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LEARNING FROM VERNACULAR ARCHITECTURE OF TODA COMMUNITY

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Abstract: The socio-cultural practices of a community are influenced by their history, geographic location of existence, the events that have occurred which influenced their lifestyles. The understanding of “people”, “place” and “time” allows professionals to relate to the evolution of communities and make decisions to allow growth. The anthropological parameters are manifested through architecture, religion, occupation, cultural practices, and lifestyle. The vernacular architecture of the Toda community of Nilgiri is the outcome of the prevailing topography, availability of local materials, socio-economic, and other natural forces. The traditional architecture forms the backbone of the social and cultural set up of the community, which is depicted by buildings designed to achieve comfort and provide functional requirements by using locally available building materials and construction techniques. The vernacular architecture is more responsive to climatic, geographic, and cultural conditions. The knowledge the traditional buildings can be used as a tool to design our future buildings. This paper aims to present a study of architecture and planning of residential dwellings of the Toda community of Nilgiri region.

Index Terms - Toda community, Arsh- house, Tribal, Vernacular, Architecture, Construction Practices, Materials, and Methods.

I. INTRODUCTION

Toda is a tribal community found in mainland of Ooty also known as Udthagamandalam, which is a subdivision of the Nilgiri district of Tamil Nadu. Being the least populated tribal community, Todas are not only hidden from the rest of the world but also are vulnerable to the consequences of urbanization and commercialization which causes a threat to their existence. The distinct tribal culture is evident from the cultural elements of the community reflected through their dwellings, food habits, lifestyle, etc. The Toda houses are commonly known as “Arsh Houses”. Todas are purely pastoral races and mostly known to use buffalos for occupational needs. The Nilgiri region, known for its rich flora and fauna has influenced the living of the community making them dependent on forest-based products for everyday use. The Toda settlements find its place in the heart of forest usually becoming part of it rather than dominating them. The tribal community offers lessons to contemporary lifestyles for their perseverance and sensitivity towards the conservation of the environmental heritage on earth, however, the community practices have constantly evolved with changing external influences to adapt to the present-day situations of the region governed by institutional and economic regulations.



Fig. 1. Location of Ooty, Nilgiri Region, Tamil Nadu.

II. CLIMATE

The abundant biodiversity, huge forest cover influences the natural environmental conditions of the region, protecting it from the heat of the sun even on the hottest summers. The topographical features of the place like its high altitude can be the reason for Ooty not experiencing a hot day even in the summer season. The dynamic seasonal changes bring out different versions of the place which is appreciated by tourists throughout the year.

Being located at an altitude of 2,240m even summer are pleasant with temperature ranging from 10 degrees to 25 degrees centigrade. During winter temperature ranges from 5 degrees to 21 degrees centigrade. The average rainfall is 121 centimetres.

III. TOPOGRAPHY

The entire region has rolling and steep topography which makes it a hilly area. The major soil types are sandy loam, red loamy soil and black soils can be seen in the river bed areas. The area is prone to landslides and soil erosion due to heavy rain. As per MSME-Development Institute, Ministry of MSME, Government of India about 60% of cultivable lands fall under the slope ranging from 15% to 35%.

IV. SETTLEMENT PATTERN

Toda families reside in permanent villages commonly known as “Mund” or “Madd”. The settlements follow concentric patterns with 3-7 Toda houses or “Arsh” houses enclosing the place for worship at the centre. The village is surrounded by agricultural land, a part of it comprises of pasture land for grazing buffalos. A Mund consists of mainly a temple place, Arsh houses, dairy house, and agricultural land arranged in concentric circles as described in Fig.2.

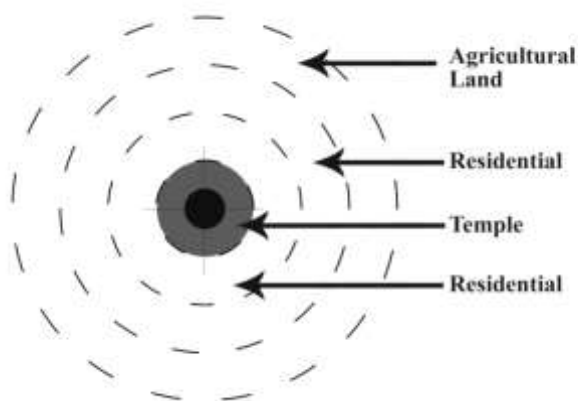


Fig. 2. Form of the village layout

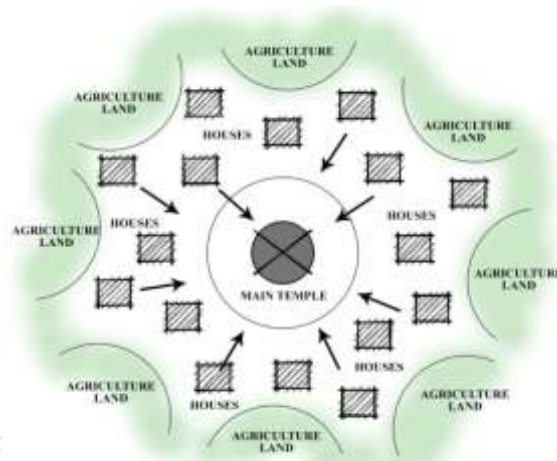


Fig. 3. Conceptual layout of Mund.

