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Research Paper

REFLECTION OF CLIMATE AND CULTURE IN ARCHITECTURE - CASE OF TIRUCHENDUR, TAMIL NADU

Tony Marcel Nisha M.Arch II Year, Department of Architecture, Periyar Maniammai University, Thanjavur, Tamil Nadu

Tony Marcel Nisha Dean, Dept. of Architecture, Periyar Maniammai University, Thanjavur, Tamil Nadu

ABSTRACT

Sustainable architecture is gaining its momentum in recent years. Traditional architecture is sustainable as it satisfies the climatic and cultural needs of the people. Traditional architectural form of a region depends upon the climate, occupation, religion, socio – economic status, education, materials available and the other socio – cultural factors. Tiruchendur has a unique culture which can be revealed in its regional architecture character. Their dwellings reflect occupant's activities in their lives, while adapting to the warm and humid climate. Tiruchendur is famous for its Arupadai veedu temple and develops a Hindu community. It has a very unique Brahmin settlement and brings in regional identity to that place. The characteristics of these dwellings have remained unchanged until the 19th century. But at present many houses are left in a ruined state due to immigration to urban areas and also due to changes adopted in the years. New houses that are built now, seem unsustainable in relation to socio-cultural values due to the homogenous spatial pattern, modern technologies and construction methods. The buildings that are present now are not conducive to both the habitants and the environment. If this issue continues then the potential of these sites will be totally lost. Hence it is necessary to find out the elements which are of immense value to both climate and culture and accommodate them in our future designs.

KEYWORDS : Culture, climate, religion, occupation, traditional architecture, regional architecture.

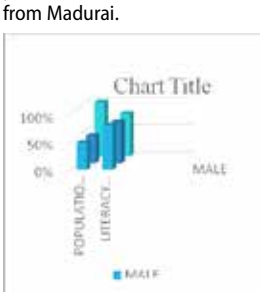
INTRODUCTION:

HISTORY OF THE PLACE:

Thiruchendur is a panchayat town at the southern tip of India, in Thoothukudi district, which has an area of about 219.85acres. Thiruchendur has one of the Arupadai veedu of weeLord Murugan. Red soiled forests containing densely planted palm trees, cashew plantations, and other crops typical of the region are found. It is one of the largest temple complexes (by area) of India and it is one of the most visited temple complex in India. It is famous for its Arupadai veedu and also a Shiva temple. The Murugan temple is said to be one of the largest temple complex in India.



The town is well connected by rail and road. The nearby Tuticorin Airport is about40 km from Tuticorin, 55 km from Tirunelveli, and 171 km from Madurai.



RELIGIOUS CONTEXT:



Ancient stories say that Shiva created Lord Muruga to kill the *Asura* who was also a Shiva devotee Surapadma, as he was torturing innocent people. It is said that Muruga killed him in this place and in order to forgive himself from his sin, he started praying to Lord Shiva, and that was the reason why both the temples are located in the same axis. It is also said that Lord Muruga's chariot is hence driven around the streets around this temple every year.

ORIGIN AND SPREAD:

It is said that the place was inhabited by the predominant paravas community. It is said that Mayan built these temples& wanted Brahmins in order to do the daily rituals in the Temple. Hence the Brahmins were brought from Trivandrum to certain other parts of South Tamil Nadu.



The form of these Agraharams could be understood as a derivative of a grid pattern, with the Shiva temple forming the main focus. These

are narrow row houses on both sides of the streets each sharing a common wall.



RELIGIOUS BELEIFS AND PRACTICES:

• Their primary occupation is chanting the mantras and doing rituals in temples. They also employ themselves in other temple related activities.

• They strictly adhere to their day to day rituals like doing puja's at home, worshipping the holy space, etc.

