Architectural Decoding and Analysis of the Krishnabai Temple in Mahabaleshwar, India: A Comprehensive Documentation Study

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Abstract

This research paper represents a detailed documentation study and architectural analysis of Krishnabai temple, located in Mahabaleshwar, India. The temple is built in the Hemadpanti style of Architecture, which celebrates the origin of River Krishna and hence gets its name from. The paper focuses on the architectural nuances of this ancient monument like its form, spatial order, built character, construction systems, details etc. The paper investigates the historic and physical features of this structure through a systematic survey and detailed architectural documentation. Inspite of being an ASI -protected monument, the structure is under the threat of decay and anthropogenic destruction without an effort of conservation and less maintenance. Moreover, this research will lay a foundation for future conservation work for the monument and also will contribute to the study of the historic temple architecture of India.

Keywords: temple architecture; hemadpanti style; Krishnabai Temple; stone construction system; architectural documentation.

1. Introduction

Proper documentation has been recognized as a fundamental requirement for conservation by a multitude of international charters, such as the Venice Charter and the Athens Charter, as well as numerous conservationists. Appropriately done documentation helps to understand the structures, to make rational decisions. (Surveying and Recording Heritage, 2006) The paper emphasizes the importance of architectural documentation as a systematic process for recording and mapping architectural monuments. This kind of documentation enables creation of scaled drawings, which aid in understanding complex spatial arrangements and the unique features of a structure (Aziz Amen & Nia, 2018, Amen & Kuzovic, 2018, Amen & Nia, 2021, Aziz Amen, 2017). The paper is structured into two sections. The first section focuses on the necessity of architectural documentation and provides a detailed methodology for its implementation. It highlights the significance of systematically documenting architectural monuments to ensure their preservation which can further facilitate future research and analysis of the documented structure. The second section examines the architectural nuances, detailing, and spatial configuration of the Krishnabai Temple with the help of drawings produced through documentation process. The temple's architectural style is then compared to existing styles of Yadava period found in the Maharashtra region. This comparative analysis contributes to the broader history of Indian Hindu temple architecture. Moreover, it offers valuable insights for architects and conservationists, enabling them to propose relevant conservation strategies. Overall, the paper not only underscores the importance of architectural documentation but also expands our understanding of Indian Hindu temple architecture. The comprehensive analysis of the Krishnabai Temple and its comparison to other temples of Yadava style in Maharashtra, serves as a valuable resource for historical records and future preservation efforts.

2. Introduction to Krishnabai Temple, Mahabaleshwar

2.1. Timeline of Yadava period and their temple styles.

The Yadava temples thrived from the 11th to the 13th centuries in the Maharashtra region of India. During this period, the Yadava dynasty declared independence from the Chalukyan rulers in 1187 and began supporting their own construction activities. They built small temples as vassals to the Chalukyan rulers and sought to establish themselves as an independent political entity by promoting their regional language and architectural style.

As the Yadavas claimed descent from Krishna, their temples predominantly focused on Vishnu, with fewer temples dedicated to Shiva. Drawing inspiration from earlier Chalukyan temples in the Malwa region and Gujarat, the Yadava temples developed their own unique stylistic features. They aimed to create a distinctive identity and showcase their cultural heritage. One significant person who played a crucial role in fulfilling the architectural ambitions of the Yadava kings was a minister named Hemadpant. (Pushkar Sohoni: Yadava Temples, Before and After, 2021)

The temples gained socio-political importance during the peak period of Yadava rule. They became symbols of regional pride and religious devotion. The Yadava temples developed a distinct architectural style known as the "Hemadpanti style," which predates the Maratha period. Any freestanding temple structure constructed using dry masonry and drawing inspiration from the Bhumija style of Chalukyan temples can be classified as a Hemadpanti style structure.

However, the Yadavas faced threats from Islamic rulers such as Alauddin Khilji and the Delhi Sultanate in 1299. These invasions disrupted temple construction activities. The changing political conditions made the Yadava rulers apprehensive about extending royal patronage to temple building, as they feared that the iconography would attract iconoclasts who would destroy the temples. As a result, the temple exteriors became plainer and more devoid of sculptural embellishments. This shift in architectural style was observed in the late 13th century, and many Yadava temples were destroyed by the invading forces during this period. By 1307, the Yadavas had disappeared from the Deccan region, falling under the control of the Delhi Sultanate. The decline of the Yadava dynasty and the political turmoil had a profound impact on the development and preservation of the Yadava temples.

2.2. History of Kshetra Mahabaleshwar in context of present day Mahabaleshwar

The significance of temple architecture in Mahabaleshwar can be derived from the unique features and religious importance of the temples located there. This old temple town is known as Kshetra Mahabaleshwar, known after the Mahabaleshwar temple built in the memory of Lord Shiva who came be to known as 'Mahabali', who killed a demon called 'Mahabala'. (District Administration - Satara, Government of Maharashtra, 2023) It is one of the most prominent temples in the town, dedicated to Lord Shiva and houses a self-originated (Swayambhu) linga, believed to be 500 years old. (D.B. Parasnis,1916) Kshetra Mahabaleshwar is a home to many other temples namely Panchganga temple, Atibaleshwar temple, etc.as seen in Figure 1., which are linked to varied historical anecdotes to validate their presence as important religious or socio- political centres. Krishnabai Temple is also an integral part of this religious precinct on which the study is focused.

