2019-20 to 2023-24

Criterion 3 – Research, Innovations and Extensions

Key Indicator 3.2 Innovation Ecosystem

3.2.1: Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

Write description in a maximum of 500 words
File description
Upload any additional information
Paste link for additional information

Index (content)

Flow chart

Inception_Articulation_Processing_Application

3.2.1

Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

2019-20 to 2023-24

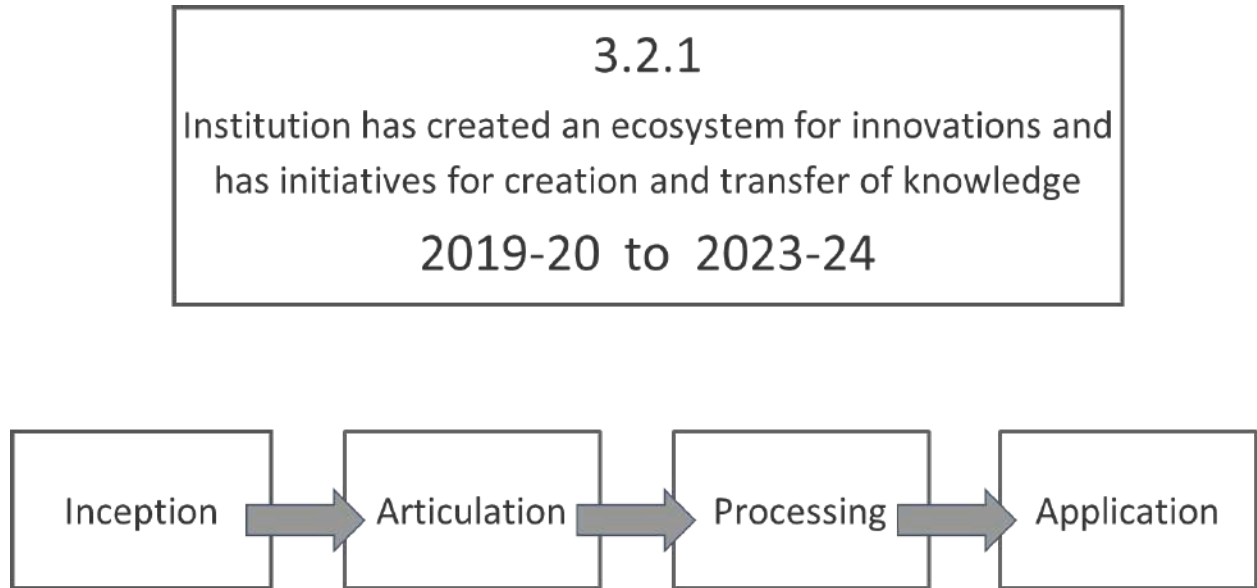Inception → Articulation → Processing → Application

Figure 1 Flowchart for framework of Ecosystem for innovations initiatives and transfer of knowledge

The institute has cultivated a dynamic ecosystem for innovation and knowledge creation that is closely aligned with the institute's strategic goals. Research and its application in mainstream practice is given priority. Research and development (R & D) cell to facilitate students and faculties initiate and implement their research ideas.

Research and Travel Grants:
To support the research endeavors of faculty and students, the institute offers various grants and scholarships, including SMEF's Research and Travel Grant. Students have received several grants such as XTREME G2 Travel Grant, Unnat Bharat Abhiyan, the INTACH Research Grant, and the Saint Gobain Scholarship. These financial aids enable the advancement and dissemination of research findings. There is a procedure for tracking the progress of students' work in different research initiatives. From selecting suitable candidates to the final submission of their projects, various experts participate in the evaluation process at each stage.

Planning which indicates the ecosystem:
The institute integrates architecture and research as essential components of academia and professional practice. This strategic vision fosters a research-oriented mindset among faculty and students, bridging theoretical and practical aspects of architecture. Studio subjects such as

research in architecture and architectural design projects connect academic knowledge with real-world applications. Several research methodology workshops such as how to define research topic, using Mendeley as a tool for literature review, Research Jatra, seminars, symposiums, and Faculty development programs are organized and conducted by the institute to encourage involvement in research activities. Four faculty members are currently pursuing their PhDs at the institute. They are granted 15 days of paid leave to dedicate to their PhD research work. Faculty members actively engage in various research activities, including participation in state, national, and international conferences, teacher training programs, seminars, and workshops, where they present research papers and publish in reputable journals and conference proceedings.

Community Engagement through Societal Projects:
Brick School of Architecture is committed to societal projects and community engagement. Initiatives such as Unnat Bharat Abhiyan and various heritage activities provide opportunities for faculty and students to address real-world challenges. Projects like Zero Waste Lifestyle, Solar Decathlon, IGBC Training, and the Women Empowerment Center in Ranje village exemplify our commitment to sustainability and societal development. Additional projects include Playscape design for Anganwadi schools, Tactical Urbanism, and documentation initiatives like the Conservation Management Plan for Admar Mutt at Udupi and the INTACH grant work for documenting weavers' colonies at Palakkad.

Four Verticals of Center of Excellence (Now renamed as Laboratories)**:**
Under the four verticals of the Center of Excellence at Brick, there is support provided to individuals and groups to develop expertise in specific fields. It promotes best practices in research, capacity building, and professional practice, focusing on interdisciplinary research in areas such as Energy, Environment and Sustainability, Urban Design, Urban and Rural Planning, Innovations in Design and Technology, and Critical Thinking in Architecture.

Initiatives and Competitions (Vertical Integration):
The institute's "**C Cube Initiatives (Connect Collaborate Create)**" focuses on vertical integration, bringing together students from different academic levels to collaborate on projects. This fosters a comprehensive learning environment that bridges theoretical knowledge with practical application. Projects such as Vaibhavkatha try to connect with local history, heritage, culture, and people creating a platform where knowledge is shared with school children.

Cross-Disciplinary Collaborations:
Brick School of Architecture collaborates with professional bodies and industries through Memorandums of Understanding (MoUs), facilitating industrial visits, on-the-job training, expert sessions, and research projects. These collaborations extend to social institutions, enabling community service programs like blood donation drives, Swachhata Abhiyan (cleanliness campaigns), and tree plantation initiatives.

Alumni Engagement:

Alumni engagement is a pivotal aspect of our innovation ecosystem. Alumni contribute to the academic and professional development of current students through mentorship, guest lectures, and collaborative projects, ensuring a continuous exchange of knowledge and experience that benefits both alumni and students.

The institute considers architecture and research to be integral parts of academia and professional practice. As a part of the inception of innovative ideas related to research, the institute is committed to fostering a conducive environment for research and instilling a research-oriented mindset among faculty and students. Studio subjects such as research in architecture and architectural design projects i.e. thesis cater to bridging academics with the world outside. To achieve this, the institute organizes seminars featuring prominent experts, academics, practicing architects, and engineers, providing opportunities for interaction. Faculty members actively engage in various research activities, including participation in state, national, and international conferences, teacher training programs, seminars, and workshops, where they present research papers and publish in reputable journals and conference proceedings.

Workshops like the IPR Workshop led by Dr. Vasudha Gokhale, research tool sessions with Dr. Sujata Karve focusing on SPSS, Entrepreneurship Development workshop conducted by Dr. Pooja Misal, and architecture research workshops for fourth-year students with expert Dr. Sara Melensis facilitate the development and expression of research concepts and ideas. To encourage research and its process checking its practical applicability, the institute offers comprehensive infrastructure and financial support to both students and faculty. Grants and scholarships like SMEF's Research and Travel Grant, XTREME G2 Travel Grant, Unnat Bharat Abhiyan, INTACH Research Grant, and Saint Gobain Scholarship support both students and faculty members in advancing their research endeavors.

Institute provides access to academic resources such as a library stocked with advanced books, journals, and e-resources like the K-Hub portal. The campus is fully supported with the best environment in the studio and internet facility. Additionally, the institute collaborates with the Council of Architecture to conduct teacher training programs which enhance teaching and learning skills across various subject themes, benefiting faculty members from institutions nationwide. Unnat Bharat Abhiyan, Heritage activities in association with local and international bodies provide opportunity for faculties and students to explore worldwide ideas in their respective interest areas. Sustainability, revitalization of public spaces in rural and urban areas, and Heritage awareness related activities are conducted rigorously reflecting many initiatives at the institute. To mention few activities such as Zero waste Lifestyle, Solar Decathlon, IGBC Training, Proposal for Women empowerment center in Ranje village, Playscape design for Anganwadi school of Wanawadi village, Tactical Urbanism, Brush Stroke, initiative such as

documenting local history, Conservation management plan for Admar Mutt at Udupi, INTACH grant work for documenting weavers colony at Palakkad, and collaborating with step well campaign for documentation of well at Parner enriches students in their wholesome development.

In terms of putting acquired knowledge into practice, the institute fosters an ecosystem for innovations and has initiatives for creating knowledge and transfer through collaborations with several institutes, governmental and non-governmental organizations. The institute collaborates with professional bodies and industries through signed Memorandums of Understanding (MoUs) to facilitate industrial visits, on-the-job training, expert sessions, and research projects. These linkages with social institutions also enable the institute to engage in community service programs such as blood donation drives, Swachhta Abhiyan (cleanliness campaign), tree plantation initiatives, and more.

1. Brief about the Center of Excellence

Center of Excellence at Brick aims at enriching students and faculties in theory as well as practice in the field of Architecture and design. This platform supports individuals as well as groups to develop their abilities in their specific field of interest and knowledge. It's an initiative from the institute towards best practices in research, capacity building and practice in specific domains of Architecture. Focus is given to the interdisciplinary research and its application in the field of Energy, Environment and Sustainability, Urban Design, Urban and Rural Planning, Innovations in Design and Technology and Critical Thinking and theories in Architecture.

Objectives of creating Centers of Excellence

1. Inculcating & strengthening research and its application among students and faculties. Creating body of knowledge in specific domain of Architecture. Strengthen networks with the research organizations and institutes

a. Inculcating and Promoting research activities such as project-based research right from first year. Content specific development and process of assimilation in the academics aiming at strengthening knowledge of theory and its application

b. Publication of research papers in the scholarly journals and adding patents

c. Encourage faculty and students to write and publish research papers Organize seminar and conference to get experts to share more ideas for further enrichment of research

d. Knowledge sharing through workshops, exchange of students and faculties with other institutions and industries

2. Capacity building through research, field work and applied projects in collaboration with institutions and Industries. Collaborating with various government and non-governmental

organizations and funding agencies. National and international collaborations in research projects and applied works along with the formation of guidelines and policies at macro and Micro level.

3.   Creation of four centers of excellence keeping in mind different abilities and strengths of faculties and students in the institute. This would be helping in bridging gap between academics and practice

4.   Entrepreneurship and formation of incubation cells to nurture students' skills during their academics. Focus upon innovation and entrepreneurship is stressed to enrich Core competence and transition from student phase to a practitioner phase and being a resource in specific fields in Architectural practice.

Creating courses in specific field of knowledge in Architecture

Activity format for each Center of Excellence:

Center of excellence is working at two levels. One is to improve the drawbacks among faculties and students and the second level would be delivering output in the form of intellectual material and academic resources for other faculties, students and professionals as well.

1. **Faculties and students' enrichment under each center of excellence**
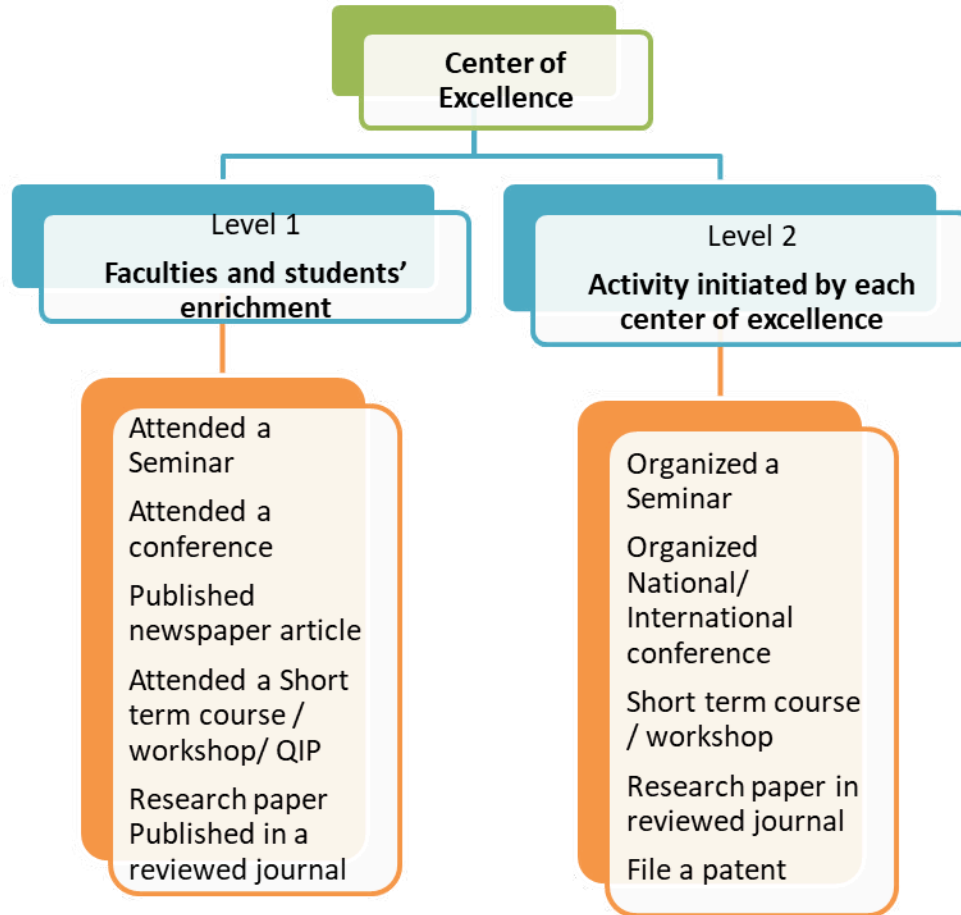2. **Activity initiated by the center of excellence**

Figure 2 Flowchart explains level 1 & 2 activities to be conducted under each center of excellence