The organic pathways descending according to the natural terrain creates are used for access. To access fresh pasturage for the cattle, the entire hamlet is known to move to a duplicate Mund created for the people of the same Mund. Also, Todas have the custom to evacuate their houses or sometimes, the entire hamlet for a certain period in case of death of humans or cattle caused by a disease. It is believed that residing in the same Mund can infect other people and cattle as well.

V. ARCHITECTURE-SPACIAL LAYOUT

The houses of Todas mainly consists of single rooms. Some of the houses are formed by the junction of two and also sometimes three single units in a single line. However, the houses with more than a single unit are not connected internally and only share a common wall. The internal space, mostly a rectangle has segregated spaces based on functional use. The functional segregation of spaces depicts the importance given to the elderly in the community by providing a dedicated sleeping place. Other members of the house rest in the common space used for activities like eating otherwise. Most of the social interactions in the tribal communities happen outdoors, lessening the functional requirement of common spaces indoors.

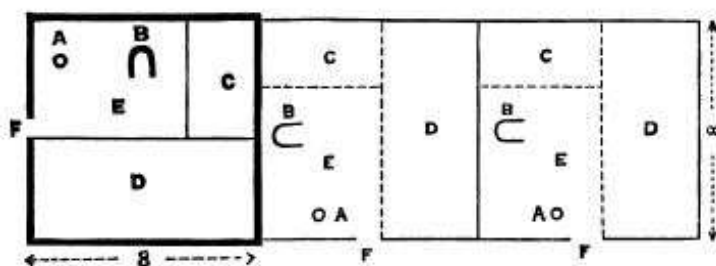


Fig. 4. Toda house with three units.

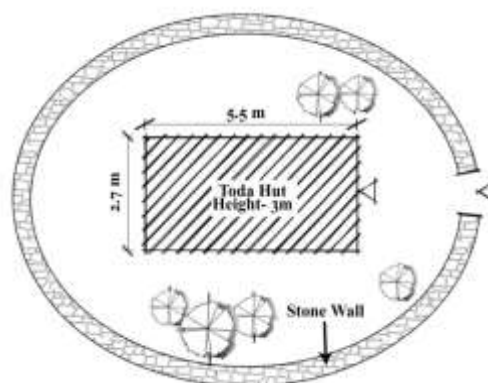


Fig. 5. Schematic plan of Arsh house.

The above figure 4 shows the three single units attached forming a bigger house, where A is the pestle and mortar known as Kudi, B is the fireplace, C is for storage, D is raised bed of clay for elders, E is vacant space for eating and where the juniors sleep and F shows the entrance to each unit.

Single unit houses are most common. The Arsh houses are basically rectangular shape in plan with 5.5 meters in length and 2.7m in width. The height of the house is around 3m.

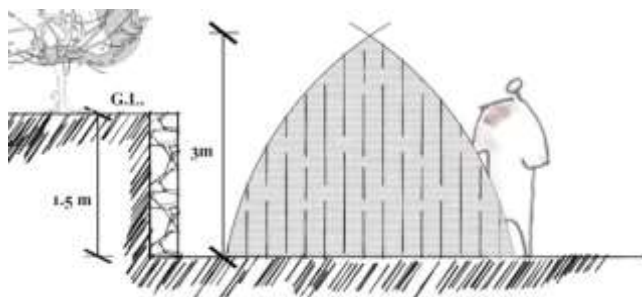


Fig. 6. Schematic section of Arsh house.



Fig. 7. View of Arsh house.

The house is constructed on the flat land and surrounded by the stone walls of height ranging from 0.9m to 1.5m. The structure sometimes is placed at a lower level from the original ground level. The stone fence, circular in plan has a small opening for exit and entry protecting the dwelling from the attack of wild animals.

The entrance to the house is generally around 0.9m in height, due to which residents have to bow down to enter the compound of the house through the opening on the fence. There are no windows in the house which help the inhabitants to protect them from wild animals and cold weather in the region. The doorway is the only opening to the house with a height of around 0.9m (2 cubits) and a width of 0.7m (1.5 cubits) in the middle of the gable wall, made for multipurpose utilities like a passage, for light, air circulation and passage of smoke. For a single unit house, the door opening is in the middle, and in case of multiple units, the opening of the second and third units are on the sides, such that all the doors be towards the leeward side, usually facing south or south-east.

