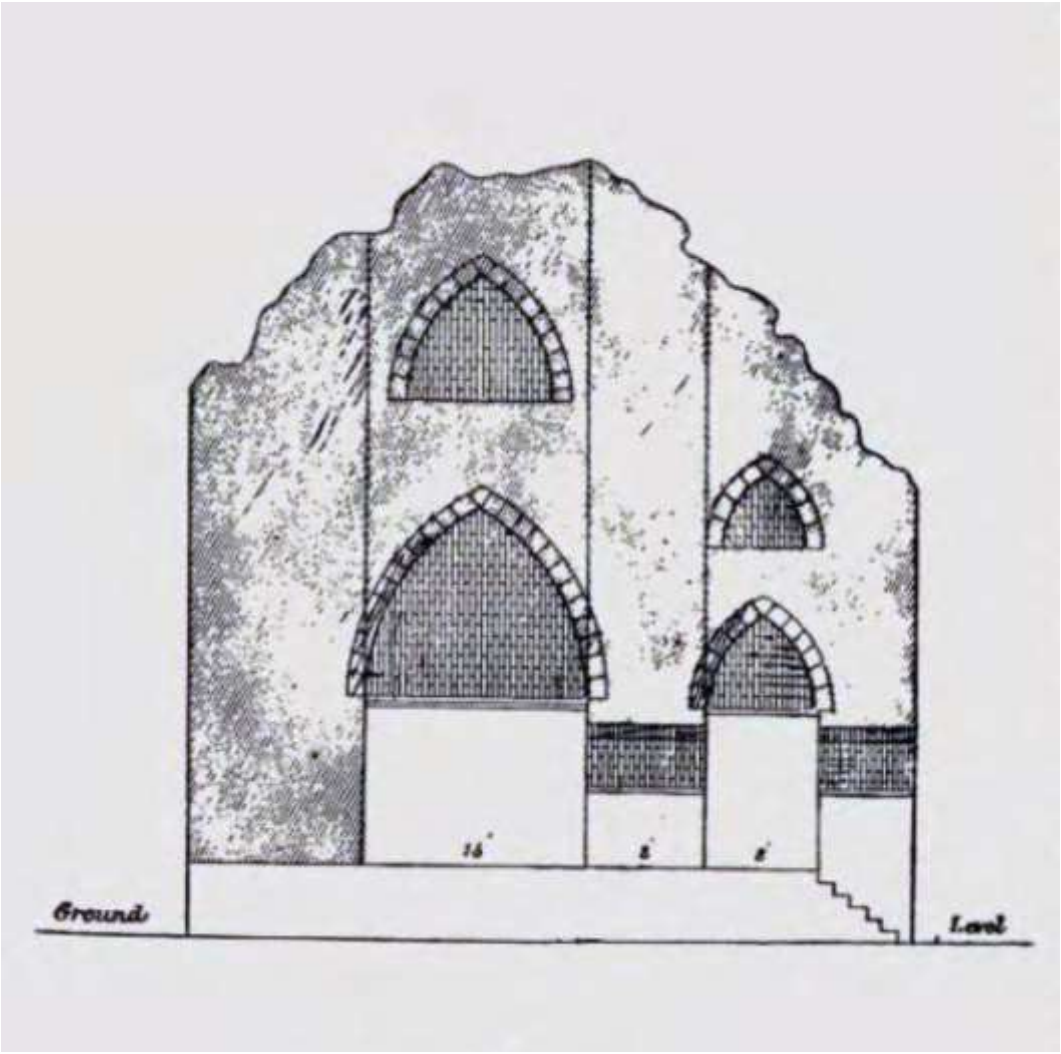


Figure 5 Double dome technique used in Bhitargaon Temple. Source Nath, R. (1969)

The technique used for Gaining height:

The shikhara of the Bhitargaon temple is hollow. In other words, the sanctum or the garbhagriha has an upper Cella of equal size just above it, which was also constructed on a vault system. It was not visible from the outside

and was not accessible from within. The provision was thus solely guided by structural requirements. The architect thus gave additional height to the shikhara without involving structural complications. It is purely and simply the 'Double-Dome-Device'. This upper room gave an adequate ceiling to the lower chamber and, at the same time, gave a grand elevation to the superstructure. The space within was hollow, and the upper cell reduced the weight of the shikhara and, at the same time, allowed it to rise majestically high above into the sky to the desired height.

1.5 Ornamentation of Bhitargaon Temple

This spectacular brick temple is an amalgamation of art and architecture. Each brick is beautifully placed; each element is well designed. Permutations and combinations used in the placement of beautiful motifs create astonishing patterns.

Around thirty-eight different motifs under twelve broad categories were identified by author *Mohammad Zaheer* in his book The *Temple of Bhitargaon*. These motifs are derived from leaves and flowers (Lotus, acanthus, etc.) and geometrical forms (Square, stars, inclined lines, chequers, zigzag, curved lines, etc.).[1] Patterns made using these motifs engraved on terracotta bricks are used in unique pilasters on the outer façade of the temple, as shown in Fig 1. The following four elements are mainly used for the decoration: plain bricks, ornamental/decorated bricks, bricks with sculptural relief, terracotta panels and Niches or Gavaskar.

1.6 Conclusion

Bhitargaon temple is an architectural marvel that houses the earliest example of Nagara-style *shikhara*. It is one of the earliest Hindu temples to use a double dome system to achieve verticality. It also showcases the earliest use of arches and further vaults in the construction, dismissing the theories that claim that Indian temple builders were unaware of these techniques.

Undoubtedly, Bhitargaon temple is exemplary in all domains of architecture, whether it is the use of supremely fabricated and intricately carved terracotta bricks or the use of advanced construction techniques using structural design devices like corbelling, vaulting and double domes. It is the best example to study the evolution of the *Nagara style of Temple Architecture*.

1.7 References

1. Kumar, S., Dalal, A., & Chillar, S. (2015). Building science of ancient Indian temples. International Journal of Engineering Sciences Paradigms and Research, 98.
2. Reza, H. (2008). Bengal Gupta Viharas: Did such a phenomenon exist? The International Journal of Interdisciplinary Social Sciences, 3(5), 211.
3. Nath, R. (1969). Bhitargaon: The technique of architecture. Marg, 22(2), 24–35.
4. Zaheer, M. (1981). The Temple of Bhitargaon (1st ed.). Delhi: Agam Kala Prakashan.
5. Brown, P. (1959). Indian architecture: Buddhist and Hindu periods. Bombay: D.B. Taraporevala, 41.