1. **The four centers of excellence are**

   1. **Energy, Environment and Sustainability**
   2. **Urban Design and Urban and Rural Planning**
   3. **Innovations in Design and Technology**
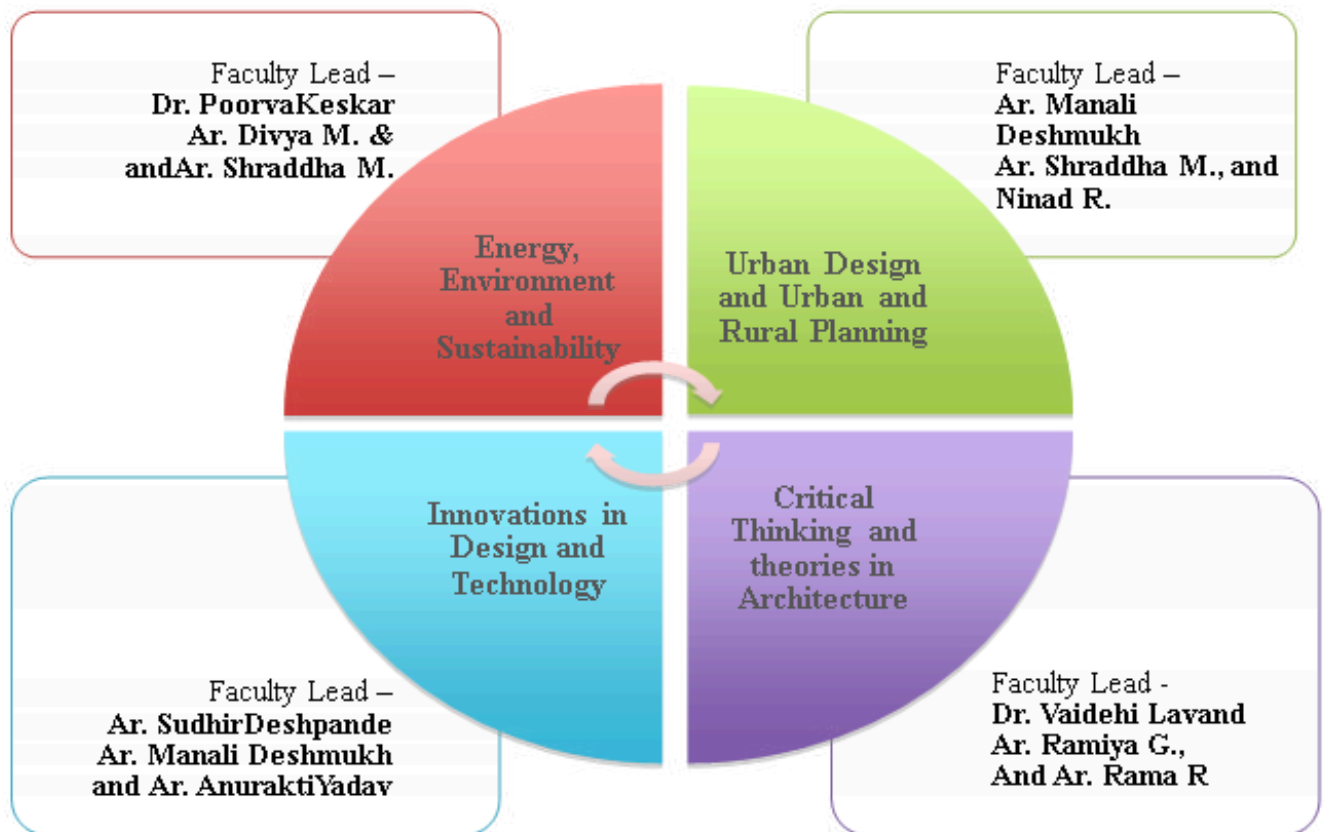   4. **Critical Thinking and Theories in Architecture**

Figure 3 Flowchart explains Four centers of Excellence and faculty leading each COE

Under each center of excellence, various activities such as Thursday/ Friday initiatives Brick conversations, and research projects are conducted. This had imbibed various areas of interest among students leading to the selection of topics related to research, internship, and thesis in the final year.

Examples of students' progression over the course assisting them in defining their interest areas and connecting theory to practice are demonstrated ahead.
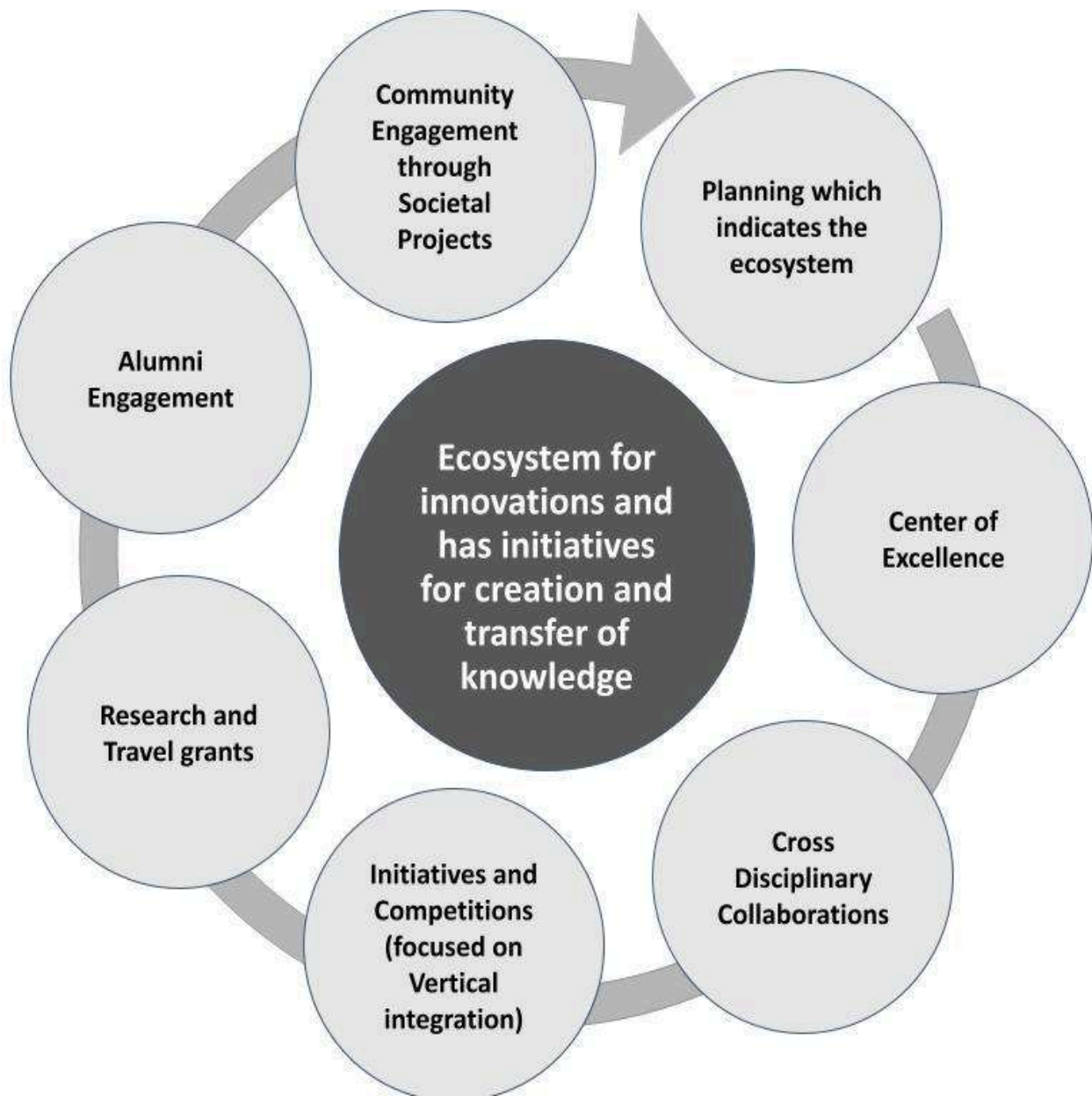
Figure 4 Flowchart explains Ecosystem for innovations initiatives and transfer of knowledge in detail

RESEARCH GRANT 2020-21

Satish Misal Educational Foundation's

BRICK
GROUP OF INSTITUTES

CALL FOR RESEARCH PROPOSALS 2020-2021

S.M.E.F. invites proposals from the students for Research Grant
The receiver(s) of this grant get(s) opportunity

This time research grant would be given to 2 proposals considering Covid Pandemic situation and difficulty in traveling for the travel grant

To create, develop and communicate a project about architecture and the designed environment that will contribute to creative, intellectual and professional growth. To communicate your work in public realm and reach new and wider audiences.

Defining Condition

The **SMEF Research Grant is of INR 15000/-** and covers expenses incurred by the students during research conducted

Requirement for Application

The proposal should include
Project proposal that includes 250 words abstract in the given format. For the presentation in front of the jury proposal with defined Project schedule, time lines and budget is expected to present.

Eligibility Criteria

Applicant must be student of any year of SMEF's Brick Group of Institutes studying in BSOA or BSID departments. Students can jointly apply in group of maximum 3 members. The student/s must not have previously availed SMEF Research Grant.

Grant Amount
INR 15000/-

Important dates

05th August 2020
Last day to fill online Google form as application for the Research grant

14th August 2020
Jury & Presentations for Research Grant

August 22nd 2020
(Founder'sday)
Declaration of Research grant recipient and presentation of work from earlier Research grant recipient

Dr. Vaidehi Lavand	Ar. Manali Deshmukh	Dr. Poorva Keskar	Ms. Pooja Misal
Research Grant Coordinator	Academic Coordinator	Principal	Director

SMEF'S Brick Group of Institutes, S. No./50/3 Undri Pune – 411028

Figure 5 Poster for research and travel grants

Sr. No	Institutional Initiatives	Social Issue Addressed	Area of Development
COE - Critical Thinking and Theories in Architecture			
1	**Ar. Tanay Lalvani (Brick Alumni 2023 Batch)**		
	Brick Conversations	Heritage and community	Forts of Sahyadri Maharashtra
	Research Grant	Heritage and community	Title: **Hemadpanti Temples of Maharashtra** Tanay.S.Lalwani and Yash.B.Dighe
	Thursday Initiative	Heritage and community	**Study of Pateshwar** Collaboration with faculties in documenting Local History under MASA funding
	Xtreme G2	Heritage and community	Forts of Sahyadri
	Thesis	Heritage and community	Study of Rajmachi fort
	Saint Gobain Scholarship	Heritage and community	Study of Rajmachi fort
	Internship at Dr. Shikha Jain (Drona Consultants)	Heritage and community	UNESCO nomination for Maratha Military Architecture in Maharashtra
	UNESCO nomination for Maratha Military Architecture in Maharashtra	Heritage and community	UNESCO nomination for Maratha Military Architecture in Maharashtra
3	**Atharva Desai (Current Final Year Batch)**		
	ICOMOS	Heritage and community	Kudase study
	INTACH	Heritage and	Palakkad

Sr. No	Institutional Initiatives	Social Issue Addressed	Area of Development
		community	
	Elective Architectural Conservation	Heritage and community	Admar Mutt
	Elective Cultural Landscape	Heritage and community	Torana fort
	Elective Adaptive Reuse	Heritage and community	Shahu Mill Kolhapur
	Internship at Drona	UNESCO Nomination work	
COE - Innovations in Design and Technology			
3	**Ar. Vivek Chikoti (Brick Alumni 2023 Batch)**		
	Research Grant	Sustainable material and technology	Prefabricated bamboo houses
	Internship	Bamboo Research Institute	CGBMT-School of Simple Living Materials Bangalore
	Research in Architecture	Sustainable material and technology	Inclusion of bamboo as a sustainable building material in multi-story construction in India
	Thesis	Sustainable material and technology	Inclusion of bamboo as a structural material in multi-story construction in India
	Practice	Sustainable material and technology	Ray Design Studio (Experimenting with Bamboo as material for construction)

Table 1 Table explaining students progress in research and its application in the field

Hemadpanti temples of Maharashtra

Tanay.S.Lalwani and Yash.B.Dighe

Stydying in Brick school of Architecture

Abstract

Temples are an important identity of Indian architecture worldwide which are still standing even after ages. These are broadly divided into three types Nagar, Dravid, and Vesara. We all come across a lot of works from different states like Karnataka, Orissa, Gujarat, Tamilnadu, etc. But works in the temple of Maharashtra is not very popular. There are around 250 temples in Maharashtra built before the Islamic invasion and are locally termed as Hemadpanti temples. This research will focus on Hemadpanti as a style, tracing its architectural features and origin. This research area of focus is in the region between the Godavari River and Bhima River with case studies of 7 temple sites situated in that region, with construction periods ranging from the 11th to 14th cen. This work attempts in documenting this unexplored architectural heritage of Maharashtra and address it to others.

Keywords: Hemadpanti, Maharashtra, Godavari River, Bhima River, Architectural heritage.

1. Introduction

Maharashtra is a land full of heritage gems both in terms of Architecture and in terms of its splendid history. There are around 1000s of heritage sites including Forts, Caves, Wadas, Colonial structures, Petroglyphs, and Temples. In all these, temple architecture is a very important aspect of Indian architecture as it throws adequate light on the activities and culture of the society. Even the rulers of the Medival period used to build huge temples to showcase their power. Maharashtra being an opening to the south and important in trade aspect many Deccan rulers wanted control of it, so we see many dynasties like Rastrakutas, Yadavas, Shilahara, Chalukyas of Kalyani, Vakataka, etc having ruled here. These dynasties also left their evidence in form of built temples and inscriptions. The temples built during this era are popularly termed Hemadpanti temples. This paper would focus on this temple style with its different architectural elements and a comparative case study of 8 temple sites in the region between the Godavari river and Bhima river.

Reasons for selecting this region are as follows:

i. Blessed with the origin of 4 holy rivers Godavari, Bhima, Mula, and Pravra with many temples built on banks of it like Amruteshwar, Jagdambadevi, Pedgaon complex, etc.

ii. There are many old trade routes like Naneghat, Malshejghat, which makes this region economically important as well and so we see many temples built on these routes like Kukadeshwar, Nageshwar, Harishchandreshwar, etc.

iii. This region has a historical background from Satvahana period (Naneghat), Sinnar being the former capital of Yadavas, Ahmednagar being the capital of Nizamshahi.

iv. Also, out of 12 Jyotirlingas 3 are located in Maharashtra out of which 2 belong from this region as origins of Godavari and Bhima rivers, Trimbakeshwar and Bhimashankar respectively, making this place blessed with sacrality.

The 7-temple site we choose in this region are:

1. Amruteshwar temple, Ratanwadi
2. Jagdambadevi temple, Kokamthan
3. Gondeshwar temple, Sinnar
4. Aesvara temple, Sinnar
5. Anjaneri temple complex (12 temples), Anjaneri
6. Nageshwar temple, Khireshwar
7. Siddheshwar temple, Akole

For this research we visited these temples personally documented every detail, we interviewed some local men of that village who gave us some interesting stories. Also, we have measure drawn plan and section of Amruteshwar, plans of Jagdambadevi and Nageshwar temple to get a hold of proportions, and finally, we are referring to different studies and books published before for our research.

1.1 Structure

Historical background:

Before going into details of each temple let's take a glance through the history of these Hemadpanthi temples. There are around 250 Medival temples spread all across Maharashtra. Whose period ranges from 5th cen. AD to 14th cen. AD. The earliest structural temples found in Maharashtra are of 5th -6th cen at Ter (Osmanabad), Ramtek (Nagpur), Mandhal(Nagpur), and Nagara(Gondia) built by dynasties like Chalukyans of Badami, Kalacuri, Vakatakas. During the 7th-10th cen, in the rule of Rastrakutas, there was a lack of structural temples in Maharashtra as they were more interested in rock cutting as seen in Kailasa temple, Ellora. The actual structural temple architecture in Maharashtra begins from the 11th cen. C.E. when the Rastrakuta dynasty got distributed in Yadavas, Shilaharas and Chalukyans of Kalyani. In this period between the 11th – 14th cen. CE Maharashtra saw a substantial growth in temples that gave a very religious architectural character to Maharashtra, today which is popularly known as Hemadpanati style. So should all the temples built during this period be called Hemadpanti, first let us know what Hemadpanti means. The word Hemadpanti is derived from the name *Hemad panth* or *Hemadri* who was the prime minister of Yadava rulers like *Mahadev* and *Ramchandra* (1271 – 1310 CE). He was a scholar who wrote a book "*Chaturvarga Chintāmaṇi*" which contains day-to-day religious rituals taking place in those days, because of which he became very popular. [Bhalerao, -]So unlike what happens mostly in India is the names of some person from some fable stories are connected with these temples, and the same thing might have happened with connecting Hemadpanth's name with temples in Maharashtra. Even Cousens, the pioneer writer of temples of Deccan says that the term Hemadpanti seems to have loosely and randomly applied. Another evidence that supports this statement is that temples like Ambarnath, Thane (First Bhumija temple built in Maharashtra), Temples at Balsane, etc. of very similar style are built between the 10th – 11th cen. whereas Hemadpanth's life span was in the 13th cen. which itself contradicts the fact. The style found in Maharashtra has its origins from the Malwa and Gujarat region with some influences of Calyukyans of Kalyani. While the research many similarities of these temples like Shikara style of these temples with that of Parmars of Malwa and other arrangements like exterior walls, pillars, and base were same with Chalukyans of Gujarat (Solankis). It is a historical fact that Shilahara (ruling the Konkan) and Yadavas (ruling Maharashtra for more than 2 centuries) were friends these Parmars, Solankis, and Kalyanis dynasties due to which there was these exchange of culture, art, and architecture. [Deglurlar, 2019]

1.11 Introduction to temples:

For selecting a region for study we zoned temples in Maharashtra in 4 zones. 1. Temples in Khandesh 2. Temples between Godhavari and Bhima rivers, 3. Temples of Pune region and 4. Temples of Buldhana and Lonar region. Then after doing a S.W.O.T. analysis we choose the 2nd region. In the region of our study, temples mostly belong to Nagara style and one is Vesara, also in Nagara, we come across all three styles Latina, Bhumija, and Phansana. So this region was appropriate for study with a variety of shikaras. The Medival temples in this selected region are as follows:

Temples selected for research: Aruteshwar temple, Jagdambadevi temple, Gondeshwar temple, Ayeshvar temple, Anjaneri temple complex (12 temples), Nageshwar temple, Siddheshwar temple.