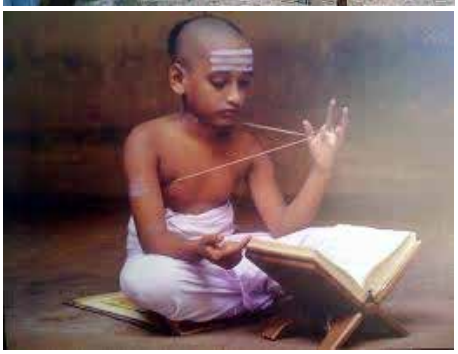


SOCIAL BACKGROUND, CUSTOM, LIFESTYLE & FAMILY STRUCTURE

- An important fact about Brahmins is that they were essentially temple – centred.
- Brahmins always tend to live close – knit within their society.
- They share a common wall as a result.
- They always tend to live in close proximity with the water body.
- They are considered to be the people belonging to the higher community. They are mostly priests and scholars of Vedic architecture.
- Community stratification is something that is considered within their community.
- The property is generally passed on to the sons. After marriage, the children either stay in the same house or if the existing house is very small, then a new house is constructed in very close proximity to the existing house. Usually a street is shared by blood relatives.
- Brahmins tend to be very hygienic and also follow elaborate purification rituals, both of self and the house.
- They follow a distinct style of marriage.

The children are sent to the PADASALA in order to carryover the occupation from one generation to another.





ROLE OF WOMEN IN SOCIETY

The status of women are secondary to the men, but have a relatively high level of education and awareness than other women in the society. They also learn singing and perform in temples. Thinnai is used in certain cases to teach songs.





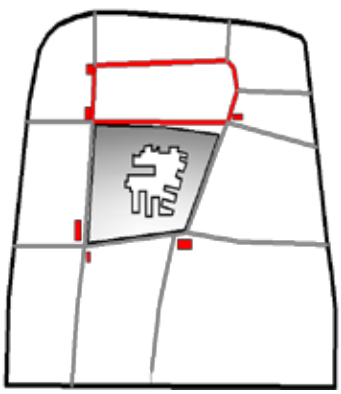
SETTLEMENTS, STREET FORMS: GROWTH OF THE CITY

The city has grown in a radial pattern around the Shiva temple, as the Arupada veedu is situated in a very close proximity to the sea. Brahmin settlements are found around the Shiva temple. They have settled in such a way that they are near to the Avudayar Kulam. The occupation of these Brahmins is to offer poojas in the temple. They also had lands which they left for lease to the people of less status in community.



STREET PATTERNS

The main streets are the around the Shiva temple, which are known as the North car street, South car street, East car street and West car street and the one that leads to the Muruga temple. The roads that connect the city with the nearby bigger cities is a state highway.



SHIVA TEMPLE

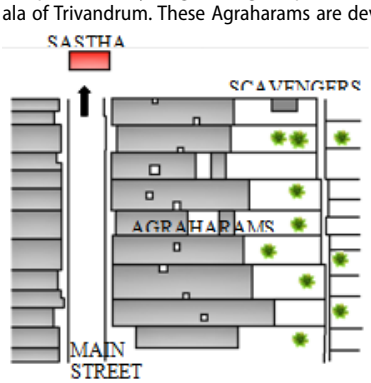
BRAHMIN SETTLEMENT

SPECIAL FEATURES IN STREET

Each intersection formed in the car streets have a small shrine, which is called as the SASTHANG KOVIL, which denotes that the people belonging to that street are all related to each other.

HOUSES – GENERAL INTRO

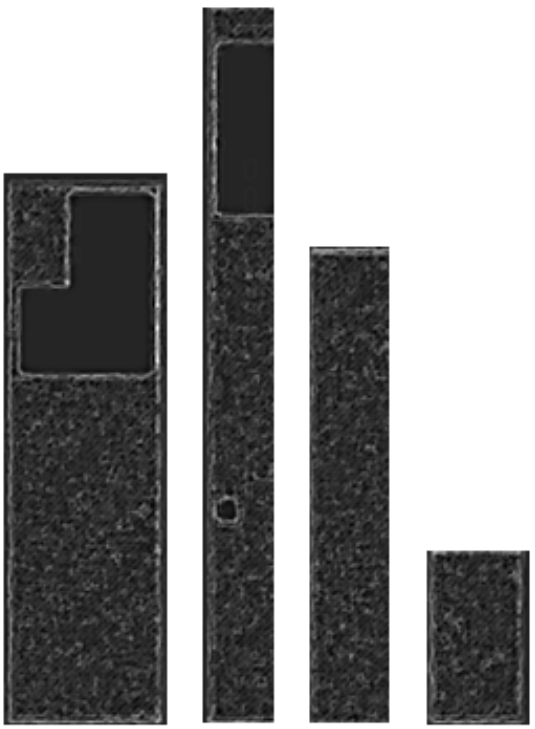
The plots are very long rectangular plots which represent the Valliyasala of Trivandrum. These Agraharams are devoid of courtyards which



