

# Climate Responsive Temple Architecture: A Unique Case Study of Nashik, Maharashtra

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## ABSTRACT

In Indian Temple architecture the main elements which form the temple are shikhara, garbhagriha, an ambulatory and a congregation hall. Temples with these elements can be seen across India. Nashik is famous as pilgrimage city and every twelve years Kumbh Mela is celebrated at the banks of Godavari River, Panchavati, and at Trimbakeshwar. Being a pilgrimage city there are many temples in Nashik built in stone, mainly in Nagara style, constructed by Peshwas during Maratha Empire. Maratha Empire was an imperial power based in Maharashtra. Maratha replaced the Mughal Rule on large parts of India in the 18th century. Shree Goreram Temple situated in Nashik falls under regional architecture typology. This is an interesting temple typology which is region specific and climate responsive, this typology can be seen in a specific belt from north of Karnataka to Nashik in Maharashtra. It is basically a village typology temple with a sloping roof, where monsoons are prevailing and a covered space is needed to protect from rains and harsh sun. This typology emerged when combination of brick and timber construction started, which is a unique case. Shree Goreram Temple was built in seventeen hundreds. This temple is a private property but open to public. The house-like temple form is not seen in other parts of India other than some regions of Maharashtra. The architecture of the temple is very subtle and merges in the context, responding to the street and ghats of river Godavari.

**Keywords** – brickwork, climate responsive, regional architecture, sloping roof, temple, timber construction

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## I. INTRODUCTION

The river Godavari which flows towards east in Nashik takes a dramatic north-south turn and again resumes to its original direction towards east. That part of river which flows north-south is known as the holy patch Raam Ghat. Raam Ghat is very crucial and has Raam kund, Sita kund and Lakshman kund. There are many small and big temples on the ghats. On the west side of the Raam Ghat is the city of Nashik and on the east bank is the Panchavati. Both Nashik and Panchavati are associated with the great epic Ramayana. Nasik's main deity is Kala Raam (Raam idol is made of black basalt stone), the Kala Raam temple is in Panchavati and the Gore Raam (Raam idol is made of white marble) temple owned by Muthe family is near the ghats.

Throughout India's history, worshipping deities has been an important part of the country's culture. Each Hindu family has a 'dev ghar'<sup>2</sup> to perform daily rituals towards God. The Muthe

Family resides in the ancient city of Nashik. Over 250 years ago, Muthe Family occupied a stretch of street along the River Godavari comprising of several 'wadas'<sup>3</sup>. Muthe family built Shri Goreram Mandir as a dev ghar along the wadas after death of Mr. Bhikaji Muthe. He was a 'samnyāsi'<sup>4</sup> in whose honor the temple was built. The temple primarily houses a white marble idol of God Rama in its 'garbhagriha'. The temple was not only for the Muthe Family members but also open for other pilgrims.

<sup>2</sup>in-house temple

<sup>3</sup>typical Maharashtrian climate responsive housing typology

<sup>4</sup>religious mendicant monk



Fig.1- Image showing the exterior and entrance door of Shree Goreram temple, Nashik. Image Source: Author



Fig.2. Facade of the temple, timber and brick construction. Image Source: Author

## II. ARCHITECTURE & OBSERVATIONS

The temple is along the street which connects the river Godavari and the Kala Raam Temple premises. Shree Goreram Temple is built on a stone plinth considering the slope of the street. The sub-structure is in stone masonry and the super structure of the temple has the combination of mud brick walls with timber columns and beams. It is a framed structure following a grid, making it structurally stable. It is a two and half storied structure with an attic topped with sloping roof with clay tiles.

As one enters the temple premises, there is a semi-open space, covered with sloping roof, in between the main temple and another small temple dedicated to Lord Hanuman. This space acts as a transition space and plays an important role in enhancing the experiential journey. Just above the entrance door is 'Nagaar Kahana'<sup>5</sup>, in which the drummers used to play huge drums during the special occasions and processions. A separate stair is provided to reach the Nagaar Khana level.

The architectural language is subtle and each element adds beauty to the purpose of this structure. At the ground floor of the main temple there is a double height congregation hall, in front of the main sanctum. The sanctum has three idols- Lord Raam, Sita and Lakshman, all sculpted in white marble. They are placed on a raised platform. There is a circumambulatory path around the sanctum.

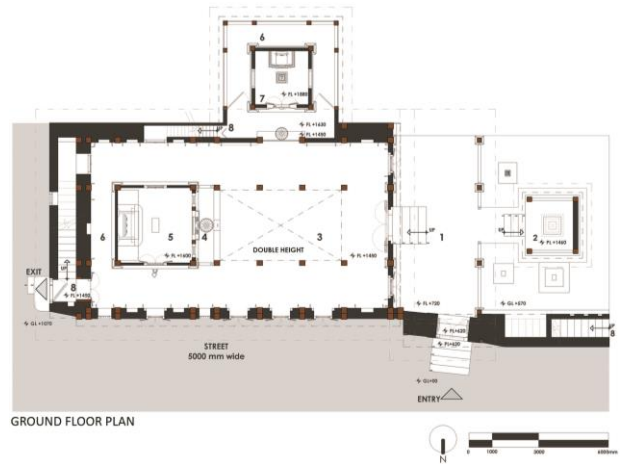


Fig.3. Ground Floor Plan. Image Source: Author

The interior of the temple is divided by the timber column grid. The space is spanned by timber beams with wooden decorative arches. The arches are highly carved, inspired by the beautiful banana flower. All the elements of frame structural system- timber column, timber beam and timber floors are made out of teak wood.