Other temples in this region : Harishchandreshwar temple, Tahakari Jagdambadevi temple, Kukdeshwar temple, Koleshwar temple, Ghotan temples (2 temples), Gadi Aai temple, Pedgaon complex (5 temples).

Case studies of 7 temple sites mentioned earlier:

A) Amruteshwar temple, Ratanwadi:

- The temple is located in Ratanwadi village in Ahmednagar district. The temple has a scenic location as being located at foothills of Ratangad fort, on the backwaters of Bhandardara dam, and on the origins of Pravra river. Ratanwadi is a small village with not more than 20 houses. It has a beautiful water tank (*Pushkarni*) at the roadside, which is square in the plan of almost 15mx15m and at a distance of almost 130m from the temple. It has two adjacent stepped entrances with 17 small shrines with deities in them.

Figure 1: Pushkarni (Water tank)   *Figure 2: Amruteshwar temple*

- History: This beautiful temple has a beautiful fable story that we learned from the villagers. During the *Sagarmanthan* one drop of *amrit* had fallen on this land which gave birth to the Pravara river. Later when Pandavas were in their exile they built a small temple here and kept a *pind* inside. Then it was rebuilt by *Jhanja Raja Bhoja* of Shilahara dynasty. It is said that *Jhanja* was a big devotee of Lord Shiva and so had built 12 temples on origins of the river these include Amruteshwar, Harishchandreshwar, Nageshwar, Kukadeshwar, Trimbakeshwar, Bhimashankar, and some others. But if we see the rule of *Jhanja* king was in 10th cen. C.E. and according to G.B. Deglurkar the architectural originality takes us back to the 13th cen. C.E. Also as discussed earlier the major temple development was started in the 11th cen. C.E. automatically proves the story to be a tale.

- Drawings of temple:
  Plan 1:   Amruteshwar temple plan
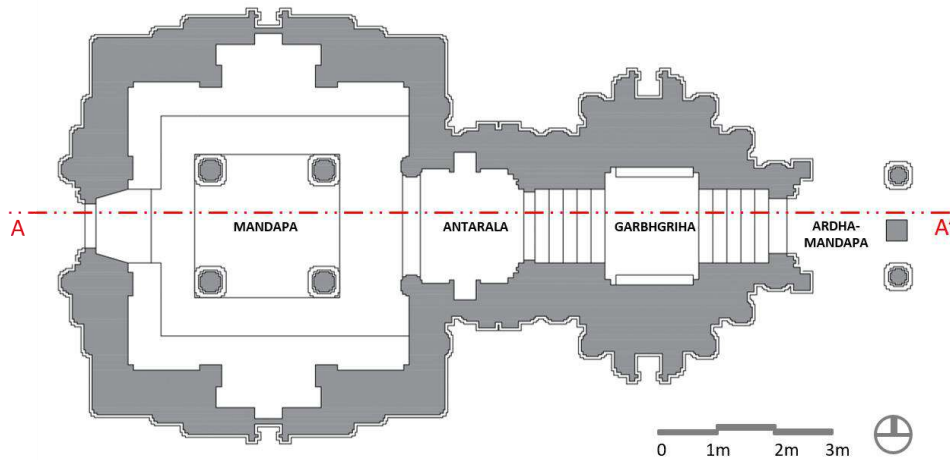
Plan 1:   Section AA' of Amruteshwar temple
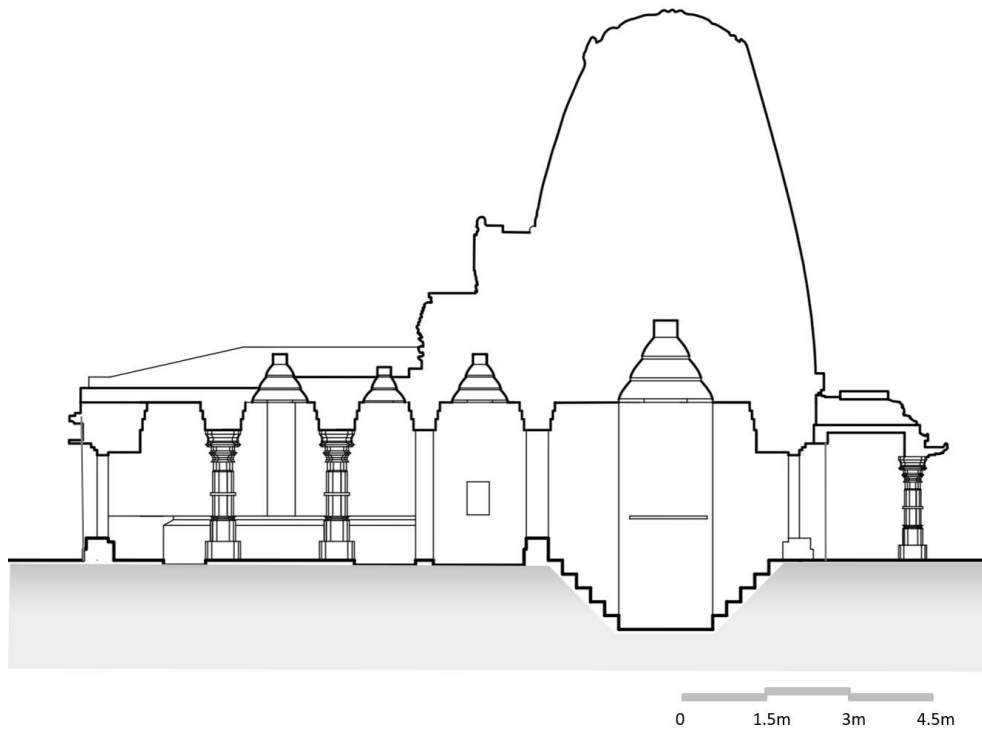
References: Plan and section are measure drawn by us.

- Plan: The plan is elongated, of 15m x 8m. The temple is zoned in 4 parts *Mandapa, Antarala, Garbhgriha* and *Ardhamandapa*. An unusual thing in planning is that it has two entrances to the *garbhgriha* one approached through mandapa and the other from the backside of the shrine which contains *Shivlinga* facing north. The temple is facing West i.e., the *mandapa* is on the west of the shrine, and *ardhamandapa* is built on the east of the shrine. If any devotee enters

through *antarala* he has to circumambulate the *shivlinga* only 1/4th of its diameter and as customs do not allow to cross the *linga* and worship from the west side, he has to enter from the a*rdhamandapa* at the back making the devotee circumambulate around the temple. [(Deglurlar, 2019)]

The plan is orthogonal and the shrine is *pancharatha* (5-offsets) and the mandapa has a simple square plan. Even the inner *antarala, garbhgriha, and ardhamandapa* are square with the almost same area.

Also, the *mandapa* is two times bigger in area than the inner *garbhgriha*. *Mandapa* has 4 columns in the center supporting the ceiling and beams and has two *jali* windows on the north and south façade for light and ventilation. The inner side of the *mandapa* has a *katta* running along 3 sides.

Figure 4 Southern elevation   *Figure 5: Shikhar photo*

- Section: In section *shikara* to *mandapa* height proportions is 1:3 and the shrine is almost 1.5m below the ground.

- Shikara: The shrine has *Bhumija* shikara which is "*Pancabhuma Bhumija prasada*" with 3 vertical rows and 5 horizontal rows of total of 15 *upshikaras* (combination of *kuta-stambas*) in one flute. There are *chaitya* arches on all 4 *latas* (spines) which are called *surasenaka*, 3 of which are minor and 4 on the western side are bigger and are protruding out which might have some deity placed in it. The roof over the antarala is a sukanasa i.e.it has a barrel-vaulted, gable-fronted roof with a chaitya arch or sursenaka profile protruding out and here the arch has a small bell inside and a *kirtimukha* over it, the niches created might have an image or sculpture. [(Henry, 1987)]

The ardhamandapa has Phamsana shikar and the roof over mandapa is recently repaired so is just sloped and fixed with cement mortar.

Figure 6&7: Ardhamandapa and Main tower with the Kalasha detail

- Pillars: The 4 pillars in the mandapa are elegantly carved which has a square base and goes up with a constant ratio of offsets finally topped with *kicaka hastas* above the capital which supports the beams above it. The square base has a *panjara* with a deity inset, and a rectangular part carries

standing images of various deities. Again, two octagonal parts above compartment with a band in between contains a figure of a seated deity above which is a square member containing deity.

Figure 8: Column capital detail

Figure 9: Column base detail

- Doorway: There are 3 doorways in the temple and all of them are built-in very similar patterns. The doorway at the *mandapa* entrance has two columns and then an inner jamb and pediment. The columns on the sides are the same as the columns inside but the sculptures carved are erotic. The jamb and pediment are detailed carved with floral and geometrical designs. Above on the *dvaralalata* (lintel), there is the image of Lord Ganesh. The threshold has a projection or offsets in the center called *mandaraka*, which is flanked by *kirtimukhas* besides it. On the lower parts are depicted the *dwarpalas* and some other deities. Also, if we observe there are *kicakas* on the two columns which suggests that there might be some overhang or another *ardhamandapa* in front of the West facade. Also, the eastern doorway has a *candrasila* on the floor in front of the door.

Figure 10,11: Door cornice and lintel detail, Eastern doorway & Western doorway

Ceiling: The *mandapa* has *karotaka vitana*, it is a box ceiling where boxes are formed due to grid by the column beam structural system. The grid in the center has an octagonal frame on the beams that form a square box on which there is a dome-like ceiling which is not a shell but circular rings are kept one above the other. The beams have decorative floral and geometrical designs with a *kirtimukha* at the center. Even the octagonal framing is fully carved with *kirtimukhas*. It is decorated with figures of dancers and musicians intermittently which can be used as struts. The ceiling over *ardhamandapa* is the same but in addition, it has a sculpture on the topmost ring which possibly has been carved on the ring and then places upside down, so from this we can guess that the *mandapa* also might be having a sculpture on the topmost ring. The ceiling over *antaral*, *garbhagriha*, and box between *antaral* and *mandapa* has almost the same ceiling with the absence of those struts. Talking about other grids of the *mandapa*, many of which have large stones kept as panels but if we observe closely, some of them are heroic stones (*Veerghal*) and some are finely carved sculptural stones, these might have been placed there when the roof was being renovated.

Also, in these sculptures, there is one very beautiful sculpture which is very finely carved which may be of goddess Lakshmi. The original form of these ceilings can be seen in some boxes where the ceiling is still intact which has the square twice tilted in 45° angle and a huge flower carved on the uppermost panel. (Henry, 1987)

Figure 12: Ceiling of central mandapa   *Figure 13&14: Current paneled v/s original box type*

- Façade – The longitudinal façade of the temples is exactly symmetrical with the *Bhitti* (lowermost part) having a continuous band of rhomboidal geometrical design running throughout. The *Jangha* (middle layer) also has the same band with a floral design running continuously. It has a compartment on the *Jangha* which may have consist of a sculpture. (Henry, 1987) On the façade of the *mandapa*, there is a beautiful *jali* window with the same lintel design as the compartment. The Easter façade has the *ardhamandapa* which has 3 columns among which 2 places two opposite columns of *phamsana* shikar are almost the same as the *mandapa* columns but another one is abruptly kept on the left where there is the dismantling of the beam there, closely looking at it they are the heroic stones which might have been placed here to give support at the broken joint, also there are two more stones of different size placed upon it to match the height which shows that it was not originally placed there.

Figure 15: Northern façade of the temple

- The other feature of this temple is the Iconography found around the temples, there are many heroic stones (*Veerghals*) around the temple site and also many are found inside the temple. The temple has two *Nandis* in front of *ardhamandapa* one of which face is broken. Also, there are many sculptures inside the temple with minute detailing which makes this temple more beautiful.

- Inferences: Temple is *Shaiva* shrine of stellate-orthogonal plan which faces west with has no plinth. It is a *Nagar* temple with *Bhumija* shikar of *pancha-bhum*a and has grid box-type ceiling with domical and angular square boxes. Has two entrances to the shrine and shrine is sunken in ground.

B) Gondeshvar temple, Sinnar:

The Gondeshvar temple, one of the finest temples in Maharashtra, is situated at Sinnar. The temple is situated north of the town. It is a huge complex with a long compound wall with two entrance gateways one coming from the town and another opening to the huge lake on the East. It is a *Bahudala* temple (multi-shrined).

Figure 16: Whole shrine view   *Figure 17: Gondeshvar lake view*

- History: Sinnar is an ancient town and has been mentioned in old records under the names *Sindinagara, Seunapura,* and *Sindinera*. In 1025 AD. The *Mahasamanta Bhillana* III of Yadava family was ruling his hereditary province of *Seunadesa*, at his capital of *Sindinagara*, as a feudatory of the Western Chalukya king *Jayasimha* II. Later according to *Varata-khanda* and Bassein grant of 1069 AD. It is recorded that *Seunchandra* I founded the town of *Seunapura*. It also appears that his son *Dhadiyappa* was born in the town of *Sindinera*. According to some stories Sinnar was founded by a *Gavali (Yadava)* chief *Ravi Shunguni* about 700 years ago i.e around the 13th cen. His son *Ravi Govinda* is supposed to have built the great temple of *Gondeshvara* or *Govindeshvara* for two lakh rupees. It may be named after *Govindaraja*, one of the Yadavas who ruled about the beginning of the 12th cen. [Henry, 1987]

- Drawings:
  Plan 2: Gondeshvar complex plan
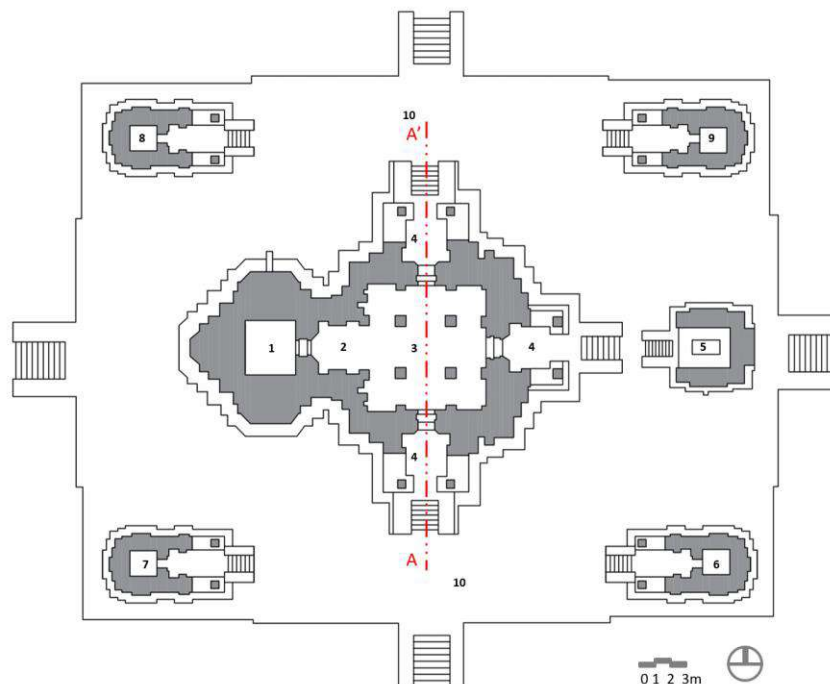
Nomenclature: 1. Garbhgriha of Shiva (Main shrine), 2. Antarala, 3. Mandapa, 4. Ardhamandapa, 5. Nandi Mandapa, 6. Vishnu shrine, 7. Ganesha shrine, 8. Parvati shrine, 9. Suryadev shrine, 10. Jagati (common plinth)