These temple structures are believed to be initially made during Yadava period, which were later rebuilt or renovated by Marathas. These temple structures are topped with phamsana style corbelled roof with no distinct type that can be identified as an elusive Hemadpanti style. Moreover, the Yadava temples in Maharashtra exhibit a simplified elemental architectural style. They are modest structures that are not comparable with the grander shekhari forms found in North India, Gujarat and Rajasthan.

Figure 1. Other temples in the Kshetra Mahabaleshwar area (On the left is Panchganga Temple, middle image is Mahabaleshwar Temple and on the right is Atibaleshwar Temple) (Google Images)

2.3. Location & Historic background of Krishnabai Temple

During 1220 to 1230 A.D, the King Singham Yadav built a small temple in the old Mahabaleshwar basically for the Mahadev Koli tribal's (Government of Maharashtra, 1963). Also, a water tank was built at the source of the Krishna River. Krishnabai Temple, an Archaeological Survey of India (ASI) protected monument, is situated on the outskirts of Old Mahabaleshwar town, faces the Krishna River Valley within the Sahyadri Mountain range, is a centuries-old temple structure. Built in the medieval era, this temple follows Hemadpanti architectural style. The temple is dedicated to Lord Shiva and is constructed using black basalt stones for load bearing walls and the roof is supported by trabeated construction techniques with columns and beams which were minimally carved stone boulders laid in sequential construction assembly. This style was characterized by less ornate sculptures, both in the exterior and interior that made the temples visually less attractive and functionally more efficient. The Krishnabai Temple is revered as the sacred birthplace of the Krishna River, taking the form of a natural aquifer that gracefully cascades into the reservoir known as 'Malapaha Tirth' through a *Goumukh*, and finally converges into the serene Krishna Valley. The water collection within the kund symbolizes the profound significance of water as a life-sustaining element, inviting devotees to pay homage to its spiritual essence.

The Krishnabai Temple in Mahabaleshwar has an intriguing history associated with its construction. According to local legends, the temple dates back to the *Pandava* Era, making it a place of worship with a legacy spanning through centuries. However, historical records indicate that the temple was officially built in 1888, under the patronage of a ruler from Ratnagiri. These two accounts intertwine, creating an enchanting narrative that combines ancient mythology with more recent historical events. The temple stands today as a testament to both its mythical origins and the efforts of the ruler who played a significant role in its construction.

The Krishnabai temple is an integral part of a spiritual trail that includes the Panchganga Temple, Mahabaleshwar temple, and Atibaleshwar temple. Situated in the Kshetra Mahabaleshwar area, these temples hold immense religious significance but also establishes a profound underground connection through natural water channels or aquifers which emerge out above the ground and gets collected in kunds (sacred water bodies), locally known as 'Tirthas,' which beautifully cascade from higher level kund to lower level kunds of different temple premise. As seen in (Figure 2), the Panchganga temple consists of two kunds, named ' Brahma Tirth' and '*Vishnu Tirth*a,' where five holy rivers converge. These rivers then continue their journey to further kunds to form a water network and flows into 'Malapaha Tirtha', '*Aranya Tirtha*', and '*Pitramukh Tirtha*', which are encompassed by Krishnabai Temple premise. These tirthas are revered by devotees who visit them to perform several rituals and ceremonies, seeking to complete their spiritual journey from birth to Moksha.
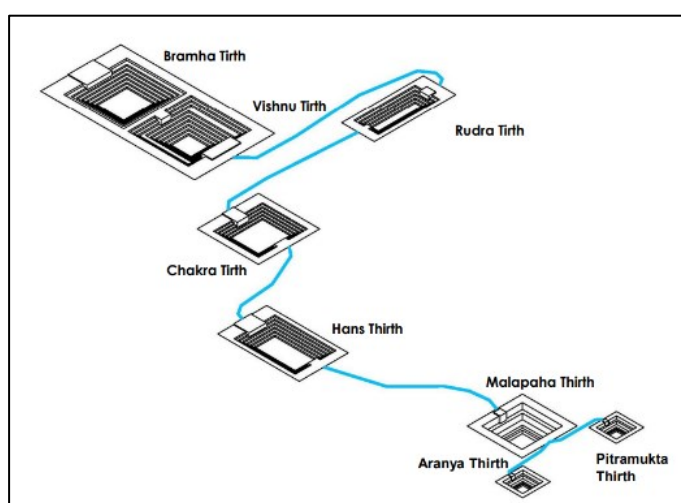

Figure 2. Underground aquifers as water channels connected to the kunds of various temples.

3. Documentation Methodology

Architectural documentation is a crucial task for architects as they seek a meaningful understanding of their surroundings beyond surface-level observations. Their goal is to create detailed and comprehensive representations, going beyond basic records. Architects employ various tools such as pens, paper, cameras, and computers to gather information about the physical aspects of structures. This data is then utilized to produce drawings and visuals that depict the actual physical environment accurately.

Given that this documentation study was an academic pursuit, it was inevitable to employ direct and basic measurement tools that were user-friendly, required minimal expertise, and were cost-effective. The primary tools utilized for direct measurements consisted of measure tapes, including both steel and plastic tapes, and a laser distrometer for achieving precise measurements, particularly in areas that were inaccessible or damaged. The levelling of the plinth and sunken areas was accomplished using level pipes. To capture images, a DSLR camera was used. AutoCAD was employed for generating 2D drawings of the structures, while Google SketchUp Pro facilitated the creation of 3D visualizations of the temple structure.