HOUSE FORMS

JUSTIFICATION FOR SELECTION OF CASE EXAMPLES:

Two case examples are taken for study. The case examples are selected based on the typology of plot, age, which follows the same primary occupation as before etc.



HOUSE 1:

Members of the family:

There are 5 people residing in the house. Mother, daughter, son in law and two grand sons.

Age of the House:

The house is 120 yrs old. It was passed on to them by her father. Her father had a sister and hence the land was divided into two and given to them. The plots are very linear rectangular plots and as there was a well even before the property division, they started sharing the common backyard.

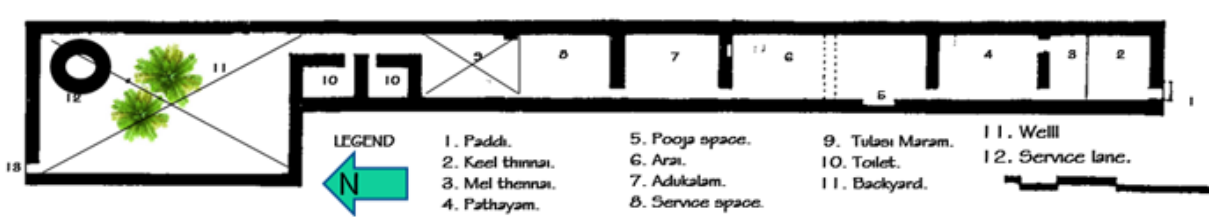
Size of the house:

The houses here share a common wall and hence the size of the house depends upon the size of the plot. They are either 7' X 120'

or 15' X 120'.

SPATIAL ORGANISATION:

HOUSE 1:



The house has 2 thinnais, Mel thinnai and Keel thinnai. Its used in the morning as a place of chit chat at the same time provide a good space from radiation entering the main parts of the house. It has a temporary sloped roofing. This space is used by almost all age groups and is also a multi function generating space. At night is used for sleeping by the men and elders in the family. The next space is the store room. This space is used for storing the grains which they obtained from their lands. The next room after the store is the hall, which is also used as a sleeping area for women at night, as it forms the central part of the house. The pooja room is also present in the hall. It is located in the Northern part of the wall. There is absence of separate pooja room as such due to the abnormal plot ratio. Kitchen is placed after that. Toilet is located in the backyard.











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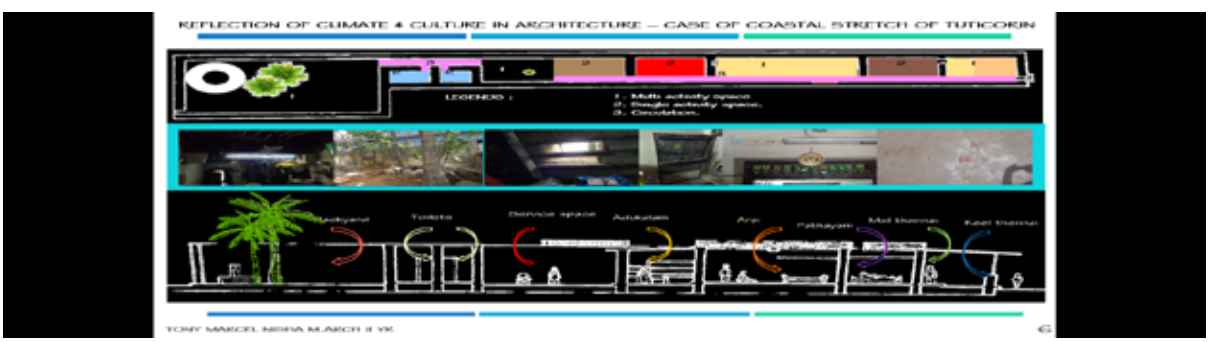
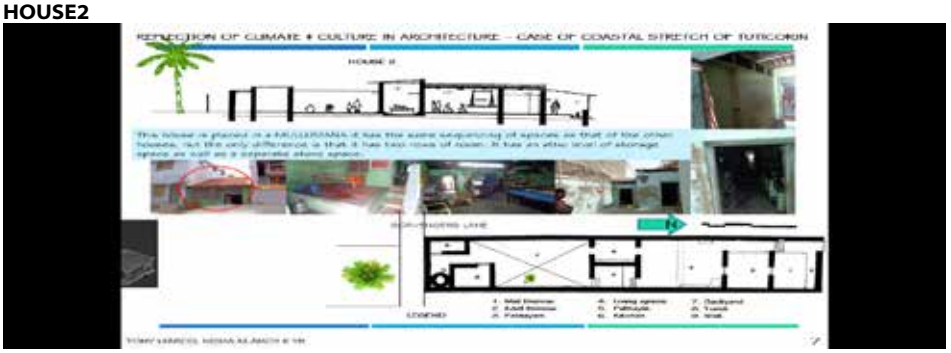