Reference: Revised and corrected drawing from (Deglurlar, 2019)

Section 2: Section AA' of the Main shrine

0   1.5   3   4.5m
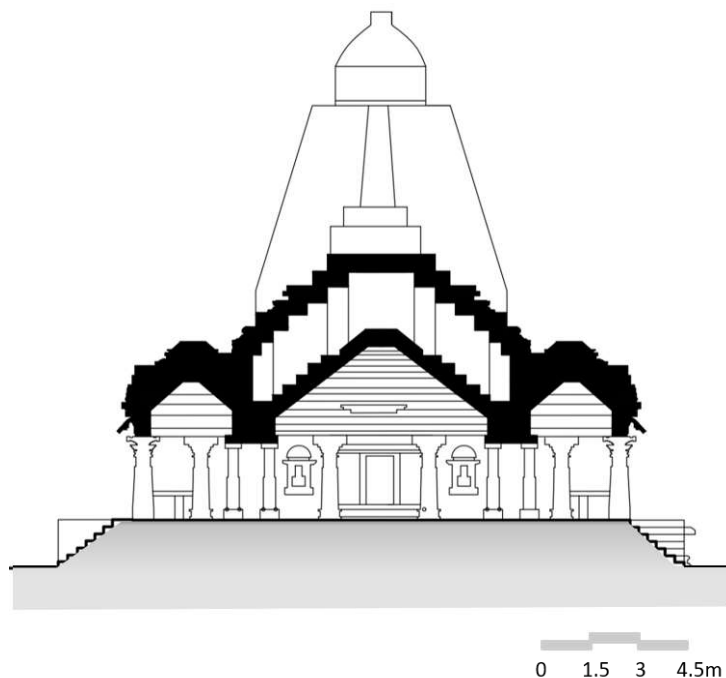
References: Section redrawn from Wikipedia.com

- Plan: The main temple here has four subsidiary shrines at corners of the *pitha/jagati* (plinth) on which the whole complex stands. It is the first *pancayatana* shrine (complex of 5 temples on one plinth) in Maharashtra with shrines of Shiva, Vishnu, Ganpati, Surya and Parvati, of which the main temple belongs to Shiva. The main temple faces East and the planning consists of a shrine, *antarala, mandapa* and 3-porches. [(Deglurlar, 2019)] The temples have three projection porches, marking three access from East, North and South to the hall. The main temple is stellate and with a *saptaratha* layout with 7 *bhuma* angular projections on the outer wall of the shrine, showing an intricate series of projections and recesses of the wall surface producing a bewildering effect of light and shade. The plan consists of two squares of different dimensions. [(Henry, 1987)] According to Cousens, the plan is the same as that of Ambarnath temple where the 2-squares are placed diagonally to one another and the larger one is for *mandapa*, where naturally 3 porches to *mandapa* in the plan occupy three corners of this larger square. The difference is only in the arrangement of the porches which are deeper and have dwarf side walls creating *katas* for seating. The main temple stands on a *jagati* (38 x 28m) which includes moldings and steps. As in other temples, the area of *garbhgriha* and *antarala* is the same and square in plan. The main shrine contains a S*hiv-linga* and plain interiors. The *antarala* is simple with empty niches on either side. The *mandapa* is a *gudhamandapa*, square in plan and is three times wider than *antarala*, with a grid of 16 columns, out of which 12 are on the inner edges of the wall with half of the column projecting out and 4 of them are situated in the center forming the *rangasila*. Here *mandapa* also contains 2 niches on the upper wall. The 3 porches are square in plan with two half-columns on the front side. In front of the *mandapa* is a detached *Nandi mandapa* supported on four pillars with a *Nandi* in the center facing the temple and a *katta* on 3 sides. [(Henry, 1987)]

The smaller shrines at four corners are of the same plan and proportions with a *garbhgriha, a praggriva* (a narrow antarala) and an open porch with a flight of steps and one side entrance. The *garbhgriha* and the porches are square in plan and the antaral is rectangular in plan. The small temple is fitted in an exact rectangle with a length to width ratio being 1:2. The Ganesha and Parvati occupy the south-west and others to the north-west facing East. The Vishnu and Surya occupy the south-eastern shrine and other to north-eastern shrine facing the west side. [Deglurlar, 2019]

- Section: The temple is situated on two plinths, one on which the whole complex is placed and another one of the individual temples hence taking the temple almost 2.8m above the ground level. The major reason for this temple getting a monumental feel is due to this rise in height making the human eye keep our vision on the upper side. The rise of the *shikara* over the main temple is twice the rise of the *mandapa* roof. Also, the height of the main temple is twice that of the other shrines.

Figure 18: Southern elevation of Main shrine with the roofs above the structure.

- Shikara: The tower rising over the shrine is fairly preserved and is the most classic evolved form of Bhumija temples of that time. The tower is akin to temple no. 1 at Balsane. The intricately carved turret bands (*lata*/vertical spines) on the 4 sides of the tower are narrower than those of Balsane and Ambarnatha temples. There are 35 *kuta-stambas* in one flute, 7 in a vertical row and 5 in a horizontal row with both *kuta* and *stamba* of the same height in each horizontal row, but decreases as we go up. It has no *kalash* (upper part of the tower), the one which we see in older photos was not one of it. rather a later addition, but unfortunately, that also is not present today. The *latas* are carved with *gavaska* motifs and the lower part has the *surasenaka* intricately carved with floral design and with some images inscribed in it. The tower resembles the tower at Amruteshwar and Kokamthan.

The roof over the *sabhamandapa* is of *samvarana* type, i.e., stepped roof with bell members. The roof over *antarala*, between the main tower and *samvarana* roof is a *sukanasa* barrel vault, gabble roof, here we can see two niches in this, one above other containing image on the two adjacent sides of it. The shikar over the porches is again the same as that of mandapa but on a smaller scale. There are stone *chajja* provided along 3 sides of the porch on the lower part of the roof. [Deglurlar, 2019]

The roof over Nandi *mandapa* is fully a Phansana shikar with a pyramidal roof of linear plates one above the other, also there are angular stone *chajja* surrounding on all 4 sides. The upper side has motifs of *gavaska*/ pipal-leaf and a band of geometric designs. (Deglurlar, 2019)

The roof over the other shrines *garbhgriha* is curvilinear Latina style shikaras and carry up the projections of the wall below almost to the top, theses vertical bands are decorated with horizontal rows of carved motifs of *gavaska* or peepal-leaf and the lower part has a huge motif carved instead of *sursenaka* as in Bhumija style. The roofs over the porch are pyramidal, Phamsana and have decoration of lozenge-rosettes and fretwork designs these porches also have the chajjas along 3 sides. The *antarala* has the same *sukanasa* roof with an image in front.

Figure 19,20,21- Bhumija (Main shrine), Phansana (Nandi mandapa), Latina (Sub shrine) Shikhars.

- Pillars: The main hall- the *gudhamandapa* has 4 elaborately carved pillars (almost 3m in height) in the center forming the *rangasila*, these columns support the beams above which support the whole central dome above it. These columns are square in plan with corer offsets. The lower pedestal has 4 small niches with small images of deities. Above this are large images of dancing goddesses framed inside small miniature columns above that is an intricately carved *kirtimukha* in the center. Above this are two layers of small images with different poses which have beautiful framing of small columns which makes them more interesting. Then there are bands of floral and geometrical designs and in the center a floral design. Then the capitals above are of 6-7 layers in increasing size. Above these capitals are carved brackets supporting the beams above which are of vase or flower petal shape and interestingly no column here has the *kicakas* used as brackets which is an important element of Deccan temples.

The pillars in the porches have a similar arrangement, just the lower sculptures are missing and the brackets are ornamental with figures bearing females and the pilasters bearing *vyalas*, many of which are missing now. (Henry, 1987)

Figure 22: Rangamandapa columns detail, Base and Capital

- Doorways: The doorways of the temple are of five *sakhas*, the doorjambs and lintel are very well carved. With the lower part having beautiful sculptures. The door jambs are deeply carved with floral designs and the lintel of the door has two deities one is the Ganpati and above it is the Gajalaskhmi. Above the lintel is the cornice with niches that have images of deities on which are elephants and lions, another missing thing is the floral design in the center below the cornice. Above these images, there is one more band of 8 niches with different images. On the lower part of the doorway that is on the threshold is the offset known as *mandaraka* which is carved with floral design besides which are the images of performing arts. All these features are the same for all doors in the temple. In the smaller shrines, the other components of the door are the same but here it is of four *sakhas* and has a single deity on the lintel and a single row of niches with images above the cornice. [(Deglurlar, 2019)]

Figure 23,24: Doorway of main shrine, Lintel and cornice details

- Ceiling: The ceiling on the porches is very neat formed by rings of cusped ornaments with a central pendant, which is fallen in all 3 porches, this domical ceiling rests on octagonal band framing. On the corners of the octagonal framing are carvings of *kirtimukhas* on which are little figures representing various scenes from mythological stories. The ceiling in the *antarala* is the same but all the cusped ornaments and central pendants are in very good shape.

The great central dome in the mandapa ceiling which rises to a height of almost 6m, is precisely the same as that of porches. Being so high above the beams compared with its span and having a deep projecting cornice around the inside of the beams, very little light gets into the dome, which is therefore very dark. The beams of the central square below the cornice are finely carved with different layers like of floral design continuous band above which is the band of *kirtimukhas* and the motifs like the leaves, giving aesthetical meaning to the beams. Then above the cornice is the band of frames and niches which occupy different images of deities and finally, we have the octagonal frame for the above domical ceiling. The ceiling around the square *rangamandapa* rises in four tires of concave cusped molding from the sidewall to the central square. [Deglurlar, 2019]

The ceiling over *mandapa* is simply a domical one without any complications of the cusped ornamentation and pendent and the beams supporting the ceiling have 12 brackets 4 on corners and 2 on each wall which rest on the wall itself. The ceiling over the Nandi *mandapa* is the same with 4 column supports.

For the smaller shrines, the *mandapa* has the same cusped domical ceiling but of a more simplified version and small in rising. There is a flat ceiling over the *antarala* due to its small width and the *garbhgriha* has a box-type ceiling where the square is rotated twice in 45° and has a flower in the center.

Figure 25,26: Domical ceiling over antarala, Domical ceiling over the rangamandapa.

- Façade: The exteriors of the *garbhgriha* and the *mandapa* have common moldings consisting of ornate *khura, cyma reversa* molding, sharp *kani,* and the *gajathara*.

The *mandovara* begins with a band of lozenges followed by *upana and karna* moldings. *Upana* is topped by *kumuda* molding above which is *cyma reversa (adha padma)* molding. [Henry, 1987]

The three principal niches around the shrine, in the *jangha*, are now empty. The *jangha* consists of sculptures on the *Kona, Bhadra,* etc. otherwise it is devoid of any sculptures unlike the *jangha* of the Ambarnatha temple. However, the *salilantara* part consists of a pilaster with *manjari,* like that of the Aesvara temple, which is mostly a chalukyan feature of Vesara temples of a heavily sculptured pantheon right around the edifice. The exterior walls have their surfaces indented by projections and recesses which are carried up throughout the elevation up to the final of the shikara, producing pleasing light and shade effect as mentioned earlier. [Deglurlar, 2019]

Figure 27, 28: Façade details with niches, porch with images.

- Inferences: The temple is *panchayatana* temples with main shrine of Shaiva and other four shrines of other deities. The main temple plan is stellate facing East with very high plinth of two layers. Both the type of temples is Nagara temples one with Bhumija shikar of *sapta-bhuma* and other of Latina style. It has domical ceiling with central 4 columns. The façade here has manjiri ornamentation which is a chalukyan feature.

Figures 29,30 Gajathara on plinth, Makara Gargoyle   figure 31,32 Sculpted bracket and manjiri motif

Figure 33,34,35 Elevation of sub shrine, Entrance gate to the complex, Roofless gate opening to Lake

C) Jagdambadevi temple, Kokamthan:

The temple is located in Kokamthan village which is situated on banks of Godavari River. The temple is 5kms south-east of Kopargaon town in Ahmednagar district.

Figure 36 Godavari River view from temple   *Figure 37 Overall temple view*

- History: According to the villagers, there are some interesting stories about the village. There is a temple of Lakshmi Mata in the village where Sita in her exile had applied *kunku* on a banyan tree because of which this village got its name *Kumkumasthan* which slowly turned into Kokamthan. They have a festival on *Tripura Purnima* as they say on that day lord Vishnu and lord Shiva had met here which they popularly call as *Harihar bhet*. There is a small village Savantsar which earlier used to be a cluster of 108 villages but all were destroyed in wars between Pandavas and Kauravas and today only one exists. So as old custom in the village on the bright third of *Vaishakh* (April-May) the village boys fight with slings and stones with the youngsters of the village of Samvatsar across the Godavari.

- Drawings of temple:

Plan 3 – Jagdambadevi temple, kokamthan
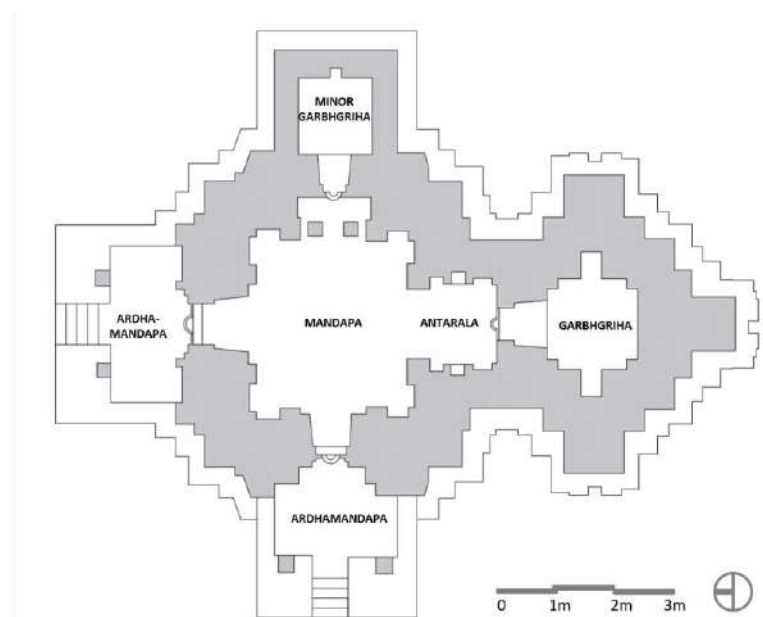
Reference – Measure drawn by us

- Plan: The temple is a Double-shrine temple but originally was singly shrined with three porches and a temple facing north. Today the temple has 2-porches, a Mandapa, and two shrines. The main shrine is a *Linga* at present, but in all probability, it might have not been its original occupant, since Shaiva temples don't face North and rather face East or West. The second shrine on the East of the Mandapa is an addition that has taken the place of a porch that holds a shapeless stone which may be a platform to keep some deity on which the villagers have applied orange color and call it as Jagdambadevi. The fact that Temple faces North makes it believe that it should have been a Vaishnava temple. [Henry, 1987]

    The temple is in *Vrttasamsthana* plan (stellate plan), in a star shape manner with angles protruding from the main shrine and the mandapa, coming on a circle and angles formed by revolving squares around the center of *mandapa* and *garbhgriha.*

    As said earlier the temple is divided into 4 zones *ardhamandapa*, *mandapa, antarala* and *garbhagriha*. The two porches on North and West are of the same area and the one on North has Nandi placed. The porches are square with two columns on front supported by the lower parapet making a small 1m entrance to it. These porches have sitting *katas* on the other two sides.

