



VERNACULAR ARCHITECTURE OF TRIPURA

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ABSTRACT

the vernacular architecture of Tripura is a testament to the ingenuity and resourcefulness of the local people. The use of locally available materials and traditional building techniques has resulted in structures that are not only functional but also aesthetically pleasing and culturally significant, which reflects its true vernacular form. The vernacular architecture of Tripura is a unique blend of traditional building techniques and local materials that have been used for centuries by the indigenous communities of the state. The houses in Tripura are mostly made of bamboo, mud, thatch, and timber. The construction technique of bamboo walls and thatched roofs provide excellent insulation against the heat and rain. The houses are usually rectangular or square in shape and are raised on stilts to prevent waterlogging during the monsoon season. The interiors are spacious and airy, and the walls are adorned with intricate designs and motifs. The vernacular architecture of Tripura reflects the state's cultural heritage and demonstrates the ingenuity of its people in creating sustainable and eco-friendly homes.

KEYWORDS : Thapi, Hut, Tong, Machan

INTRODUCTION

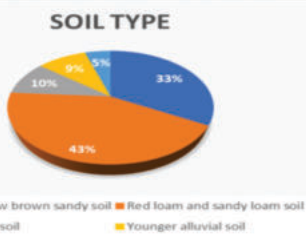
Tripura is a northeastern state in India known for its unique culture, rich history, and natural beauty. The state shares its borders with Bangladesh and is surrounded by hills and forests. Tripura's history dates back to the 14th century, and it was ruled by various dynasties before it became a part of India in 1949. The state is home to several indigenous communities, each with their unique language, customs, and traditions. Tripura's cuisine is also distinct and reflects the state's cultural diversity. The state's capital, Agartala, is a growing urban center with a mix of modern amenities and traditional architecture. Tripura has a rich tradition of vernacular architecture that reflects the culture, lifestyle, and environment of the region.

CLIMATE

Tripura has a tropical climate with hot and humid summers and mild winters. The state receives rainfall mainly from the south-west monsoon, which arrives in June and lasts until September. The average annual rainfall in the state is around 2100 mm. The temperature in summer ranges from 20°C to 36°C, while in winter, it ranges from 10°C to 27°C. The humidity levels remain high throughout the year, with an average relative humidity of around 75%.

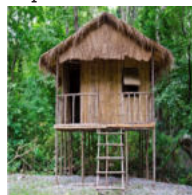
SOIL TYPE

S.No.	Soil Type	Area	
		Sq.km	Percent
1	Reddish yellow brown sandy soil	3,468	33.06
2	Red loam and sandy loam soil	4,514	43.07
3	Older alluvial soil	1,019	9.71
4	Younger alluvial soil	980	9.34
5	lateritic soil	510	4.86



CONSTRUCTION MATERIALS AVAILABLE

The traditional houses of Tripura are generally made of bamboo, wood, and thatch, and are well-adapted to the hot and humid climate of the region. Many houses now-a-days use tin due to its durability and low maintenance as building material, though it is not a traditional building material in Tripura.



Bamboo house



Mud house



Tin house

HOUSING TYPES

The most common type of traditional house in Tripura is known as the "Hut". It is a rectangular-shaped house with a thatched roof, bamboo walls or mud walls, and a raised platform made of wood or bamboo. The platform serves as the living space and is elevated to protect against flooding and pests.



Another common type of traditional house in Tripura is the "Tong". It is similar to the Hut, but has a more complex roof structure and a larger living space. The walls are made of bamboo. The Tong also has a raised platform, but it is larger and can be divided into different rooms.

In addition to houses, Tripura also has a unique type of bamboo bridge called the "Machan". These bridges are made entirely of bamboo and are suspended over rivers and streams. The Machans are built using traditional techniques that have been passed down for generations.

DESIGN

Living Room: The living room in a traditional house is called the 'Rai Ham' and is typically the largest room in the house. It serves as a multipurpose space for socializing, entertaining guests, and relaxing. The size of the living room can vary from 20 to 30 square meters, depending on the size of the house.

Bedroom: The bedrooms in traditional houses are typically smaller in size compared to the living room. The size of the bedroom can vary from 10 to 20 square meters, depending on the number of occupants.

Kitchen: The kitchen in a traditional house is usually a small room located at the back of the house. The size of the kitchen can vary from 5 to 10 square meters, depending on the size of the house and the cooking requirements.