HOUSE2



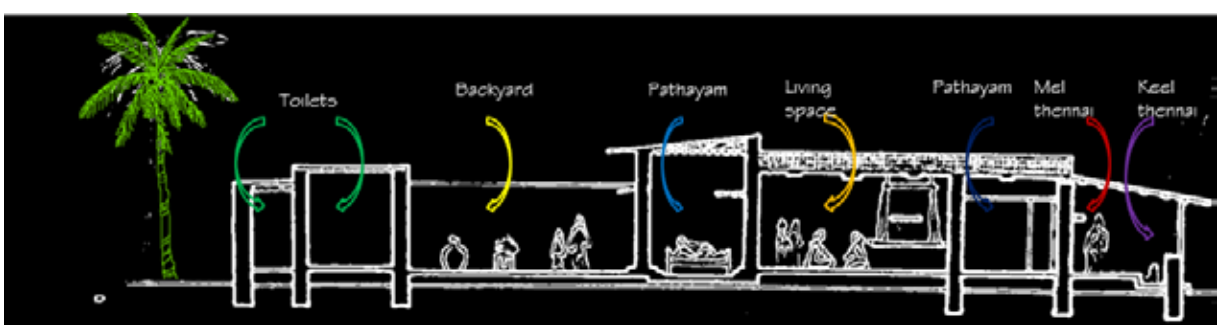
This house is placed in a MULLUMANA.it has the same sequencing of spaces as that of the other houses, nut the only difference is that it has two rows of room. It has an attic level of storage space as well as a separate store space.