    The *mandapa* is a column-free space, square in plan and with 14 columns on the edges of it supporting the domical ceiling. Towards the minor shrine, the area of *mandapa* is finely pushed out creating a small antral with two supporting columns in the center and the shrine is a rectangle with all the 3 sides fully closed.

    The *antaral* of the main shrine and the Main shrine are square in plan with the same area, the proportion of the main shrine square to mandapa square is 1:2.

- Shikara: The shikara over main shrine is a Bhumija *shikar* with 3 *latas.* In one fluet there are 15 *upshikaras (Kuta + stamba)* which is made in bricks. The lower end of the lata has the *Surasenaka* (Chaitya niches). The upper part of the shikara is not seen today and the decoration done on the shikara is made on plaster moldings and not the bricks.
    The roof on the mandapa and porches are gone and today renovated roof can be seen done in the later period.

Figure 38, 39 – Main shikhara and miniature shikara. Shikhara details made of Brick

- Pillars: The pillars have simple ornamentation and vase-foliage capitals. This cross-shaped vase-foliage capitals mark the absence of *kicaka* or *nagasirsas* as brackets which is very rare in temples of Maharashtra. The pillars in the porch rest on the parapet with an octagonal base on which the circular components are placed above it, at the central part there is a square component as a cover projected out of the column with corners forming a triangle with some decorations. The 12 major pillars inside the *mandapa* are simple rectangles with some offsets and are very little ornamentation as they are not seen fully.

Figures 40 – Column details inside and outside

- Doorways: The doorways of the two porches are well carved and plastered even there are remains of paint colors like red. It has a usual construction like other temples. The base row having the geometrical design above which there is a row of sculptures of deity above it is a row of peepal-leaf *gavaksa* motif, then there is a miniature replica of the outer column as door jams. The lintel consists of a cornice above which there are 5 deities in the small niches in a row. Under the cornice, there is a usual central floral piece. This door pattern is the same inside for the main shrine entrance also all the 3 doors have Garud below the cornice which depicts that the temple is a Vaishnava temple. The door for the smaller shrine is a bit different, it has *kirtimukhas* on the lower part and the lintel above the cornice, there are 5 deities with Gajalakshmi in the center and elephants on sides of it. Another major thing is that below the cornice there is a Ganesh instead of Garud, which depicts that the minor shrine was for Shiva. The threshold has a projection or offsets in the center called *mandaraka.* (Henry, 1987)

Figures 41 Outer porch entrance doorway   *Figure 42 Minor shrine doorway lintel detail*
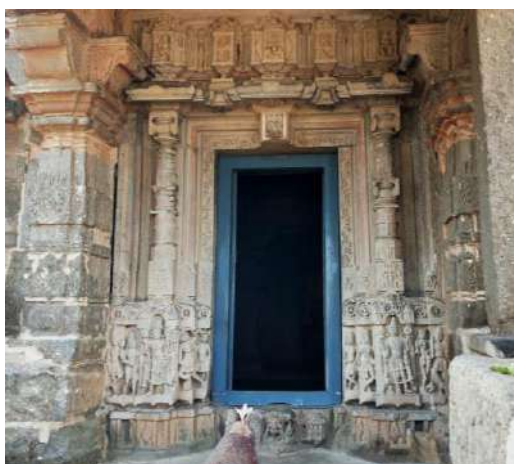
- Ceiling: In mandapa, due to simple columns, the vision of the observer automatically goes to the fantastic ceiling above. The ceiling above is domical (*uksipta vitana*). The square plan rises and forms an octagonal frame on which the domical ceiling rises in rings of concave moldings to a central pendent rosette which is place upside down and comes down as a chandelier. Each group of cups shaped cusped moldings, in three tiers of the pendant, has a separate drop. These drops were fitted in as separate stones some of which are missing. On the lower part of the ceiling, there are eight brackets, 6 of which hold dancing figures and others are musicians. [Henry, 1987]

   The ceiling in the Northern porch is a plain spiral ceiling. The western porch has a cusped ceiling where the central part has fallen. The antechamber and the garbhgriha have the same structural domical ceiling but here the concentric moldings rise to the central rosette and then fall as a pendant in two tires of cusped molding. In the garbhgriha as well we can see 6-8 brackets on the lower part of the beam with musicians and dancers.

Figures 43 Mandapa column free domical ceiling, The bracket and beams junction

- Façade: One of the most important features of this temple is in its façade are the 3 buttresses along the 3 sides of the main shrine. These are the miniature replicas not only of the main shikara but of that whole façade of the temples itself. Cousens says that these buttresses might have been proposed by the builder himself in the original planning stage to strengthen the wall under the great pressure of the lofty brick tower above it. Perhaps the inferior quality of the stone used might have caused the builder to doubt the ability of the wall to carry the weight of the superstructure. From this miniature scale module, we can identify the upper part of the shikara which is absent today. The walls of the temple are made of stone of inferior quality and the *shikara* and roof are made of bricks. [Henry, 1987]

   Another feature is the *jali* panels used on the eastern porch. To give some aesthetics to the closed wall of the porch these designer panels must have been added on the open side which indeed gives a very fantastic look to the eastern façade. On the *jangha* part are the vertical bands of the scroll design crossed horizontally by courses of rhomboidal rosette instead of figure sculptures.

Figures 44 West side façade   *Figure 45 East side elevation with closed porch*

Figure 46 Miniature Shikhara as buttress   *Figure 47 Closed porch cladded with jali pattern*

- Iconography: There is not a lot of iconographies on the temple and around the temple as well, it might be due to the inferior quality of the stone. But Cousens notices an image of Vishnu in *Sesasayi* position in the main shrine behind the Sivalinga. But in GB Deglurkar's book, he questions whether it is original. When we looked in garbhagria we found a statute in a standing position but when it is tilted horizontally it depicts the exact *Sesasayi* position of Lord Vishnu, so the observation of Cousens cannot be neglected it might be because the villagers might have kept the statue in the wrong manner. Other than this there is no such iconography in this temple.

- Inferences: The temple originally is a Vaishnava temple facing the North with a high plinth. It is stellate in plan. The temple is Nagara temple with Bhumija shikhar of *pancha-bhuma* and has a column free domical ceiling. Today it is a double shrine temple with a shrine on East porch occupied by Shaiva deity. Another feature is of buttress of miniature shikara and the tower made of bricks.

D) Asevara temple, Sinnar:

The temple is situated in north of Sinnar town, along the banks of small river Saraswati in Nashik district.

- History: Sinnar was a very prosperous and important town in those days. It was the former capital of Yadavas who later shifted their capital to Devgirifort. There are two statements over its construction period. Cousens says based on its architectural style that the temple belongs to the 11th cen and Naik precisely puts that temple was built during the reign of *Seunchandra* II or his son *Parammadeva* between C.E. 1075 and 1100. [(Deglurlar, 2019)]

- Drawings:

Plan 4: Plan of Aesvara temple
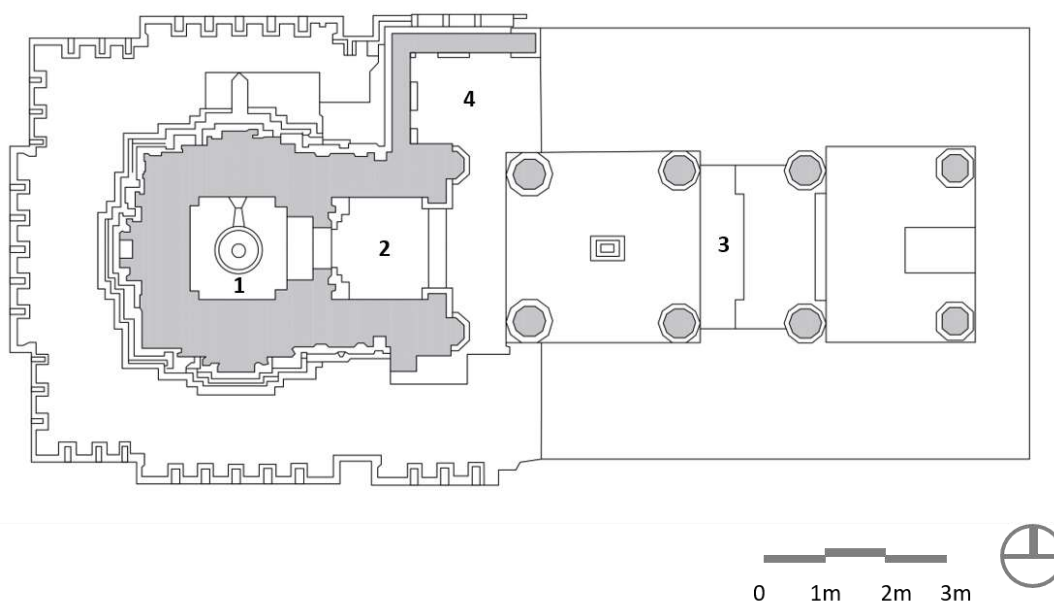
Nomenclature: 1. Garbhgriha, 2. Antarala, 3. Mandapa, 4. Remains of enclosed Mandapa

References: Corrected redrawn plan from (Deglurlar, 2019)

- Plan: The temple which is in an enclosure was originally erected on a platform. Today we can see a shrine, antechamber(*antarala*), and two groups of 4 columns of the *mandapa* which are the only remains of once a beautiful temple. The plan is like a long rectangle and all spaces are aligned with its outer edges. The meaning that the temple is in an enclosure is that it has some evidence of an outer wall wherein the whole temple could be enclosed. We can see some remains of the wall on the northern side of the temple. Also, Cousens makes a point of the temple once being enclosed from all 4 sides of the Mandapa. The orientation of the temple is to the East. The two *mandapas* are square in plan and the same in area. Even the *antarala* and the *garbhagria* are of the same area with square plans. The plan of these Chalukyan temples is simple compared to other temples. There is a small platform around the temple with many niches on the ground. The area of *mandapa* can be twice that of the shrine are seeing the remains of the northern side. [(Henry, 1987)]

- Section: The temple body is not much in height like other Nagar temples. Today even the roofs (*Shikara*) are not intact. Although through the fragmentary of the lower part of the shikara which has *shala shikara* instead of *Surasenaka*, So Jamkhedkar takes it as of Vesara style.

Figure 48 Shala fragments over the shrine   *Figure 49 Overall temple view*

Pillars: All the pillars in Mandapa are not the same. From a distance, they look alike but they are slightly different, the group of 4 pillars nearest to the shrine are octagonal in plan with recessed corners. But from the outer group of 4, the inner two are six-sided in plan and the outer pair are square with corners recessed. Even if they are different in plan, their ornamentation and carving layers are the same, the lowermost layer has we have finely recessed corners besides which are beautifully carved sculptures in small niches. 3-4 layers above this are a continuous carved small sculpture that just seems like doodling done on the column. The uppermost layer has the Peepal-leaf *gavaska* motif. Then we have the capital which is in two parts the lower part might be for more support and more efficiently transfer the above load to the column, the upper capital is like flower petal of vase shape with no. of sides depending on the column. There is another capital in form of the *kicaka* bracket which very uncommon feature of Chalukyan temples but very common in temples in Deccan. The *kicaka* is placed on the vase shape capital on which are the beams of the mandapa. [(Henry, 1987)] According to us, these *kicakas* do not originally belong to this temple, first of all, these are very uncommon in Chalukyan Vesara temples. Also, if we see closely these have been carved on the lower side which is being hidden due to the lower capital.

The grid of the beams which might end in the *garbhriha* wall has a niche to fix the beam but the beam of that part is missing, but due to the *kicakas* the height of beams is raised due to which it does not match the original niche height, which marks the beams to be on the lower capital in origin.

Figure 50,51 Two types of columns in mandapa   Figures 52,53 Lower part niche, Remains of enclosure

- Doorways: The entrance to the *garbhgriha* has the lower part with different sculptures, the door jambs and other parts are pretty well carved with floral design. But there is an absence of the offset *mandaraka* on the threshold which is not common in Chalukyan temples. The lintel of the door jamb has the Gajalakshmi which is a very common motif of Chalukyan temples. Above this is a small image of *Sesasayin* above which is a cornice, just below the cornice in the center is a beautiful floral design. Above this is a frieze of figures representing the *Saptamatrkas* which is another usual Chalukyan feature. *Sapta* means 7 and *martrkas* means mother, these are seven mother goddesses who together fight with the demons. These 7 are accompanied by Ganesha and Bhairava on right and Lord Shiva on the left ends, making them 10 figures in a row. (Henry, 1987)

Another major Chalukyan feature, at the entrance of the *antarala*, is the *Makara torana* which is the most superb piece of carving, this *torana* represents Natesa-Shiva (Shiv doing *tandav*) in the center of the finely carved decoration. This semicircular *torana* is of 3 bands, the center one of the little dancing dwarfs above them is some birds carved and on the lower part are some small dancing sculptures. Either side of the *torana* has these *makaras* with the most wonderful tails of howling which turn up over their backs and forward onto the arch's. (Henry, 1987)

Figures 54 Shrine doorway   *Figure 55 Makara torana at antarala entrance*

- Ceiling: The ceiling above the Mandapa is very simple or has been renovated. But the ceiling in the *antarala* is a paneled ceiling with 9 sunk squares of the flat ceiling, of which 8 panels have carvings representing the *Astadikpalas* (literally meaning guardians of 8 cardinal directions)

These include Kubera (North), Yama (South), Indra (East), Varuna (West), Isana (NorthEast), Agni (SouthWest), Vayu (NorthWest), and Nirrti (SouthWest). The central panel is empty or else has got destroyed. This paneled ceiling is divided by deep bands whose joineries are still visible. This is also one of the most common features of Chalukyan temples.

The ceiling over *garbhgriha* is simple with octagonal framing and a flat slab over it.

Figures 56 Antarala paneled ceiling with carving of Astadikpapas

- Façade: The temple being Chalukyan reveals a lot of influences from the Vesara temples of Karnataka on its façade as well. The exterior walls of the shrine and vestibule consist of pilaster decoration and recesses between the pilasters which would appear to have images but have been removed. The *adhisthana* of the shrine has simple layers with the upper one having the *gavaska* motif on each panel and above it is a continuous band of floral carvings. There is also a beautiful niche in the center of each façade below the *gavaska* motif. Then the *mandovara* has the *ardhastamba* i.e., the half pilasters with shikara are the most important Vesara architecture element. Also, the *manjiri* ornamentation is displayed between each pair of pilasters which is again a Chalukyan feature. Above these pilasters is a continuous band of small dancing sculptures, above which is the cornice with the *gavaska* motif and other small fascinating carvings. There are some images on the outer side of the shrine, on the upper side of the cornice on the southern façade there is an image of Parvati Devi seated on a lion, other are of some groups of dances one of 2 and one of 3 placed on the northern façade of *mandapa* remains. There are some remains of the enclosure of the *mandapa* wall on the Northern side. These contain a Gajaratha (Elephant carvings) on the bottom-most layer forming a plinth of the temple above which are columns between are niches which have carvings of miniature *shikara* and *ardhastamba,* also some carvings of the groups mentioned above.