The documented information in this particular case was gathered by two teachers and a group of architecture students as part of the Relative study program during the Winter School of 2023. To ensure ease and cost-effectiveness, field surveys and data documentation were employed as the primary methods. Due to limited availability of secondary data, the authors relied on oral interviews as their primary source of information. Primary data collection methods included field surveys, visual observations, oral interviews, and seeking expert opinions. In the subsequent stage of the research, the collected survey data were graphically reproduced and analysed. Moreover, the damaged building was conjectured to be a complete entity to further examine its overall architectural style.

Methodological steps: The process of documentation involves following a series of steps to gather and record information about a specific structure. When surveying and documenting heritage buildings, it is important to follow a scientific and methodical approach in order to achieve the desired conservation outcomes. Several international and national agencies provide recommendations and guidelines for heritage documentation and survey methods. In this research, the authors have chosen to adhere to the heritage recording guidelines put forth by Historic England. These guidelines outline the process of investigating and documenting historical buildings for better historical comprehension. (Watt, 2011)

Figure 3. The students involved in the detailed measure drawing of the temple

3.1. Documentary research

Before visiting the site for field survey, secondary data was collected to understand the history and formation of Mahabaleshwar as a settlement. The chronological construction and the history of these temples in Mahabaleshwar was understood to connect the mythological stories and historical events that occurred on the site in the past era. The authors contacted the experts who had worked in this area for a long time and discussions were done to understand the evolution of temples style of Mahabaleshwar in the larger context of Maharashtra.

3.2. Historic oral survey

Due to the limited availability of secondary data, the authors had to rely on primary sources to gather information about the temple. They conducted an oral survey in the form of an interview with the main priest and caretaker of the temple to understand its historical, mythological, and socio-cultural significance. Furthermore, the authors engaged in interactions with local residents and devoted individuals to gain deeper insights about their perceptions of the temple, as well as their religious practices, rituals and ceremonies that are offered to the divine deity. The oral survey and interactions were conducted in the local language, which made it easier for the locals to respond to questions and express themselves fully. Oral testimony is a unique source of information that can serve as an important contribution to architectural research in the absence of written records and information.

3.3. Photographic recording

Photographic and videography documentation was conducted using digital cameras in order to meticulously capture the intricate features of the temple. The process involved capturing a series of images starting from the entrance and progressing towards the sanctum sanctorum, systematically covering each individual space from left to right. In order to simplify referencing, a systematic approach was taken to label each surface of the temple in alphabetical order. The sketch plan of the temple was assigned the same labels as the corresponding images, establishing a correlation between the drawings and the captured images. This correlation allows for easy validation by referring to the images, thereby streamlining the process of drafting and digitization of drawings.

3.4. Visual Observation and hand sketching

The documentation team walked in and around the site to visually observe and assess interiors to exteriors of the temple structure. It captured the architectural nuances of the structure in form of sketches and proportionate diagrams. This helped to gauge the scale and proportion, construction details, physical elements, ritualistic activities, landscape features, site features and the essence of spatial quality within the structure. It becomes a first-hand interaction with the site, which become preliminary study drawings to have discussion on it.

3.5. Measured survey

After completing the preliminary study drawings, a comprehensive measured survey was conducted to ascertain the dimensions of the physical elements. This involved using measuring tapes to record the measurements and

represent them as 2D proportional diagrams in the form of plans, sections, and elevations. Initially, these diagrams were sketched on graph paper, and then the dimensions were added.

During the documentation process different students were assigned various tasks within the team. Some were responsible for taking measurements, while others sketched and recorded the measurements as directed by their teammates. The measurements were taken from the entire structure down to its individual components, facilitating later reconciliation. Smaller dimensions were measured using steel measuring tapes for precision, while larger dimensions were measured using fiberglass or plastic measuring tapes for efficiency. To ensure accurate drafting of the measurements, the entire structure was levelled using a water pipe to determine the levels of the plinth, water tank, and ground. The heights of the shikhara were measured using a laser distrometer. During the process of recording the measured drawings, the team employed a triangulation method to ensure accuracy. To initiate the measured survey, a reference point or benchmark was established on the building with the help of GPS coordinates at a specific height. This reference point was marked on the structure to ensure that all measurements were taken at the same height, allowing for precise drafting of plan of the structure.

3.6. Reproduction of drawings
The data obtained from the physical measured drawings was then transferred to computer-aided drawing software. Using this software, the CAD drawings were created, representing the temple structure in two dimensions, such as site plans, detailed plans, sections, and elevations. Subsequently, these digitized drawings were employed to develop a 3D model using SketchUp Pro, enabling a comprehensive visualization of the temple structure in its entirety.

3.7. Report & Archiving
The entirety of the raw data was digitally stored and archived in the school database, ensuring accessibility for future researchers and students. Moreover, the data was utilized to create exhibition panels consisting of drawings, images, and 3D models, facilitating effective dissemination of the findings. Furthermore, the data underwent thorough analysis, discussions, and debates, leading to deeper insights into the architectural style and spatial arrangement of the temple.