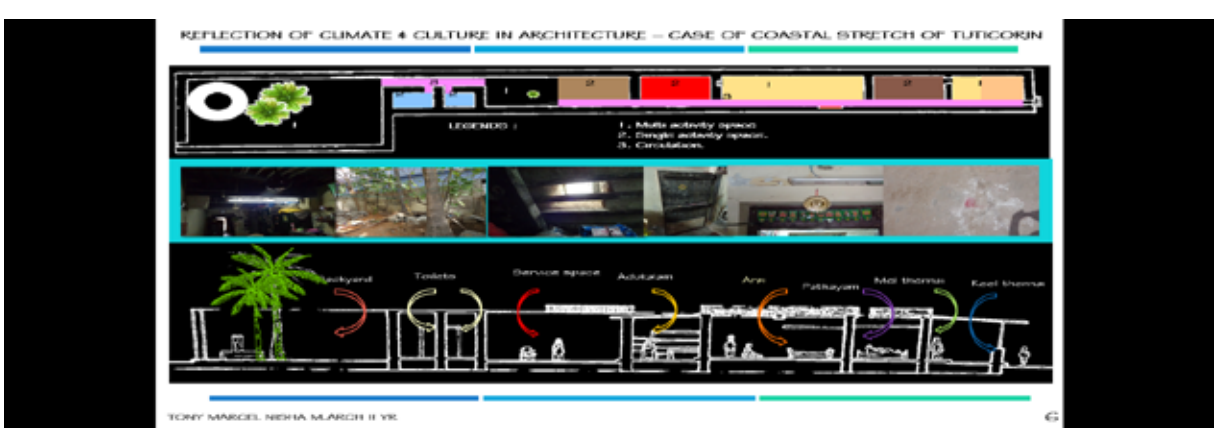




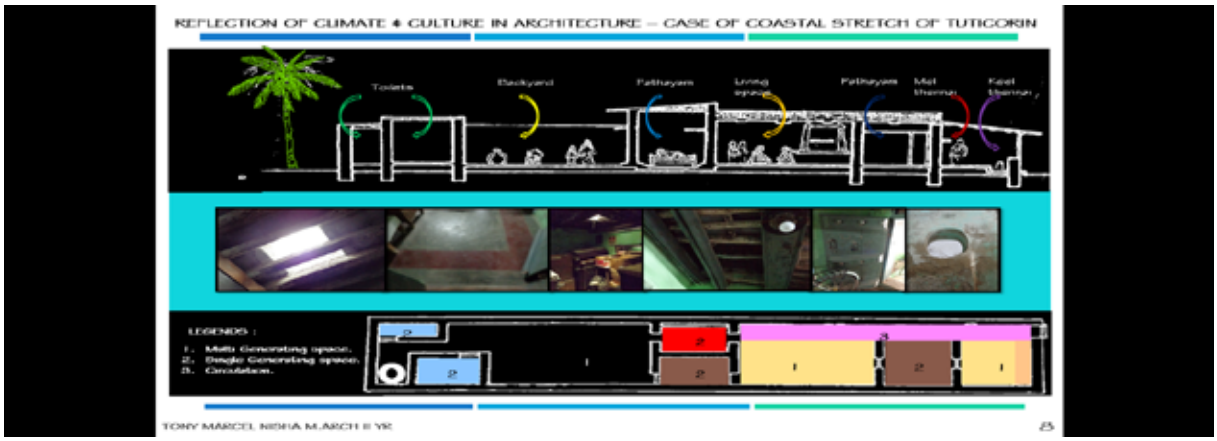




HOUSE 1:



HOUSE 2:



CONNECTIVITY - WITHIN THE BUILDINGS & WITH THE SURROUNDINGS:

There is always a close connection between one buildings to another as they share a common wall. The backyard is also shared, if they are blood relatives. The width street is provided in such a way that it provides for easy connectivity between two houses. Thus they always stay in close connection with each other. Within the house, there is no strict division of spaces between men and women and the spaces are also mostly multi activity generating spaces, and hence there is no problem in the connectivity.

SYMBOLISM:

The house has no special ornamentation, except for the kaavi lines which is drawn in the elevation of the house. The same feature can be seen in temples also and this indicates that they are closely related with the temple. The sloping roofs with the thinnai in the front and tulsi madam within the house are also some of the symbolic features which are present in a Brahmin house.

ADDITIVE CHARACTER:

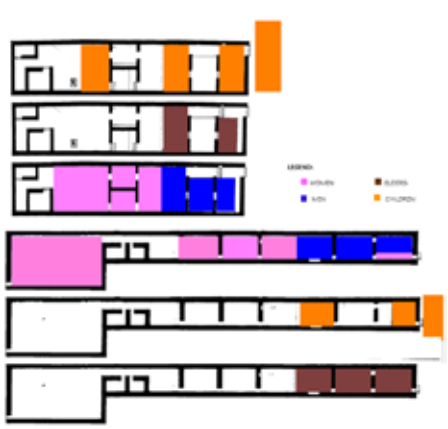
There is a small opening in the store room, which can be used to place a stair when an additional room is needed to be constructed in the first floor. It can also be used for storing grains in the attic level.

DEGREE OF PRIVACY:

Brahmins tend to be in close connection with their neighbours and hence an open interactive space like thinnai. But women do expect some privacy within and hence a screen in the thinnai.