Figures 57 Façade details with Niches, Ardhastamba and northern façade of shrine

- Inferences: The temple is a Shaiva temple with orthogonal plan on low plinth with *gajaratha* on *mandapa* remains side and facing East. The temple is a Vesara style with fragments of *shala shiakra*. The ceiling is a 9 paneled ceiling of *Astadikpalas* and a domical ceiling. It has the makara torana at *antrala* entrance. Façade has *ardhastanba* and *manjiri* ornamentation.

Figures 58 Gajaratha on northern side   *Figure 59 Makara Torana*

E) Anjaneri temple complex:

Anjaneri is located 30kms from Nashik, which is a Jain Digambar Tirth shetra. Anjaneri is famous as a tourist spot near Nashik which has caves, a lake and some small temples on the plateau. To the northeast is a huge complex of temples. According to Cousens, there are 16 temples in total dating back to the 11th cen and 12th cen., but we could find 10 temples there. In this complex, there are 5 Jain temples, 4 Hindu temples and 1 temple was fully in ruins with only remains of the lower plinth.

Figures 60 Google Map view showing location of the temples with context to the village
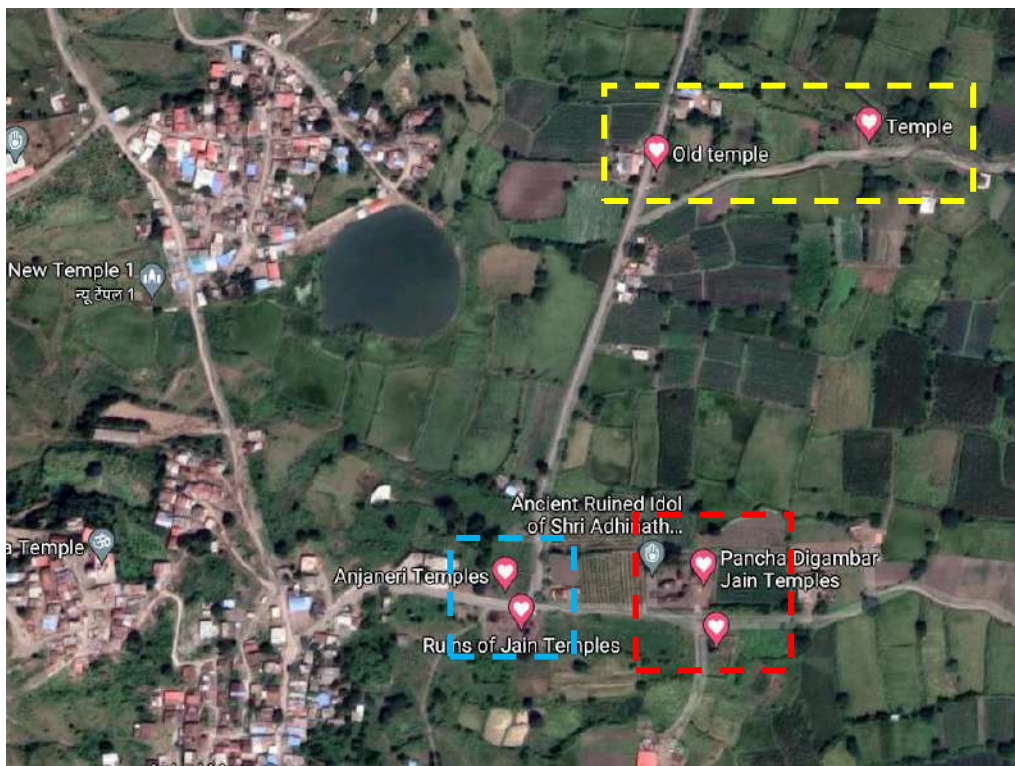
Nomenclature: Red – Ea (Jain complex), Blue – Eb (vishnav temples), Yellow – Ec (Hindu shrines)

- History: Anjaneri hill is famous and has great historic importance from the Ramayana period, as this place is said to be the birthplace of lord 'Hanuman', Lord Hanuman was the son of '*Pavan*' (the wind) and '*Anjani*', and hence the fort is called as '*Anjaneri*'. Also, it is said that the area around Anjaneri was once ruled for a brief period by *Veersen Ahir* (also spelled *Abhir*), who made it his capital. It also has the Bhramagiri mountain beside it which marks the origin of the Godavari River and has Trimbakeshwar temple which is one of the 12 Jyotirlingas, a temple built during the Peshwa period. So, the region is very important for Hindus as well as Jain communities. Due to its importance, we also have some references to medieval Yadava rule in form of the old temple complex. These structures were erected between the 11th -12th cen. by the Yadava kings. This is supported by an inscription which is one of the Jain temples. The inscription dates back to 1141 AD in appreciation of *Seunadeva Yadava* king who granted this temple, it also mentions that the temple is dedicated to Jain Thirtankhar. The inscription also mentions donations of *Varsaraja, Lahada, Dashratha* giving their house as well as shops for the temple. (Henry, 1987)

Ea) Jain temple complex:

- In this complex a noteworthy thing is the erection of 3 temples akin to each other with 2 Mathas situated in one and the same compound and another Jain temple on the opposite side of the road. All 4 temples are of Nagara style.

- Drawing:

  Plan 5: Plan of Jain temple complex
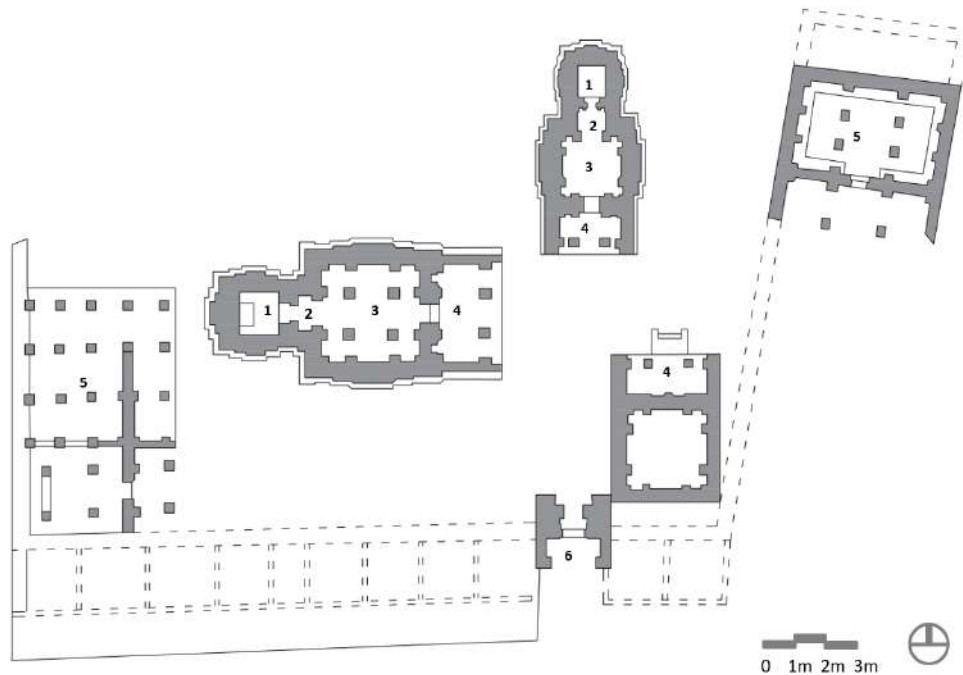
  Nomenclature: *1. Garbhgriha, 2. Antarala, 3. Mandapa, 4. Porch, 5. Mathas, 6. Entrance gateway*

  Reference: *Corrected redrawn plan from* (Deglurlar, 2019)

- Plan: Out of the 3 temples in the compound wall, two situated on the Northern and Western sides have a *mukhamandapa* (porch), a square *sabhamandapa* of the same width as that of the porch, then an *antarala* and a *garbhgriha* which is half the width of mandapa. [Henry, 1987]
  The 3rd temple on the southern side facing north is in very bad shape due to which the only *mukhamandapa* with two columns and walls of *mandapa* remaining, but this temple is in exact rectangular without any offsets as in other 2 temples also we can't mark any *garbhgriha* so its doubt whether to consider it as a shrine.
  Temple one in this complex is the biggest one facing the East and due to its hugeness marks its importance among all, the porch has two columns in center and closed from other two sides marking the only possible entrance from East. The *mandapa* has 4 columns in the center forming *rangamandapa* and grid of 16 columns and *antarala* of smaller width than the *garbhagria*. The *garbhagria* has a pedestal with a *Jaina* image to be worshiped of.
  The 2nd temple is smaller than the 1st one but in another respect is very similar to it. This temple faces the south. The porch is small still it has two extra columns supporting it, but the mandapa is column-free with only supporting 4 columns on the corners which is a reason due to smaller size. Also, this is the temple that holds the inscription mentioned above. [Henry, 1987]
  The other 2 buildings are *Mathas* or rest houses with halls having 4 columns in center.
  The 4th temple a 50yards south of this complex is again a small Jain shrine remaining which once might have a bigger *mandapa* like the 1st temple whose only 6 columns in center and one on the

north are remaining and the lower remains of the wall around the *mandapa* has recently been excavated by the ASI which also has the lower threshold of *mandapa* entrance. It has a square *antarala* and square *garbhgriha* of the same area with a pedestal and Jaina image inside.

- Shikara: The shikara of temples 1,2 and 4th is simple Latina- Nagara style and the porches and *mandapa* commonly having a Phansana style shikara. The main tower lacks any decoration. They have *mulamanjiri* (main tower encircling *urushringas*) with a larger one in the center of the roof with the replicas of that to four corners, the *amalakas* on the *mulamanjiris* is capped by two *kalasa* one above the other. [(Deglurlar, 2019)]

Figures 61 Temple 2 with Latina and Phansana shikhara. Figures 62,63- Latina shikhar of 1st and 4th temple

- Pillars: In temple 1 the pillar outside has a square pedestal with a *gavaska* motif on center on it again is a square component on which is an octagonal component with *kirtimukha* band on top on which is a circular form on which is circular capital with vase shape and upturn cobra snake brackets supporting the beams. The other columns in the temple are simple square in plan with recesses on the corners and bands of the *gavaska* motif and *kirtimukha* band. [(Henry, 1987)]

The pillars in the porch of temple 2 are more ornamented than that of no.1. In building no. 4, the four pillars support the hall ceilings in each case. The thin slender pillars were inserted between the forward and back pillars of the hall to assist extra support to long beams above.

The pillars in the 4th temple are very simple and square in plan with vase shape brackets and some motifs.

Figures 64,65,66- Temple 1 porch column, Temple 2 porch column and column bracket upturn snake

- Doorways: In temple 1 the lintel blocks of both hall and *garbhgriha* doorways have is a seated Jaina image that may be flanked by *Parshwanatha* or a *Devi*. The doorways in these temples have *kirtimukhas* upon the thresholds, one on either side of the central projection. The female image on the foot of the jambs, holding water pots is probably intended for river goddess Ganga and Yamuna which according to Cousens it is seen in very early temples. The doorjamb also has the motif of *kirtimukha*. Above the lintel is the cornice on which are three niches with seating and two standing *Parshwanathas* depicting the temple was dedicated to *Tirthankara*. The doorways of the 2nd temple are almost the same as that of the 1st one.

  The doorways of the 4th temple have a small square projection on the threshold with a rhomboidal motif, with *kirtimukhas* on either side other part is again very same as for temple 1 but missing the upper part of the cornice. [Henry, 1987]

Figures 67,68 Entrance doorways of temple 1 and 2.   *Figure 69 Remains of threshold (temple 4)*

- Ceiling: In temple 1 the central bay of the porch is domical and has a neat eight-pointed rosette pendant from the center, and the side ceiling is oblong and is just a section of side ceiling in the hall. The central bay of the hall ceiling is similar to that of the porch but loftier. The *antarala* has a plain oval rising in two tires, the oval rather being flat which is very unusual. The ceiling above the *garbhgriha* is simple domical.

  In temple 2 the ceiling of the porch is not very intact and the ceiling inside the hall is a simple domical one. [Henry, 1987]

Figures 70,71,75 Domical ceiling, Vault ceiling, oval ceiling in temple 1

- Façade: The exterior of these temples is very simple and plain with the only decoration being a series of simple moldings with a few fretwork bands running around it. This peculiar style of surface ornament, which takes the place of the panels and figure bands. These facades have offsets trying to create some hierarchy. [Deglurlar, 2019]

- Iconography: There is a lot of iconographies around these temples including sculptures of *Parshwanatha, Tirthankar*a some Hindu sculptures like Ganpati, Nandi some sculptures of animals like elephants. There are also many *veerghals* (heroic stones) around this temple. Also, many elements of temple structure or ceiling that are fallen are there. All these sculptures and carvings are in a very badly deteriorated state.

Figures 76 Sculpture in niche above which is the inscription. Figure 77 A deity in sleeping position

Figure 78 Different Iconography around temple, seating Parshwanatha, 24 Tirthankar and some Veerghals

Eb) Three Hindu shrines:

- About 150m to the west to the last temple and nearer to the village are 3 Hindu temples out of which two are in the same compound wall to the left of the road and another shrine with only a little base remains and the whole temple has vanished. So, we would describe the two temples one which is the Vaishnava temple and the other with no concrete deity but might be a Vaishnava temple.

- Temple 1 in this complex is a small Vaishnava shrine and sculptured in the same Bhumija style as that of Gondeshwar, but seeing the remains of the *mandapa* it seems to be a column-free *mandapa* just like the Kokamthan. Only the shrine of the temple is now standing. The three principal images on the outside of the shrine are, on the East is *Varaha*, on the south is *Narasimha*, and on the west is the *Vamana* avatars in the niches on *janghas*. In the shrine, against the back wall is a low altar, on the front of which is *Garuda*, and over the shrine, door is Shiva, Vishnu, and Bramha, in the same series. The image upon the dedicatory block above the shrine doorway has been much mutilated, but it was probably Garuda. The antechamber ceiling is, in plan, lentoid or a pointed oval which is a very unusual shape. The temple faces north. (Henry, 1987)

- The other temple beside this one facing East, a small built temple, of which the shrine and *shikara* remain, all except the *kalasa* or finial, the hall being completely ruined. Above the

shrine door is Ganpati. There are remains of what seems to have been an altar with a weather-worn image.

Figure 79 Vishnu temple 1 with Bhumija Shikhar and open mandapa.

Figure 80 Elliptical ceiling with eye shape   *Figure 81 Façade details*

Figure 82 Vishnu temple 2 in same compound

Ec) Two hindu temples:

- The first temple is about 400m north of the 1st group of temples is a little shrine with its Latina *shikara*. The only remains are the antechamber and the *garbhgriha*, the hall is missing i.e., its ruined. It is built, but has a well-sculptured doorway to the shrine, with Ganpati on the dedicatory block. The shrine is empty and the temple faces East. (Henry, 1987)

- 150m northeast to the above this temple is the next temple in a much-shattered state. The principal images upon its walls are the *tandava*, Ganpati, Mahakali figures. Above the shrine door again is a Ganpati. In the shrine, against the back wall, is an altar with Garuda on the front, which has probably been brought from some other temple, and loosely placed upon it are images of Shiva-Parvati, Narasimha and Vishnu. (Henry, 1987)

- The *shikar* of both temples is Latina and same as the 1st Jain temple. Also, another striking feature of these two temples is that the brackets used are the *kicakas* and not the vase shape brackets.

Figure 83 Hindu temple 1 from Ec.

Figure 84 Hindu temple 2 from Ec.

Inferences: The Ea (Jain temples), Ec (Hindu temples) temples are orthogonal in plan with Latina style shikara and domical ceilings. The Eb (Vishnu temples) are stellate plan with Bhumija style *shikara* and domical ceiling and column-free Mandapa.