Bathroom: Bathrooms in traditional houses are usually located outside the main house and are separate from the living quarters. The size of the bathroom can vary from 2 to 5 square meters, depending on the amenities provided.

It's important to note that the sizes mentioned here are approximate and can vary depending on the specific design of the traditional house and the needs of the occupants.



NOTE - ALL DIMENSIONS IN MM

Plan of traditional house

CONSTRUCTION TECHNIQUES

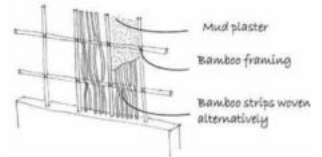


Stilts

The houses are built on stilts using bamboo and other natural materials. The bamboo stilts are usually around 3-4.5 meters high. The raised design of these houses helps to keep the inhabitants safe during the monsoon season, when flooding is common. It also provides a cool and comfortable living environment during the hot summer months.



Bamboo wall



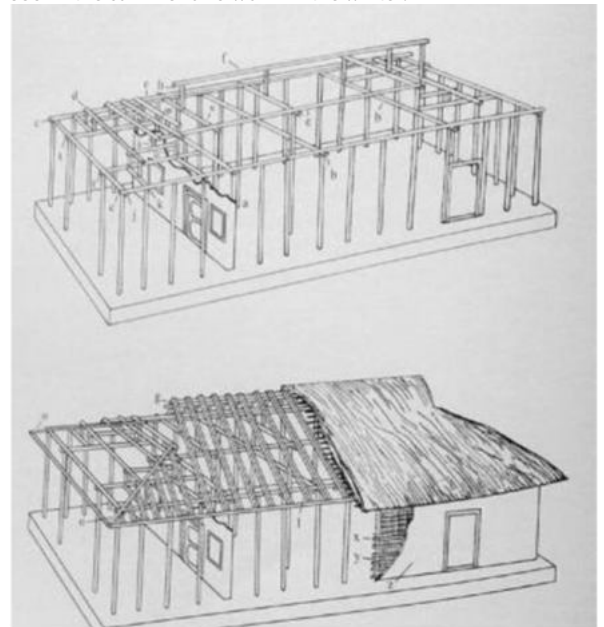
To construct a bamboo woven wall, first, the bamboo strips are harvested and treated to prevent rotting and insect infestation. Then, they are soaked in water to make them pliable.



Weaving pattern

Next, a frame is constructed using thicker bamboo poles. The woven bamboo strips are then attached to the frame using a crisscross pattern, creating a tight and secure weave. Once the wall is complete, it is often coated with a layer of mud or clay to help protect it from the elements.

Bamboo woven walls have several advantages over other types of walls. They are lightweight, easy to construct, and provide excellent insulation, keeping the interior of the house cool in the summer and warm in the winter.



Thatch roof

To construct a bamboo thatched roof, the bamboo poles are first harvested and cut to size. Then, they are woven together to create a sturdy frame that can support the weight of the thatch. The thatch is made from dried grasses, leaves, or other natural materials, which are woven together into a thick mat.

The thatch is then attached to the bamboo frame using a series of ropes or wires. Once the thatch is securely in place, a layer of mud or clay may be added to help waterproof the roof and provide additional insulation.



Fence

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The most common material used for fencing in Tripura is bamboo. The bamboo poles are harvested and treated to prevent rotting and insect infestation. They are then cut to size and woven together using a variety of traditional techniques.

One popular method of bamboo fencing is called "Thapi," where the bamboo poles are tied together with a strong rope made from natural fibers. Another technique is called "Bamboo paling," where the poles are inserted into the ground and held in place with a sturdy frame made from bamboo or other natural materials.

Bamboo fences serve several important purposes in traditional Tripuri houses. They help to define property boundaries and provide a sense of privacy and security. They also help to keep livestock and other animals out of the house and garden areas.

CONCLUSION

In conclusion, the vernacular architecture of Tripura is a reflection of the state's rich cultural heritage, its environment, and the resourcefulness of its people. The traditional houses of Tripura, made mostly of bamboo, mud, and thatch, are designed to be eco-friendly and sustainable, with features that are adapted to the hot and humid climate of the region. The houses are raised on stilts to protect against flooding, and the walls are woven with bamboo to provide insulation. The interiors are spacious and airy, with intricate designs and motifs adorning the walls. The vernacular architecture of Tripura is a testament to the ingenuity of the local people, who have created homes that are not only functional but also aesthetically pleasing and culturally significant.

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