4. Results
4.1. Architecture of the temple
The Krishnabai Temple is a simple yet elegant structure with a colonnade that surrounds the *garbhagriha* (sanctum sanctorum) on three sides. As seen in Figure 4., the C-shaped temple is constructed in basalt stone masonry walls and column-beam construction (trabeated construction), which is sourced locally from the Krishna River basins. The building proportions are designed in a 1:2 ratio, with the *garbhagriha* measuring 8 m x 8 m, and the tirtha courtyard measuring 16 m x 16 m, which is twice the size of the *garbhagriha*. The *garbhagriha* is divided into nine bays with a sunken pit in the centre where the shrine is placed. The *Malapaha tirtha*, believed to be the "Eradicator of all sins" by locals, is located in the courtyard between the colonnaded space. Due to its high religious significance, people take a dip into the *tirtha* or use its water to cleanse themselves of all their sins by putting it on their heads.

4.2. Spatial organization and proportions of the temple
The temple faces east towards the Krishna River valley and is divided into three sections: the courtyard surrounded by colonnaded passage space, the *antarala*, and the garbhagriha. All these spaces are arranged symmetrically along an axis, creating a harmoniously designed structure. The entrance to the temple is marked by the placement of the Nandi, which is the first element along this axis. Moving along the axis and the circumambulatory path within the temple allows visitors to explore and appreciate the diverse spaces, experiencing their spatial quality and architectural beauty.

In Figure 4, the temple's proportions are derived by the author which are based on a 4x4 grid geometry. Each grid measures 2 meters by 2 meters in the garbhagriha, following the Vaastupurusha Mandala principles where the Shivalingam is located at the Brahmastaan. The courtyard and the colonnaded passage are based on an 8x8 grid system, with same size grid measurements. In the Brahmastaan of this area, the kund is placed, which holds religious significance equal to that of the Shivalingam. The external protrusions correspond to 0.7 meters, which is one-third of an individual grid's measurement and are added to the overall grid structure.

4.3. Architectural Elements and Articulation within the temple
The Hemadpanti-style temple suggests that it was built during the reign of the Yadavas and was overseen by one of their ministers. Although there is no detailed information available about the Hemadpanti architecture, it is understood by reading the temples of that period, which were less ornate with dimly-lit interiors. The temple structure features four columns and six pilasters in the interior, while the exterior colonnaded space comprises ten

columns and eighteen pilasters. The columns are square-based with low reliefs carved on its square shafts and exquisitely carved bracketed capitals, which took inspiration from toran designs featuring scrolls. (Figure 5) indicates the front portion of the bracket that supports the projecting roof which is adorned with a Vyala, a lion with a human body, while the lower part of the statue is carved in the form of a beautiful pattern resembling lotus flower petals or its bulbous base. The plinth was left plain with multiple bands of stone appearing in a receding manner from bottom to top, on which the columns are erected. Inspite of being a simple trabeated system of construction, beams were shaped like brackets to give it a feel of an arcade.

EXTERIOR VIEW OF THE TEMPLE

KUNDS WITHIN THE TEMPLE

PROPORTIONS DERIVED FROM THE TEMPLE PLANNING

LONGITUDINAL SECTION

FLOOR PLAN N

MALAPAHA TIRTH

PITR MUKHI TIRTH

DRAFTED 2 DIMENSIONAL DRAWINGS

STONE SCULPTURE OF GOUMUKH

SHIVALINGAM (SHIVA IDOL)

VIEW OF KRISHNA RIVER VALLEY FROM THE TEMPLE
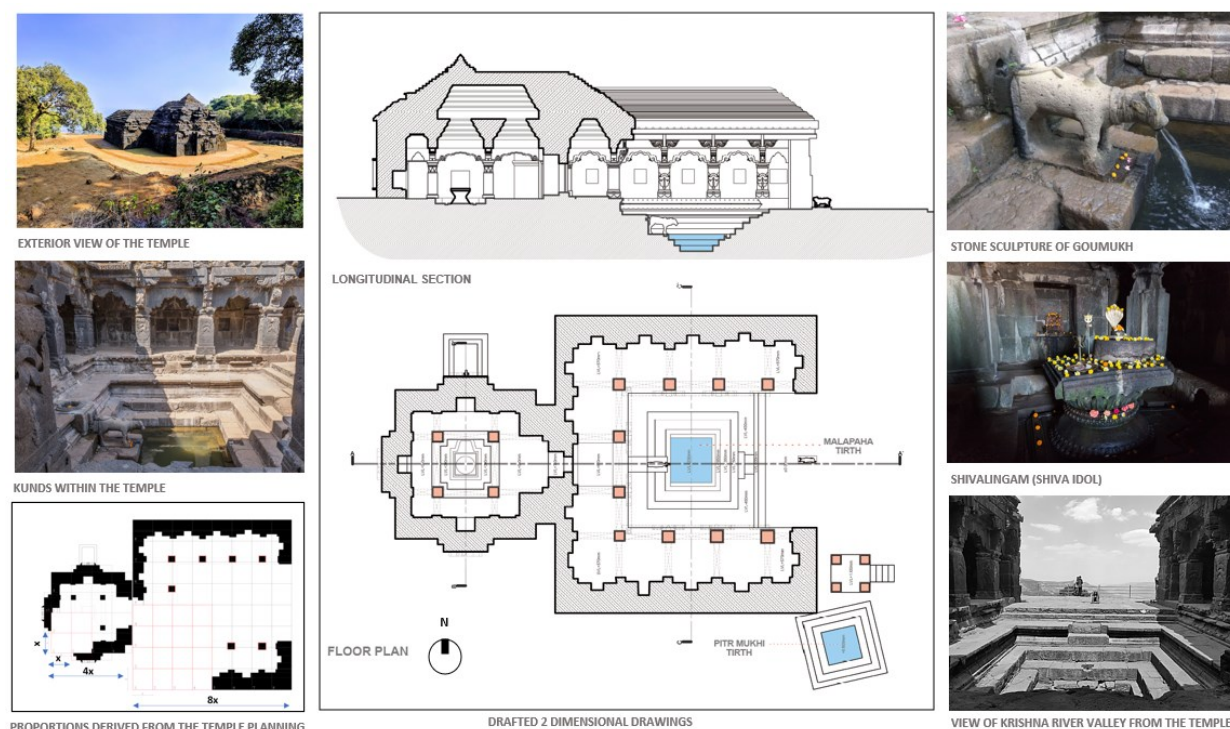
Figure 4. Images and Detailed drawings of Krishnabai temple (captured and developed by author)