F) Nageshwar temple:

- The temple is in Junnar taluka of Pune district and situated on the banks of Kalu river at Khiresvara, a small village at foothills of Harishchandragad and on a very important trade route of Malshej ghat. It is said that the temple had a village near it but due to the construction Pimpalgaon Jog dam the village was shifted to another location abandoning the temple's vicinity. But even then, the villagers celebrate different occasions and gatherings in this temple. For this, they are even building a shed in front of the temple in place of a structure that was in front of it. It does not have any concrete reference of who might have built it but the stories say that it was built by *Shilahara Bhoja* unlike the Amruteshwar but as mentioned earlier which is not possible.

- Drawing:

Plan 6: Nageshwar temple plan.
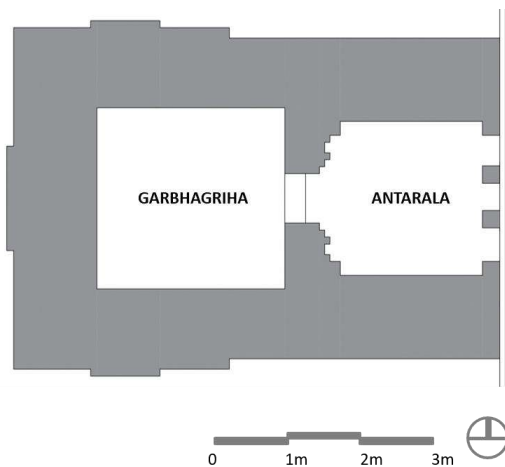
Figure 85: Nageshwar temple

Reference: Plan is measure drawn by us

- Plan: The temple faces East and has total dimensions of 7.2m x 4.6m consists of an *antarala* and a *garbhagriha*. The *antarala* is square in plan (2.4 x 2.4m) has two columns on the entrance. The *garbhagriha* is also square in plan (2.6 x 2.6m) with a Linga in the center. There is no need for pillars inside as the wall thickness is almost 1m wide and the internal sizes are also small. The whole plan is a simple rectangle with some offsetting façade. [Deglurlar, 2019]

- Shikara: The towers over the *garbhagriha* and *antarala* are of Phansana type, a pyramidal constriction of diminishing squares arranged one above the other caped by the *kalasa*. The Phansana roofs are usually seen on *mandapas* and *ardhamandapas* but here the whole temple tower is of this style. With the horizontal lines of the *shikara*, there are 5 niches, 2 on each long side and one on the backside of the lower part of the tower, these niches are very similar to those seen on the Aeshvar temple's *mandovara*. Other niches don't hold any image, just the niche on the backside has an image of Nataraja in good condition. The niches have some bell-like elements in their curve form and a *kirtimukha* on the top point of the arch. The tower also has some rhomboidal and *gavaska* motifs. [Deglurlar, 2019]

Figure 86: Natraj in the niche   *Figure 87: Southern façade with Phansana profile*

Pillars: There are two sets of pillars, those belonging to a set are square on plan and almost plain capped by a pyramidal form capital. The pillar from the other set has a square part below topped by an octagonal member, above it is a roundish tapering part followed by a circular capital capped by a simple bracket. According to us the two columns in the center are later added as a response to the broken beam above, these are very different from the side once also the brackets are an unusual and irregular shape.

Figure 88: 4 Columns at Antarala entrance and their capital details.

- Doorways: The doorway which is provided to proceed towards the *garbhagria* is very simple without many carvings and motifs, the doorjambs are simple square, also there is no projection in the threshold. On the cornice is the *gavaska* motif. Above the cornice on the entablature is a very beautiful figure of *Sesasayi* Vishnu.

Figure 89: Doorway to the shrine   *Figure 90: Figure of Sesasayi Vishnu above the shrine doorway*

- Ceiling: The ceiling in *garbhagriha* is domical which consists of three diminishing concentric circles supported on octagonal framing below which are *kirtimukhas*, one on each corner. The ceiling on the *antarala* is a paneled one with 16 beautiful sections, four in each row. There are 4 brackets at four corners with a vase shape above which are again a layer of 4 more brackets on two sides. The paneled ceiling is the same as the Aesvara temple replicating *Astadikpalas*, (8 guardians of cardinal directions) here also the ceiling is replicating *Astadikpalas* but they are double in no. with 16 carved panels maybe each one having their spouse as well, some of these images are namely Bhramha, Karttikeya, Surya, etc. ^(Deglurlar, 2019)

Figure 91: Domical ceiling in shrine   *Figure 92: Paneled ceiling in antarala (16 panels)*

- Façade: The façade is very simple without any carvings and just the offsets of the façade.

Figure 93: North façade, West façade, East facade

- Rajwada caves: Around 200m north-east to the temples are these caves with huge columns caved inside the rock which may be used for resting purposes as they contain compartments, but these to contain water due to lack of maintenance.

- Iconography: There are 3 different *Shivlingas* outside the temples also there are 2 more *Nandis* around the temple. Besides these, there are two huge *veerghals* outside the temple and some 5 above the Rajwada caves.

- Inferences: The temple is a *Shaiva* temple with an orthogonal plan facing East. The *shikara* is Phansana with 16 paneled ceiling and a domical ceiling. There is only an *antarala* and *garbhagria* and no *mandapa*.

G) Siddheshwar temple, Akole:

- The Siddheshwar temple is situated near the banks of the Pravara river in Akole village, some 60 miles northwest of Ahmednagar. To the east of the town, a little distance above the banks of the river is this old temple of Siddheshwar. G.B. Deglurkar mentions the two temples Amruteshwar and Siddheshwar temple as twins as they are not very far from each other and other features like two entrances to the shrine, it's planning and pillar design.

- History: We don't know the exact period of construction but as many features are very close to Amruteshwar we can put it around 12-13th cen. It is said that the temple was buried in the slit of the river, until about 1780, when a *kumbi's* plow struck against the *kalasa* of the spire.

- Drawing:

Plan 7: Siddheshwar temple plan
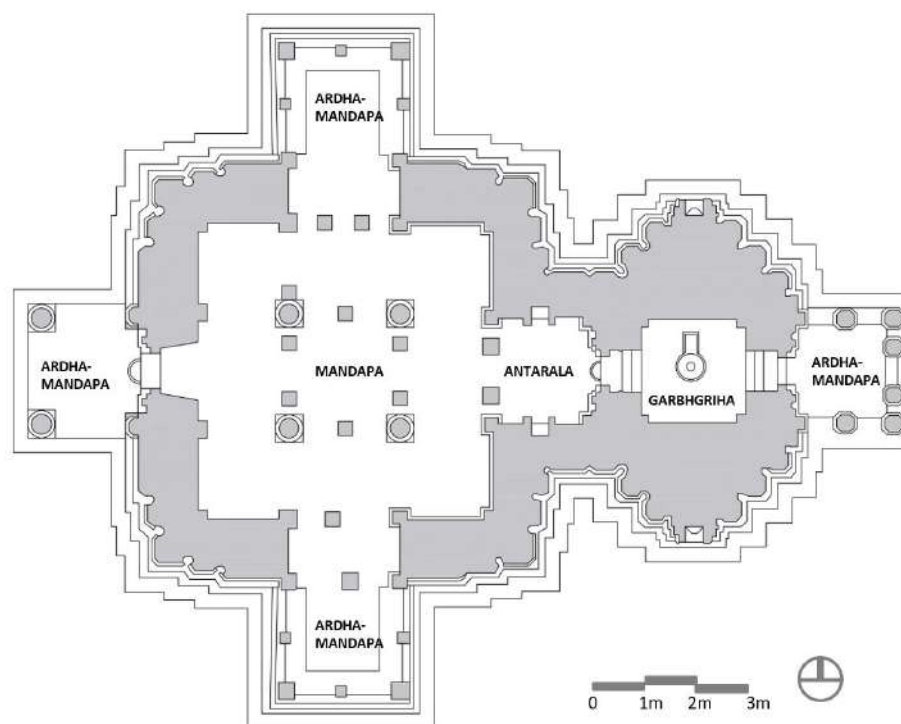
*References: Corrected redrawn plan from (*Deglurlar, 2019)

- Plan: The general plan consists of the mandapa, entered through a porch on the west, this porch is renovated in 18th cen. and is not originally of the temple. An antechamber and *garbhgriha* on the east and a porch again, before the eastern/back door, of the shrine. On the north and south sides of the hall are porch-like extensions, but with no exit. They are walled in all-around with a low dwarf wall from which rise dwarf pillars supporting the overhanging cornice above. All the three porches are square in plan with the same area, the north and south once have two main columns on corner and 3 columns in the middle for extra support and it has a *katta* for seating on all three sides. The main *mandapa* is square in plan with four large columns in the center forming *rangmandapa* and other columns along the wall forming a grid of 16 columns with extra 12 small columns for more support. The *antarala* has two niches and the *garbhgriha* is 3 steps below the ground level. The square porch on the East has six large columns with *Nandi* at the center. The

area of *antarala, garbhgriha*, and Eastern porch is the same with the square in plan and the area of *mandapa* is three times that of *antarala* and *garbhgriha*.^(Henry, 1987)

- Shikar: There is no remains of tower today. Today the roof we see is totally a new construction done in mortar.

Figure 94 Views of the temple showing new roof and new Western porch

- Pillars: The four columns in the center forming *rangamandapa* are the most beautiful work. The column has a square pedestal with carvings of various sculptures with the octagonal form then circular form carried till up and square cover with corners. The columns on the eastern porch are the same with such detailed carvings. Other columns are square with the corner recessed. The main column grid has the bracket with *kickacas* and other columns with vase shape brackets.

Figure 95 Pillar details with capital and carving on it.

- Doorways: The shrine doorways are fairly well decorated, both being alike; upon the block upon the lintel has Ganpati. These entrance doorway to the hall on the west, together with its porch, have been entirely rebuilt, the side jambs and threshold, only of the original being included in the new work.

Figure 96: Doorway details of inner shrine, new western porch, original eastern porch

- Ceiling: The column beam system has formed grids due to which two types of ceilings are formed, one is the domical ceiling with decreasing circular rings on an octagonal frame which is place on a square beam frame. Another type is the box type ceiling where the square is rotated twice with a flower carved in the center. The most amazing thing in this temple is the central ceiling. The inner faces of the beams, in the central bay of the hall ceiling, are sculptured with bands of figures in relief.

  Upon the east beam is the churning of the ocean is portrayed (*Sagarmanthan*), holding on to the tail of the serpent are 12 male figures, while one male figure holds the head, beyond which are three female figures seated, and a horse and an elephant are produced. Over the west, the beam is Vishnu on *sesha*, with four *Naga* figures on one side and five on the other, while beyond them, stand men in rows holding garlands. On the south beam is a battle scene with horses, elephants and camels. Upon the north, the beam is a procession, in which the principal figure is carried in a *palkhi*, with horsemen and elephant and men with swords and shields behind. [Henry, 1987]

Figure 97 Box type ceiling and Domical ceiling

- Façade: Upon the outside of the shrine walls, on the north and south, is a niche. In the south, one is a representation of the *tandava* of Shiva, while in the north one is *Kalika-Maa or Mahakali*, as a skeleton dancing upon a prostrate figure, but both are much mutilated. Round the outside of the low walls of the porches are little figures in recesses between miniature pilasters. These are not well carved having large heads. The *mandovara* has 3 horizontal continuous bands, the lower one of rhomboidal motifs upon which is a band of the *gavaska* motifs and above this is the band of *kirtimukhas*. The lowest band of the facade again has these rhomboidal motifs. [Henry, 1987]

Figure 98 Southern façade and Eastern facade

- Iconography: The temple is very rich in iconography also there are four much worn *veerghals* (heroic stone) around the temple.

Figure 99 Middle mandapa ceiling with beam carvings of Sagarmanthan and Vishni on sesha

Figure 100 Veerghals (Heroic stones) around the temple
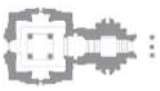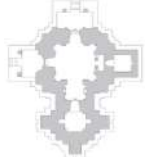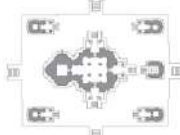
- Inferences: The temple is Shaiva temple of stellate plan facing Westside. The roof of the temple is absent. It has a box and domical ceiling formed due to the beam grid. It has two entrances from two sides to the shrine (West and Eastside). Has 4 porches with 2 entrances and 2 closed and used for seating. The beams of rangamandapa are narrative once with stories carved. The shrine is a sunken one.

1.2 Comparitative study

The table consists of a comparative analysis of all 7 temples taking some common cretarias of temple architecture.

Table 1: Comparative chart of all 7 temples

An example of a column heading	Amruteshwar Ratanwadi	Jagdambadevi Kokamthan	Gondeshvar Sinnar	Aesvara Sinnar	Anjaneri complex, Anjaneri	Nageshwar, Kireshwar	Siddheshwar, Akole
Plan drawing							
Plan type	Stellate-orthagonal	Stellate	Main shrine-Stellate Sub shrines-Orthagonal	Orthogonal	Ea, Ec - Orthagonal Eb - Stellate	Orthagonal	Stellate
Sikhar type	Bhumija (panchabhuma)	Bhumija (panchabhuma)	Main shrine – Bhumija (saptabhuma) Sub shirne – Latina	No shikhar (Fragments of shalas)	Ea,Ec – Latina style Eb - Bhumija	Phansana	No shikar
Shikar photos							
Temple type	Nagar style	Nagar style	Nagar style	Vesara style	Nagara style	Nagara style	Nagara style
Period of Construction	13th cen	-	12-13th cen - Ravi Govind Yadava	11th cen. – Seunchandra Yadava II	11th ,12th cen. by Seundeva Yadava	-	-
Orientation	West	North	Main – East Sub shrine in East and West.	East	Faces 3 directions East (4), North (3), South (1)	East	West

Elevational details (Mandovara)	A band of Rhomboidal and Gavaska motis. Two niches on outer part of shrine.	A band of Rhomboidal rosette motfs and some floral carving 3 heavy butresses (miniature shikara) on the outer of shrine	Façade with manjiri pilaster ornamentation, Sculpted figures and bands of Gavaska, 3 niches with images on outer shrine.	Facde with pilaster and rcesses once having images, band of gavaska motifs, manjiri ardhastamba ornamentaion (Chalukyan)	Ea, Ec – Very simple plain façade with only gavaska ornementaion Eb - Huge Rhomboidal, and Gavaska bands.3 niches outer shrine wall images	Simle plain façade.	Carved façade with bands of rhomboidal and gavaska with lower porche with images. 2 niches on outer shrine wall (image)
Plinth	No plinth	Plinth of 2 layers with no carvings. 1st – 0.6m 2nd – 1.5m	Two huge plinths. 1st – no carvings 2nd – has Gajathara, kani and upana having images in niches.	Low plinth with reamains of gajathara on north side	Ea, Ec 0.2m plinth very simple. Eb – huge plinth but destroyed	No plinth	Low plinth of almost 0.3m
Garbhagriha	Square, sunken almost 1m below ground with Shivlinga in centre	Today has 2 shrines. 1st main – originally a Vishnava but today has linga 2nd – built later, a Shiva shrine but has Jagdamba devi	Main shrine is square and has linga in centre other shrines are square and has shrines of Agani, Ganesh, Parvati and Vishnu	Shrine is square with linga in center.	Shrines are square. Ea has Jaina images Eb has Vishnu images Ec don't have images right now	Shrine is square with linga in center	Shrine is square and sunken almost 0.5m below ground and has linga in center.
Is Garbhagrhi and antarala the same in area	yes	yes	Main shrine -yes Sub shrine – 1:2	yes	Ea,Ec -yes but in temple 1 antarala is small Eb – Antarala is smaller than garbharia	Almost the same	yes
Antarala ceiling	Domical	Domical	Main shrine - Domical Sub shrines- Flat and plane	Panneled with 9 panel grid	Eliptical ceiling and domical.	Panneled with grid of 16 panels	Domical
Mandapa ceiling	Column beam grid with Domical in center and box type in other.	Column free mandapa with domical ceiling with cusped ornamentaiton	Column beam grid with Domical in centre and half curvilinear in other.	Absent - and today is simple flat ceiling	1st temple – Column beam grid with domical in center and half curvilinear in sides. 2nd and Eb temples column free mandapa with domical ceiling	Mandapa absent	Column beam grid with central beams are narrative and has domical ceiling and box type in other grids.