SPACE ACTIVITY ANALYSIS – MEN, WOMEN, ELDERS & CHILDREN

The activity diagram explains about the degree of privacy within the house in various spaces. The height of the buildings also has impact on the usage of spaces. Spaces with low roofs are used as single activity spaces or used by women, whereas the high ceiled rooms are used by men or as multiuse activity spaces. The space used by women are usually inside the house and are all fully enclosed, where as the space used by men and children are semi- open so that visual access is possible.



CLIMATE AND ARCHITECTURE

Tiruchendur experiences a Warm and Humid climate. The architecture of these settlements satisfy the climate of Tiruchendur in the following ways.

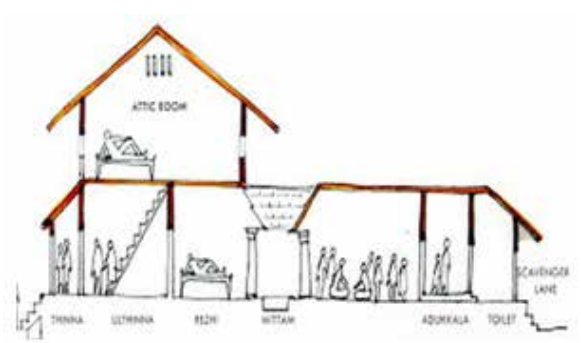
Wall to wall construction reduces direct radiation entering the house.



The wall are 1'6: tk and they increase the time lag.
There are no openings in the house, except for the skylights.



The attic level in the house also acts as a shelter from the harsh climates.



V. CULTURE AND ARCHITECTURE

RELIGION– MACRO LEVEL

Brahmins always tend to either around Shiva temples or Vishnu temples. In this case they are around Shiva Temples. The temple is oriented towards the end of the North Car street. The main people are present in the first santhi and it continues in a radial pattern. The presence of small ancestral shrines at the intersections of streets explains that people belonging to the same blood relative reside in the same street.



MICRO LEVEL:

Pooja room is something that is present in all the houses. Even though a separate room is not provided in certain houses due to absence of space, it is perfectly fit inside the house, so as to carry out their day to day rituals.



Tulsi plant is kept in the backyard as they consider it to be very sacred. It is also part of their day to day activities.

TRADITIONS, BELEFIS AND CUSTOMS – MACRO LEVEL

Tiruchendur Brahmins are said to be migrated from Trivandrum and hence they always tend to be tightly knit with each other for safety reasons as well as they always like to be in closely linked within their society and hence the evolution of row housing.



They have chosen their location in such a way that they are in close proximity to the Avudayar Water body, as they consider water body as a tool for purification.



The Nayak king who was the then ruler gave the land to the Brahmins and asked them to divide the plot among themselves based on the size of the family. Hence the demarcation in land as Muzhumana, Aramana etc. Similar kind of allocation can be seen in Melattur, Tanjore also.

MICRO LEVEL:

They deeply believe in community stratification and hence there are two thinnais. One upper and one lower. Upper thinnais are used by upper community class people wereas the lower thinnai is used for lower community people.



In certain houses the backyard is shared by two houses. This shows that they are related and hence they share a common backyard.



The bathrooms are always separated from the main part of the house, as they consider it to be unhygienic to place it inside the house.

Swing plays an important role in Brahmin marriages. Those hooks are also used by the new borns. A cloth is permanently attached to the beam or hook in a belief that the generation should not come to an end.



The presence of water piston in the lower thinnai is used for washing their legs and hands. In a typical Brahmin house, water will be present in the courtyard. Due to the absence of courtyard, this feature is present in the thinnai.

There are several levels within the house. These levels are used to indicate the priority of spaces within the space.

OCCUPATION – MACRO LEVEL:
Brahmins are closely knit with the temple and hence they are surrounded around the temple.

Brahmins own agricultural land but they do not employ farming instead they give their land as lease to the people of lesser community. Hence we can also see agricultural lands lying nearby to their settlements.



MICRO LEVEL:

The grains from the lands are divided. Half of the reap is given to the Brahmins, while the other half is given to the people to whom the land was leased. The grains thus obtained are stored in the house through various methods. They are either stored in the attic level or in certain houses there are separate rooms for storage, while in certain other houses they are stored in a large mud vessel. The grain stored in such ways are used throughout the year.





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