Figure 5. Detailing and articulation in the columns and brackets(captured by author)

The garbhagriha of the temple formerly housed the idols of Krishna and Radha as narrated by locals, but were stolen, leading to the replacement of the idols with a *Shivalingam* (Shiva idol). The *Shivalingam* is situated in a pit that is positioned 300mm below the floor level of the garbhagriha. A black stone pedestal rises from the pit that holds it in place. The pedestal is designed in the shape of a *Dumru* (hyperboloid), which includes a channel that allows water to drain to the outsides. The base is carved with petals of Lotus flower, with three rings of 108 *rudraksha* beads at the central vertex and 108 snakes near the base. Water flows from the channel and is directed towards the north via a spout through a Goumukh. The exterior niches of the garbhagriha features Lord *Ganesha* facing south, Garuda facing north, and *Naga Devta* with part human body facing west.

The *tirtha* courtyard comprises a large central water kund that is fed by a water channel originating from a water spout that resembles a Gaumukh. The water source comes from a ground aquifer, which is piped to bring water to the ground surface. The water flows through gravity from Malapaha tirtha to *Mayur tirtha* to *Pitramukti Tirtha* and

then down to the river valley. As the temple is dedicated to the river source, the Goumukh (cow's mouth), symbolizes the source of the Ganges coming out of the glacier, which is thus pure and sacred in nature. The Goumukh is a simple cow sculpture made of sandstone, with a complete body and an open mouth from which water flows into the kund.

4.4. Construction and structural systems adopted in the temple

Within the thick masonry walls, there were niches designed to accommodate deities and occasionally lamps. The construction style demonstrates a trabeated system, where stone blocks are placed in a corbelled manner, supported by beams and column frames. The roof has a tapered shape, gradually receding and shrinking from the bottom to the top, forming a pyramid-like structure. Figure 6 depicts five layers of stone members, topped by a stone slab and covered with stone block masonry to create a distinct pyramid shape. The roof above the garbhagriha features a single outer pyramidal structure, divided into two compartments internally through corbelling of the stone members. The internal space within the garbhagriha expands, and culminates into a low-rise pyramidical roof resting on a square-shaped base plan formed by a masonry wall, which is known as Phamsana roof. This composite structure, utilizing columns and beams, creates a more open layout, offering flexibility in arrangement and reducing the visual weight of the structure. Additionally, it saves floor area by requiring fewer thick load-bearing walls internally. Figure 6 on the right, illustrates the stone joinery applicable for erection of the stone column with three separate sections of base, shaft and capital, joined through stone keys. There are metal clamps used in form of fasteners to fix the two brackets in perpendicular positions with above stone projections.
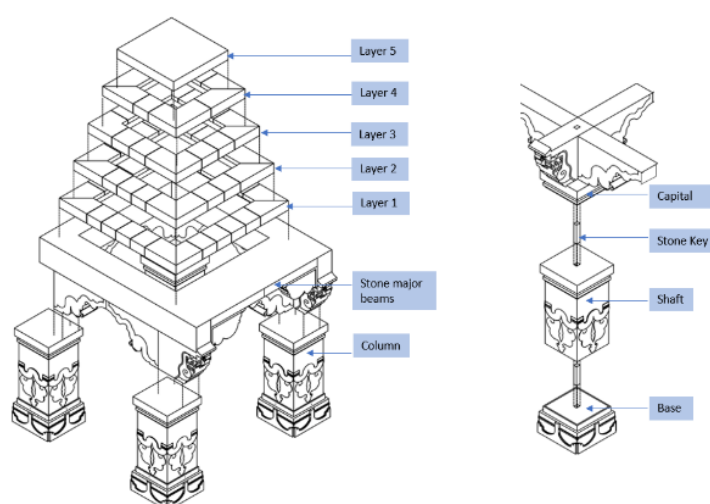
Figure 6. Exploded construction drawing of the colonnaded chamber showing stone assembly and sequential construction order. (Developed by author)

4.5. Symbolism and Iconography

Since the temple was constructed entirely from stone, it presented the opportunity to incorporate iconography, which would represent the historical period, celebrate the patrons, and demonstrate the temple's cosmic connection between earth and water. The columns, adorned with low relief work, were representative of the Yadava period, featuring floral and faunal representations, which further augmented the temple's aesthetic appeal and magnified the splendour of the patterns. The carved brackets depicted Vyala, a mystical hybrid creature with a human body and a lion's head, symbolizing the combined strength of both animals and representing ferocity and virility. The carved brackets also featured floral patterns and forms intended solely for decorative purposes. (Katkar, 2019)