Ceiling image							
Mandapa : Antarala ratio	1:2	1:2	1:3	Might be 1:3 seeing the remains of mandapa	1:2	-	1:3
Stamba images							
Capital of stamba	Kicakas	Vase shape	Vase shape	Kicakas in mandapa and vase shape in shrine	Ea- Vase shape Eb and Ec - Kicakas	Vase shape	Kicakas in central grid and Vase like smaller columns
Image on lintel	Ganesha	Garuda, Ganesha	Ganesha, Gajalakshmi	Gajalakshmi	Ea- Seating Parshwanatha Eb – Garuda, Ganpati	Has no detiy	Ganpati
Door images							

2. Final analysis:

After analyzing these 7 temples we have come across some characteristic features which we have summarized according different features of Temple architecture.

2.1 Plan:

Here we could see two major types of plans:

1. Orthogonal (*Caturasa*)- In temples of Aesvara, Jain complex of Anjaneri and Nageshwar, where the plan is a simple rectangle with small offsets if any.

2. Stellate (*Vrttasamsthana*)- In temples of Amruteshwar, Gondeshvar, Jagdambadevi, Vishnu temple of Anjaneri complex, and Siddheshwar, where all the angles of the main shrine are formed by a rotating square around a center.

From our region of study, the temple consists of a shrine, antechamber, a hall with one or three entrance gateway, either with a porch or without a porch. Interestingly in this region, we could also see cases of the double entrance to the shrine-like Amruteshwar and Siddheshwar, also seen in Harishchandreshwar.

The major type of temple plan we could see is the Stellate one as this multiplicity of angles are carried up along the wall and towers hence supporting the Bhumija spines.

Figure 101: Analysed stellate plans of 1. Amruteshwar temple and 2. Jagdambadevi temple
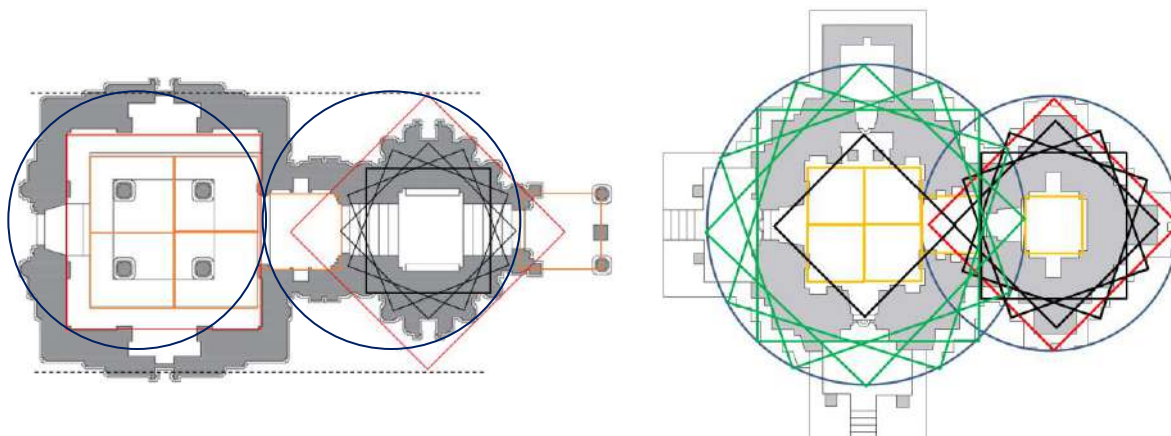
2.2 Shikara:

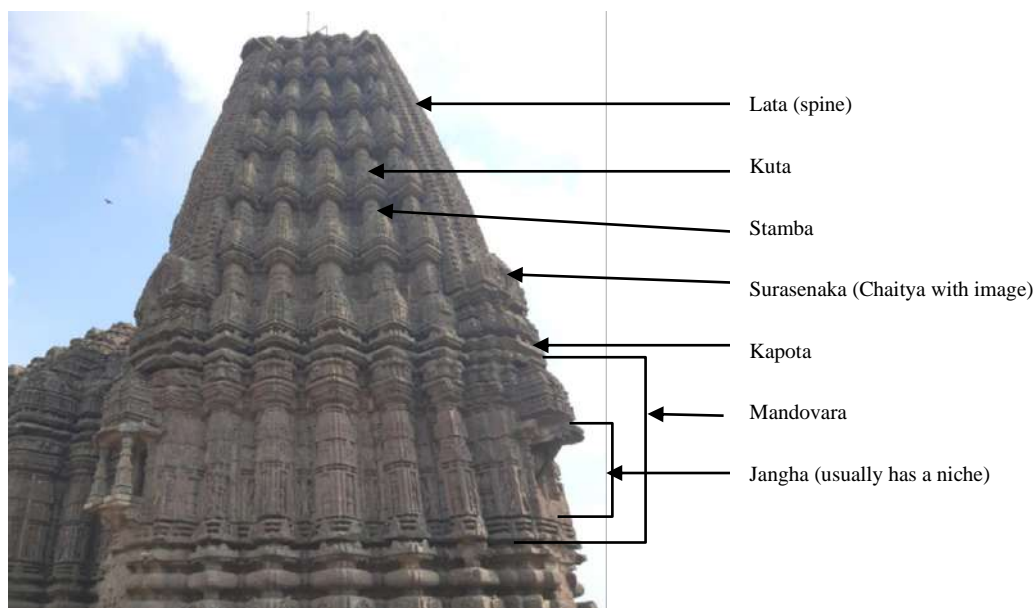The shikar styles seen in this region are majorly *Nagar* style (North Indian) like

Bhumija style – Amruteshwar, Gondeshvar main shrine, Jagdambadevi, Vishnu temple Anjaneri.

Latina style – Gondeshvar small shrine, Anjaneri complex

Phansana style – Nageshwar temple

Also, only the Aesvara temple has Vesara style shikhar with *shala* fragments remaining and Siddheshwar temple with no shikara but seeing the stellate plan it might be Bhumija. So the major shikhar style found is Bhumija shikhar of Nagar style with a gable roof on *antarala* with *chaitya* niche (*surasenaka*) on all 4 cardinal directions on *latas* (spine). Which is a major inspiration from the Gujarat and Malwa region temples.
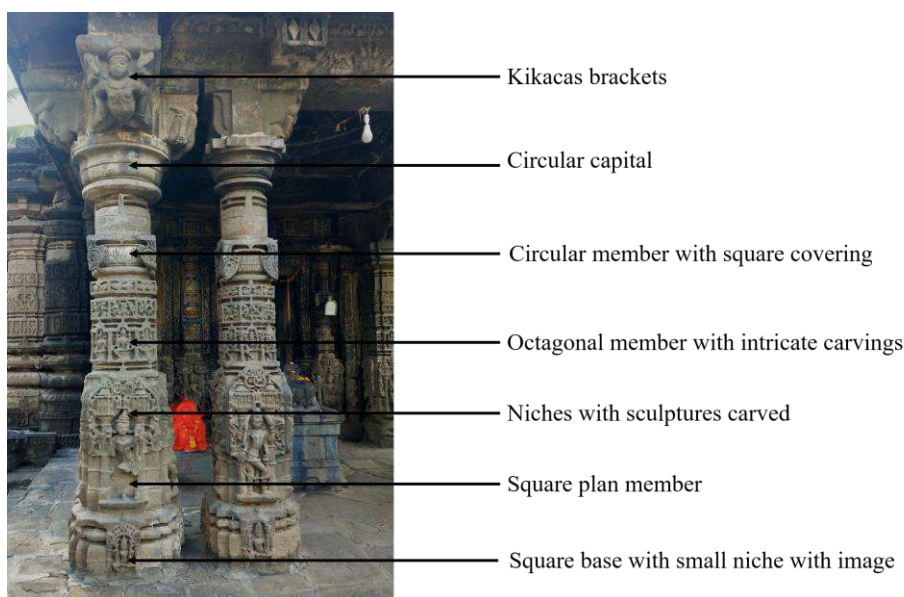
Figure 102: Bhumija shikhar nomenclature

Lata (spine)

Kuta

Stamba

Surasenaka (Chaitya with image)

Kapota

Mandovara

Jangha (usually has a niche)

Reference: (Deglurlar, 2019)

2.3 Stambhas (Pillars):

There are various stypes of pillars seen in this region but the major structure is square below, circular above with octagonal in the center with different decorative patterns and capitals also offsets emerging at corners. Amruteshwar has the whole pillar square in plan and that of Aesvara with different pillars with Octagonal, Hexagonal, and square plans. The lower part of the column has a very common element of a deity in the center of all four sides. The capital is the mostly circular exceptional case with Amruteshwar and Jagdambadevi with square capital and offsets. The major motifs found on these temples are Peepal leaf (Northern inspiration) and *Kirtimukhas* (Chalukyan inspiration). The brackets we see are mostly *Kicakas* (Four faced men supporting the beams above) or Vase shape modules**.**

Figure 103: Nomenclature of a typical column of Siddheshwar temple

Kikacas brackets

Circular capital

Circular member with square covering

Octagonal member with intricate carvings

Niches with sculptures carved

Square plan member

Square base with small niche with image

2.3 Doorway (*Dvara*):

The Doorways of these temples are intricately carved, an exceptional case of Nageshwar which has no carvings and no image on the door lintel. The lower part of the sakhas is depicted by dvarapalas, apsara, or sundaries and the deities to whom the shrine is dedicated. Also one of the common elements found in these temples is the projection in the threshold (lowermost part of the door) known as *mandaraka* which sometimes has *kirtimukhas* on either side. .

The door lintel has images of either Ganesha, Gajalakshmi, Garuda, Bhairavva, and Jain temples with seated Parshwanatha and Devi. The most common of them was Ganesha and Gajalaskmi seen in these temples. Another feature is the central lower part of the cornice has very beautiful circular floral carvings and a row above the cornice with small niches with deities in it. (refer fig. 104)

2.4 Ceiling (*Vitana*):

These temples built in the Medieval period have very beautiful ceilings with various embellishments. The three major types of ceiling found in these temples are:

1. Box ceiling – Here the square is rotated in angles forming a cuboidal box in the center which sometimes contains flowers in the center this type is mostly found where there is a grid formed by column beams like in Amruteshwar and Siddheshwar temples.

2. Domical ceiling – It is the most common ceiling almost found in all temples. These are raised upward that forms a dome of concentric diminishing circles which are supported by an octagonal frame on the square form. All *garbhgrihas* have this domical ceiling. These are found with two structural systems, one is the grid system where the central blocks of the grid have this ceiling, as seen in Amruteshwar and Siddheshwar temple and the other is the column-free domical ceiling as seen in Kokamthan.

3. Paneled ceiling – It is a common element seen in Chalukyan architecture where the ceiling is small in area and is paneled in a grid that contains the *Astadikpalas* (8 guardians of 8 cardinal directions), these are seen in *antaralas* in temples of Aeshwar (9 panels) and Nageshwar (16 panels).

The most common ceiling found in these temples is the domical ceiling which is present in almost all the temples.

Figure 104: Doorway nomenclature of Amruteshwar   *Figure 105: Domical ceiling from Amruteshwar temple*
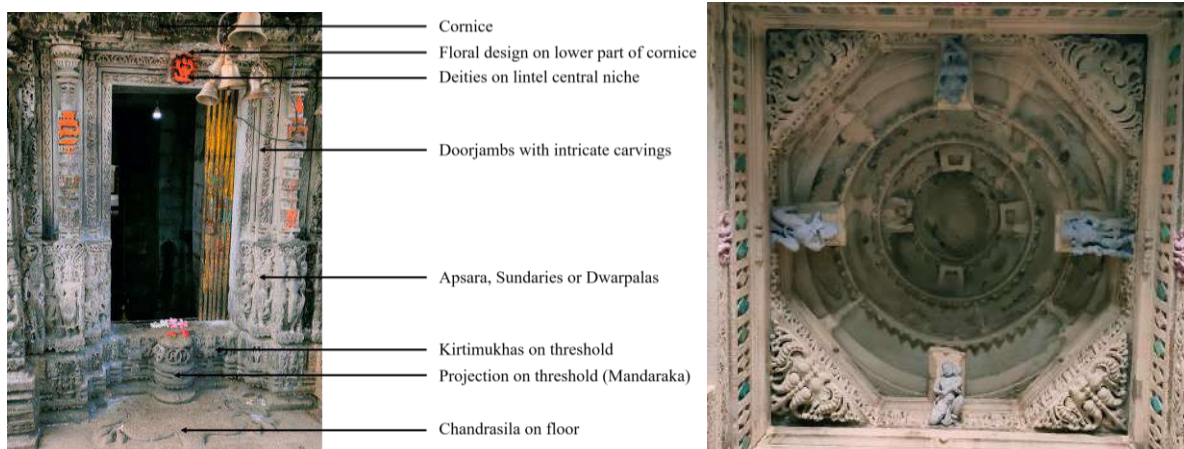
2.5 Popular motifs:

There are many motifs and carvings on these temples. Some of the common motifs seen in these temples are:

1. Kirtimukhas – This is a very common element seen in temples of Maharashtra, it is a mythical figure which means a face of glory. These are found in bands on outer facades, corners of the domical ceiling, the central part of the pillars, the threshold of the doors, and also sometimes of the topmost part of shikara. [Deglurlar, 2019]

2. Peepal-leaf motif/ gavaska – This motif is a hallmark of temples in Maharashtra found almost in all temples. Gavaska is a motif centered on an ogee, circular, or horseshoe arch making a pointed arch motif. These also look like the pipal leaf. These are seen in bands on façade, pillars, and Shikhara [Kanitkar, -]

3. Rhomboidal rosette motif – These motifs are also very commonly found in these temples. These are diamond-shaped designs with a circular element in the center giving a shape of a flower. These are continuous bands running all over facades, doors, columns, and ceiling beams.

Figure 106: Kirtimikhas, Gavaska and Rhomboidal motifs

3 Conclusions:

Now summing up the whole things about these so-called Hemadpanti temples.

1. First of all there is a wrong conception of Hemadpanth being the main architect of this style as his name was loosely connected with this style in Maharashtra, his period was in the 13th cen but similar temples are built even before it during the 11th -12th cen.

2. The common style is the Nagar style. The style has its origins from Malwa and Gujarat regions and other elements and motifs are inspired from Chalukyan temples of Karnataka.

3. Hence these temples can be said to be a mixture of Solanki and Chalukyan temple architecture. No temple is exactly similar to each other, as its designer and its architects varied and each one tried to do something different.

4. Today all temples build during the medieval period or Yadava-Shilahara period are designated by name of Hemadpanthi style but it's important to understand that no particular style temples were built during this period, we could see all types of Nagar style shikara Latina in Anjaneri Jain temple, Phanasana in Nageshwar temple and Bhumija in Gondeshvar temple, also temples like Aesvara has Vesara style shikara. So to be specific for this style of temples with Bhumija shikhara, a stellate plan can be categorized as Hemadpanthi style..

5. But to be specific there was no such independent style that was developed in Maharashtra wholly.

Acknowledgements

We are very thankful to get this opportunity to learn and explore this less-known heritage of Maharashtra. This research helped us to gain a sense of responsibility as architects towards preserving and conserving these important structures. Today these structures are day by day losing their identity in terms of architecture and heritage value. Through this research, we also propose to the architectural institutes to give students case studies of these temples which would indeed help in spreading awareness and help analyse these temples.

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