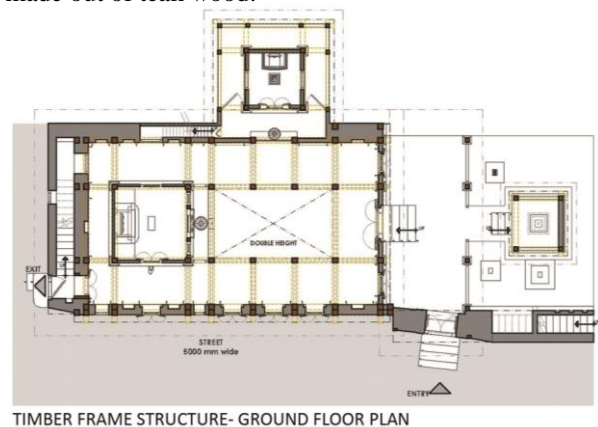


Fig.4. Timber Frame Structure

<sup>5</sup>a place where instruments like drums are kept and played

There is a narrow staircase behind the sanctum which leads to the first floor. This is a unique case where a habitable space is provided above the sanctum. During the pilgrimage many pilgrims visiting Nashik, used to stay overnight in this temple. This house-like form of the temple is built responding to the local climate. This temple turns into a multi-purpose place, providing fluid spaces. The selection of building materials for every space is precisely done to make it a comfortable structure to worship the God, as well as to make it a habitable structure.



Fig.5. Section 1. Image Source: Author

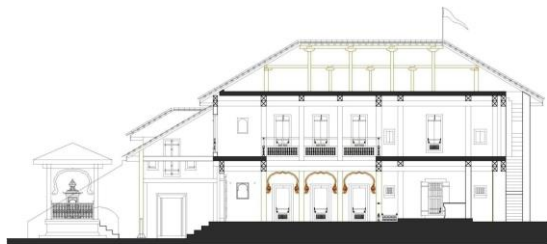


Fig.6. Section 2. Image Source: Author

### III. CONCLUSION

The climate of this region is composite. This climate is neither consistently hot & dry nor warm & humid. The characteristics of composite climate change from season to season, alternating between long, hot & dry periods to shorter periods of rainfall and high humidity. The Hindu temples found in India fall in two major categories- Nagara Style & Dravidian Style. Making an exception to these styles, Shree Goreram temple is purely a climate responsive temple architecture style.

The thick mud brick walls are lime plastered on both sides and painted with natural paints with decorative patterns at the edges. The stone flooring keeps the temperature moderate and the clay tiles on the sloping roof protect the structure during the monsoons. The well-seasoned timber doors & windows are well functioning even after two hundred years.

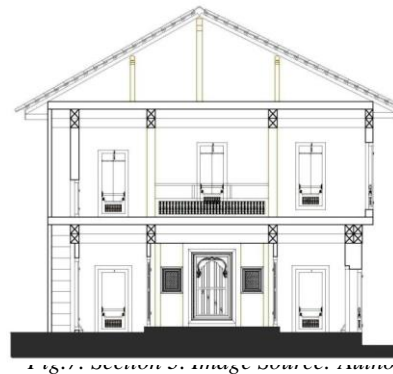


Fig.7. Section 3. Image Source: Author

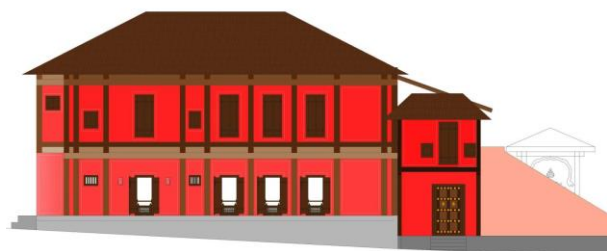


Fig.8. North Elevation. Image Source: Author

During the summers the interior of the temple remains much cooler than the surroundings and warm during the winters. The architectural elements and use of appropriate materials makes this temple fall under climate responsive structure. It not only is a good example of regional architecture but also heightens the experiential value of worshipping the deity. This temple is one of its kinds and has stood the tests of the time across the centuries.

The different materials used in this temple are aptly selected as per the inherent qualities of each material. All the materials are locally available and are natural building materials. The spatial experience is enhanced by sculpting natural light in different ways. This temple has given shelter to the numerous pilgrims and worshippers and has inspired many of those who seek knowledge and wisdom.

### Acknowledgements

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### REFERENCES

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