The ceiling above the colonnade chambers featured a tapered design and was adorned with intricately carved iconography, each unique to its respective chamber. This iconography was intended to guide devotees on a divine journey towards God, specifically depicting the immersive journey from the surface level to the depths of the water, where Lord Vishnu is believed to have resided. The elements featured in the carvings, such as the lotus flower, lotus bulb, Naga (snakes) with Nagamani, and fishes, were representative of these heavenly realms. These elements also get associated with Krishna River where they are found in abundance and where the Hermits used to do meditation with immense austerity on the banks of River Krishna.
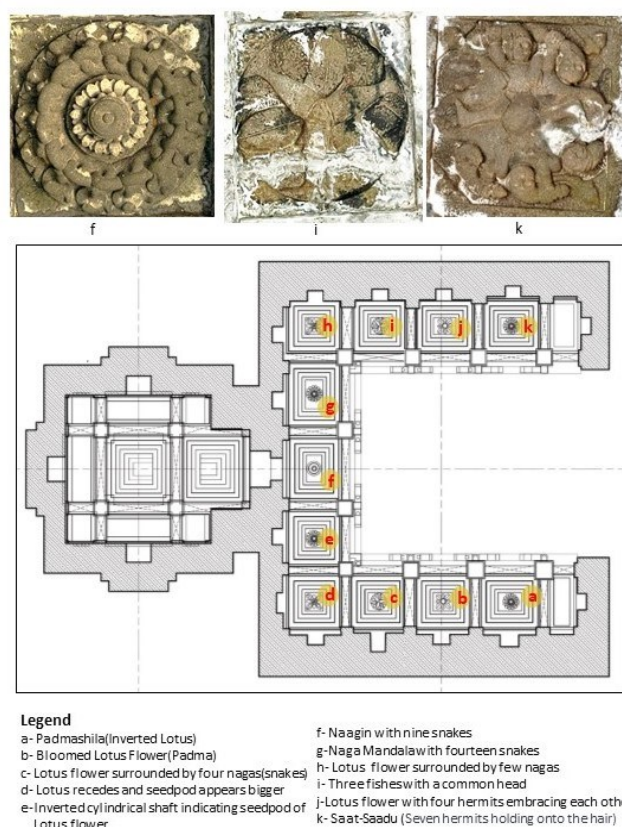
Figure 7. Iconography in the ceiling of colonnaded space, Krishnabai Temple (developed by author)

The iconography was arranged in a sequential progression, with the first chamber on the southwest side featuring an inverted lotus flower known as Padmashila. The subsequent chamber depicted a larger and more blossomed lotus flower, and in the next chamber, the lotus was surrounded by four nagas in the corners. As one progresses further towards the garbhagriha, or inner sanctum, the seed pod of the lotus becomes larger, and the petals become less visible, creating an inverted cylindrical shaft. The most intricate carving can be found in the centre of the entrance to the garbhagriha, featuring a Naga mandala with a Nagini intertwined with nine other snakes. The following chamber has another Naga mandala with fourteen snakes. The snakes then recede, and the lotus reappears in the next chamber, where it is hidden behind three fish. These fish are laid at an angle of 120 degrees to each other, with a common head. The fish are sculpted in such a way that the triangle of the head fits accurately for all three bodies of the fish in different directions. The lotus returns in the following chamber, which is then replaced by six hermits holding the hair of the next hermit with their left hand. They have a common lower body that spreads their legs on the sides. (Figure 6)

The iconography featured in the ceiling of the colonnade chambers is a testament to the skilled craftsmanship and attention to detail of the artisans who created it. Moreover, it serves as a fascinating example of how religious iconography can be utilized to create an immersive experience for devotees on their spiritual journey.

4.6. Interiors in the temple

The entrance to the garbhagriha is a small and simple door opening equipped with metal grills, ensuring the safety and security of the idols when the temple is closed during late evenings. As the temple is oriented towards east, the courtyard remains shaded most of the time of the day. This leads to subdued lighting within the *garbhagriha*, that partially illuminates the *Shivalingam*, allowing it to be visible to bare eyes. The intention behind the low light in the garbhagriha is to create an atmosphere where the presence of the deity becomes somewhat ambiguous, enabling devotees to form their own personal image of God through their imagination and deeply connect with the divine.

The roof of the garbhagriha is kept dark, and the pillars are left unadorned, intentionally designed to direct the devotee's focus solely on the Shivlingam and prevent them from being distracted by the intricacies of the pillars and interior decorations. Within the masonry walls, intermediate niches are provided to house Goddess *Parvathi*, Lord Ganesh, and Lord Hanuman, as commonly found in Shaivite temples.

5. Discussion

5.1. Architecture of the prevalent temple styles of Yadava Period.

The temples featured simple orthogonal plans and were topped with Shikharas reminiscent of the Bhumija style. Initially, the temples were ornate and intricate, reflecting the rich artistic tradition of the era. However, over time, they were left in a plain state due to the fear of destruction by the invading forces. The outer walls of the temples became plain and unadorned, while the interiors were well-crafted to facilitate a devotee's spiritual journey towards the divine.