The roof of the structure is a barrel-vault touching the ground from both sides. The roof is projected around 0.9m (2 cubits) beyond the walls, forming a verandah mostly facing East and Fig 10. This verandah is at the entrance of the house with raised platform made up of clay where the primitive family sit, air themselves, perform domestic chores, and talk to each other. This arrangement is prevalent in other settlements across the Region, sometimes called “Otlas” towards the Arabian valleys.

VI. CONSTRUCTION TECHNIQUES

The construction of the Arsh houses, is done with extensive use of the local materials available in the region. The roofs are thatched roof made up of local grass and bamboo, fastened with split rattan. The roofs are either constructed in curvilinear form or brought to an angle at the top, with the help of wooden ridge-pole. This type of construction is in this region. The two walls at the end are generally made up of very stout planking and for the houses with more units the partition walls are also constructed by the same technique. In some of the cases stones (mainly granite) are also used for the construction of walls.



Fig. 8. Construction of Arsh house.

The side walls are made by bringing the roof down to the ground, in which the end of the curved bamboo rafters are all embedded. Flat stones are used to fill the gap between the ground and the roof, to prevent the water to penetrate inside the dwellings. Clay mixed with cow-dung fills the holes and gaps between the planks.

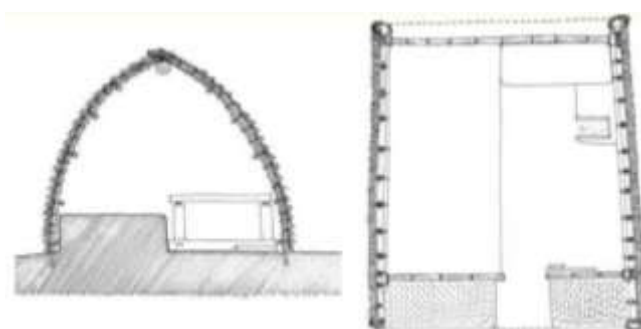


Fig. 9. Schematic section(left) and plan (right) of Arsh house.

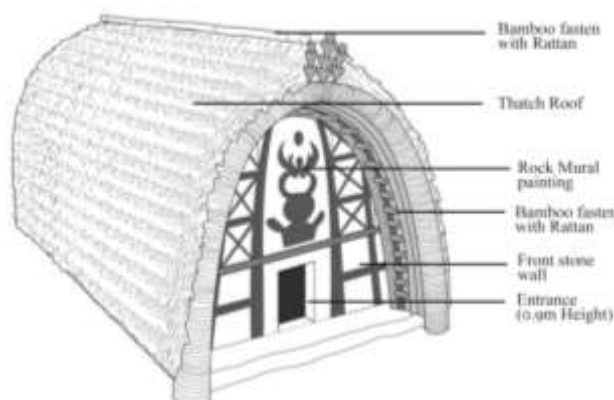


Fig. 10. Elements of Arsh house.

There are no attached doors to the walls, a flat stones and solid slab of wood is used to close the doorway during nights. Sticks made up of local trees were used to hold the door slab.

VII. CONCLUSIONS

The Toda community uses effective and affordable planning and architecture. The utilization of natural resources is done efficiently for construction practices. The architectural design and planning of the houses clearly reflect sensitivity towards the environment as well as to the cultural beliefs of the people. The cost-effectiveness, construction techniques, durability, and construction time of Arsh-houses makes the architecture unique and also sets an example for contemporary architects looking for alternative methods and materials for incorporation in their designs.

However, the tribe is known to migrate from one Mund to another in situations of crisis like diseases and vacate the Mund at the occurrence of natural calamities, which might question the structural stability during disasters. The knowledge of vernacular practices of tribal communities like the Todas opens a new arena of knowledge in architecture for cost-effective and less time-consuming construction.

REFERENCES

- [1] Ilay Cooper and Barry Dawson, *Traditional Buildings of India*, London: Thames and Hudson Ltd., 1998.
- [2] William E Marshall, *Travels amongst The Todas*, London: Longmans Green and Co., 1873.
- [3] Anthony R Walker, *The Toda of South India: A New Look*, Delhi: Hindustan Publishing, 1986.
- [4] (2016) The Vintage News website. [Online]. Available: <https://www.thevintagenews.com>
- [5] (2016) IBDP field study on Green Living home page on One Earth Foundation. [Online]. Available: <http://www.oneearthfoundation.in/ibdp-field-study-on-green-living-traditional-vs-modern-architecture/>
- [6] Milica Sterjova. (2017) Toda Huts: The homes of the Toda tribe homepage on Walls with Stories. [Online]. Available: <https://www.wallswithstories.com/ancient/toda-tribe.html>
- [7] (2017) Bohemian Soul website. [Online]. Available: <http://bohomason.blogspot.com/2017/>
- [8] Toda huts Ooty homepage on Holidays DNA. [Online]. Available: <https://ootytourism.co.in/sightseeing-places-to-visit-in-ooty>