The Yadava temples were often built on existing plinths of ruined temple structures, which were then modified to accommodate the new architectural style. The ceilings of the temples were decorated with sculpted panels depicting scenes from mythology and local lore, providing inspiration and guidance to the devotees. The columns were adorned with sculpted figurines, floral, and faunal motifs. The brackets supporting the cornice were often decorated with scroll-like patterns and floral motifs, such as the Lotus flower. These artistic elements added beauty and intricacy to the temple structures. (Pushkar Sohoni: Yadava Temples, Before and After, 2021)

Despite the absence of a specific stylistic framework, the amalgamation of different architectural elements created a unique character that reflected the rich cultural heritage of the Yadavas. The Yadava temples served not only as places of worship but also as cultural and educational centers. People gathered there to learn about their history, traditions, and spirituality.
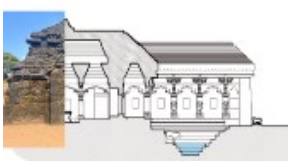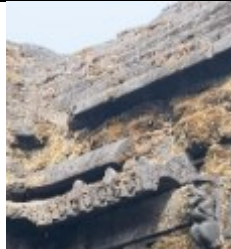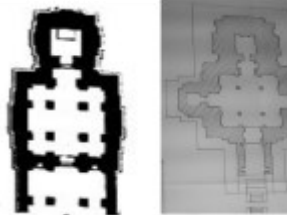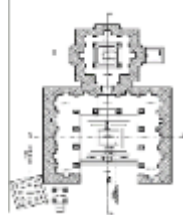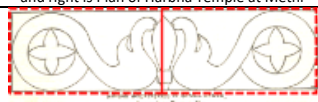
The decline of the Yadava dynasty and the subsequent disruptions to temple construction marked the end of the Yadava temples' flourishing period. Nevertheless, their architectural legacy continues to inspire awe and admiration, preserving a glimpse of the artistic and cultural achievements of the Yadava rulers and their devotion to religious patronage.

5.2. Krishnabai temple as a synthesis of prevalent architectural style of Yadavas

By examining the distinct characteristics of the Yadava architectural style, one can observe similar traits in the Krishnabai temple, which is likely to have been constructed during the 12th century. The construction and planning principles used in the Krishnabai temple align with those of other Yadava temples, showcasing common architectural characteristics. While the interior of the temple exhibits some low relief work, the exterior walls remain plain and devoid of ornamentation. However, there are a few notable differences. While most Yadava temples consist of three main parts, namely the Mandapa, the *antarala*, and the garbhagriha, the Krishnabai temple lacks a mandapa and instead features a courtyard in the centre to accommodate the kund, which allows for a more open space. Another distinction is the roof style, where Yadava temples typically have a Bhumija shikhara, while the Krishnabai temple incorporates a hybrid style roof form which is a mixture of Phamsana roof style and Bhumija shikhara with slight curves. Table 1 provides a detailed overview of how the Krishnabai temple incorporates various elements and decorative features of the Yadava style, similar to contemporaneous Yadava temples in the Maharashtra region. Moreover, the Table 1 presents a comprehensive comparative analysis, serving as a stylistic framework designed to assess the various features of Krishnabai temple in relation to other contemporaneous temples of the region. Carefully selected examples of Yadava temples are included which were constructed in the Yadava period between 11th to 12th Century within Maharashtra region, which help to examine and identify similarities or differences in elements and iconographic features between them and the Krishnabai temple.

Table 1. Indicators showing similarities and differences between Krishnabai temple and its contemporaneous temples.

Elements	Characteristics	Similarities drawn from other Yadava temples of the same region	Indicators in Krishnabai Temple	Visuals of Krishnabai Temple
Exterior Wall and Plinth	- Plain Exterior walls showing dry masonry. - Low height or negligible plinth. - Tapered pyramidal roof above the mandapa supported by columns and beam frame	 Pancha Digambar Temple Complex, Anjaneri, Nashik	- Use of similar roof pattern for the colonnaded space acting as Mandapa. - The plinth is low and is not emphasised separately in the exterior portion which becomes integral part of the structure.	 Exterior of the temple

Roof type	-Ardhanarinatesvara Temple has a defined shikhara of Bhumija Style which had a complex plan	Ardhanarinatesvara Temple, Velapur	- The roof was low rise pyramid which resembled more like Phamsana roof than with a square based plan based on orthogonal planning.	Shikhara form
Column style	- Plain column with internal niches with detailed figurines. - The columns are square shaped with little larger base and a basic cuboidal capital.	Inscribed stone shaft with plain and simple base, Anjaneri, Nashik	- Plain columns with low relief work which depict floral patterns. - Columns were square based in plan. - Exterior columns were little ornate while internal columns within garbhagriha were left plain without any articulation	Column style prevalent in the temple
Decorative bands	Decorative bands found at the base level of the plinth to provide a visual break and make it look interesting	Decorative bands, Temple at Devalane	- Decorative bands found near the eaves of the roof which provide visual separation and this breaks the monotony of the multiple roof bands as a repetitive feature. - Floral figures and geometrical patterns are found on these decorative bands.	Decorative bands found in form of eaves
Plan Type	The plan of the Yadava temples were simple rectilinear and orthogonal ones which opposed the idea of more complex plans like stellate plan.	Left: Typical Plan of Anjaneri temple complex and right is Plan of Harbha Temple at Methi	The Krishnabai temple was also inspired from the orthogonal planning principles which were easy to derive its geometry and could be built in less time.	Plan of Krishnabai Temple
Iconography on the brackets	- Scroll design evidently seen in the Yadava Temples which seek inspiration from the natural surroundings.	Scroll design at Kukudesvara Temple, Pur	- Scroll patterns seen in the archway formed by the brackets between the two columns. - The same pattern of scroll design has been used as a part of the whole system.	Similar scroll used in the toran pattern formed by brackets
Floral & Faunal Motifs	- The floral patterns along with faunal motifs seen in the Yadava temples. Here in this temple, Kukudesvara temple swan figures holding lotus flowers are witnessed.	Kukudesvara Temple, Pur	- Extensive use of decorative brackets with lotus motifs but seen in upward direction. -Use of *Vyala* a hybrid creature with Lion's head and body of a human.	Bracket embellished with scrolls and lotus in Krishnabai Temple
Niche details	- The external walls have niches created which are encased by vertical posts and lintels to define its location	Outer niches in the stepwell of Junnar	- The temple shows figurines of deities in three directions which are housed in an elaborate articulated frames within the niche.	Outer niches in Krishnabai temple,

| Sculpted ceiling panel | - The sculptured panels illustrate local lore and help to indulge into the temple's pious environment. |
Lotus flower carving seen in the central ceiling, Tribhuvaneshwari Temple, Devagiri | The sculptured ceiling panels orient the people towards the austere and divine environment of the temple.

- The multiple sculpted motifs create a journey towards Gods and describe connections with the sacred water and its inhabitant elements. |
Motifs related to Naga and Nagini with Nagamani which demonstrated the folklore related to God Vishnu |

5.3. Assessment of the structural system, physical condition and conservation needs.

The authors carried out a detailed visual survey to study the physical condition of the temple structure to identify possible threats to the building. With the passage of time, the temple has experienced damage through human inducted actions or weather induced causes. This had resulted in the deterioration of the structural integrity of the temple. The structure is highly vulnerable to the current climatic conditions with heavy rainfall and humidity. These conditions become favourable for growth of moss and other kind of vegetation of the stone surfaces. The stone have weathered with time which has resulted in the erosion of the columns and have rounded their sharp edges. There is discoloration of the stone in the kunds as it is exposed to water constantly. The table 2 provides a detailed visual condition assessment of the temple structure with possible causes and visual indicators and have listed them into various categories of damage as mentioned in the Catalogue of Damage – Architectural Heritage. (Ballouz & Weber, 2020)

The ASI (Archaeological Survey of India) undertakes preservation efforts every six months to maintain and clean the moss while filling the open joints between stones with lime mortar. However, these attempts are only partially effective and sometimes inappropriate, which compromises the integrity of the construction and materials used. If proper preservation measures are not implemented, the structure will continue to deteriorate and sustain further damage. Therefore, it is crucial to conduct a thorough and detailed condition assessment of the structure under the guidance of experts, which will pave the way for the appropriate restoration efforts.

Table 2. Visual indication of damage and decay in Krishnabai Temple

Damage type	Elements seen in the temple	Possible causes	Visual indicators	Signs indicated in the visuals
Structural disintegration	Walls and brackets	Uneven load patterns or aging of the structure		Structural cracks are seen on the walls and the brackets which leads to minor threats of their collapse.
Weathered deterioration	Kunds steps	Accumulation of exogenous material of variable thickness, as typically deposits in the form of soot, dust.		Discoloration and Deposits of salts on the stones of the Kund as it is in constant contact of water and air.
	Exposed wall surfaces	Rainfall and Humidity		The moss generation on the exposed wall surface.
Inappropriate repairs	Joints in the ceilings and walls	Repair work by ASI		The joints are inappropriately filled up by lime mortar which is hampering the beauty of the structure as well as
Missing elements	Stone slabs, cornices and plinth bands	War damage which led to devastation of the temple structure.		Broken and Missing elements like cornices, front facing brackets, stone slabs and plinth bands

6. Conclusions and Recommendations

Form above results and discussions, the authors have come up with the following concluding points. (1) The Krishnabai temple holds a significant architecture and heritage value which offers a spiritual experience to its devotees through its form and space. Furthermore, the harmonious interaction between the built structures and the surrounding natural landscape creates a serene atmosphere where visitors can listen to the gentle whispers of nature and connect with the divine presence. The authors have attempted to stitch the history of this temple through the historical incidents that occurred in this place and the information given by locals, to relate to its connection with the Yadava period. Yet, a detailed historic reference needs to be established through intensive historic research. (2) The temple borrows significantly from the Yadava style temple with few of the features being unique and distinct to the temple appropriate the use of the temple as a dedication to Krishna River. Lack of disguised elements as well as its claimed character which could categories itself in a given style is missing, which is why it did not receive any scholarly attention. The temple is a site of living heritage which has lot of local myths, cultural anecdotes and religious faith, which should be given equal importance and should be preserved as part of intangible heritage. (3) The temple seems to be in a condition of treat of deterioration and dilapidation, where it needs conservation efforts to safeguard it. This will also create possibility of religious tourism.

This research paper is an attempt to highlight this forgotten historic time period of Yadavas, which is significantly important to the architectural history of Maharashtra region. However, there is much work to be done in this field, demanding the earnest attention of all stakeholders, including government authorities, the Archaeological Survey of India, conservationists, temple trusts, and local communities. By joining forces, they can take proactive measures to preserve this heritage site and promote its development as a tourist destination, indirectly benefiting the community as a whole.

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Conflict of Interests

The authors declare no conflict of interest.

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