

# LESSONS FROM RURAL / VERNACULAR BASED ARCHITECTURE

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## ABSTRACT

Culture is an inescapable aspect of social life and has profound impact on our built environment. Studying of traditional houses in Architecture is to understand the legacy of the past as it contains a rich source of history and plays a significant role in creating a sense of belonging. As part of the rural study, Second year of 2017 batch B.Arch students at School of Architecture/Sri Manakular Vinayagar Engineering College started to explore and document “Udaiyalur” village near Kumbakonam and also analyzed the social relevance of the built forms to understand spatial qualities.

**Keywords:** Building typology, modern dwellings, rural– urban transition, sustainable well-being, Vernacular Architecture.

## INTRODUCTION

In Tamilnadu, villages as a whole form a social unit from which “community” life obtains. They have evolved with or out of specific symbols, both tangible and intangible, which represent the social cum utilitarian interest of various social groups that constitute the village community. This paper outlines the various criteria that govern the layout and the spatial planning of the settlement, such as caste and ritual order, temple and religious activity, economic activity and development. This is done so as to present the various dwelling types against the background of the settlement. This also dwells on the ideas of ‘sacred’ that manifests itself in the spatial planning of the settlement and the ordering of the various elements within. This is done with special reference to the case study.

## CONTEXT FOR THE STUDY

The students have extensively documented the history, Visual analysis and socio economic and cultural aspects of the village. Udaiyalur village offers unrivalled breadth of intangible aspects such as their rich customs, festivals, rituals which are inalienable part of their heritage. Here this article focuses on spatial features and to raise the public awareness in preserving or enhancing

these traditional settlements, which are disappearing today. In addition, it also explores the various ways through which 'time' has changed and reformed the usage and appearance of the spaces as well as the elements in domestic spaces, constructed a century ago, capturing the changing spirits and needs of the generations at present.

## HISTORY OF UDAIYALUR

'Udaiyalur', in rural Tamilnadu, South India has been identified as the study area for the Rural Studio. It is located geographically at 10°57'N latitude and 98°28'E longitude. One can reach the village within an hour's drive from Thanjavur town in Kumbakonam taluk. As per the 2001 census, Udayalur had a total population of 2995 with 1502 males and 1493 females. The sex ratio was 994. The literacy rate was 72.29. There are four Hindu temples dedicated to Goddess Selva Mahakali Amman also known as Thillai Kali, Palkulathi Amman, Lord Shiva and Lord Vishnu.

According to the Hindu mythology, Lord Subramanya, son of Lord Shiva, has constructed a tank. It has been known as Kumara Theertham and has been considered to possess miraculous powers, similar to the sacred River Ganges and so historically, the village has been known as Sri Gangeyapuram.



Layout of Udaiyalur Village with Temples

Over a period of time, people belonging to 'Udaiyar' section were majority in number within the village premises and hence, the village came to be popularly known as 'Udaiyalur'. A wicked and an arrogant 'Udaiyar' ruler ruled the area. In order to put an end to his inhumane acts, Goddess Selva Mahakali Amman came to earth and killed him mercilessly with her weapon (Sulam). In order to mark this act permanently in history, the villagers erected a temple, for 'Her' in the northern periphery on the banks of River Mudikondan. Most of the native Udaiyars have migrated in different directions, as they firmly believe that the Goddess is still unhappy with the entire community because of an individual's evil deed. They believe 'Her' to be the Goddess of safety and security (Kaval Deivam) and even now the villagers believe that 'She' is angry with them, as the Rajagopuram is still incomplete. The habitants are not aware of the reason for the

unfinished monumental tower as the gateway (gopuram), a dominant feature of the Dravidian style.



Main Streets of Udaiyalur

## ARCHITECTURAL, PHYSICAL AND SOCIAL ANALYSIS OF UDAIYALUR VILLAGE

According to the villages, the primary factor to lead a happy and a prosperous life, the height of the dwellings must be lower than the incomplete Rajagopuram of Selva Mahakali Amman temple. The unskilled local masons have raised single storeyed structures with complicated pitch



roofing system. They varied the height of the ridge in between 11' and the Goddess as the settlement has been located at a higher level similar to that of a citadel and made sure the occupants blessed 12' from the ground level. In spite of such belief, one unit has two floors in the front portion alone. After the construction process, the habitants lost their confidence in using the space in the first floor and as a result, it has been used as storage from the beginning. The community failed to encourage the individuals who had notions to segregate functions at different levels. The affluent had the opportunity to expand their house horizontally accordingly to suit their needs.



The term Agraharam means, “garland of house” refers to a Brahmin settlement within each village surrounding a temple. The houses have been stacked next to one another like a garland of flowers.

Transition space (Thinnai), between the public street (Theru) and the house which has raised platform with columns supporting the sloping roof; open to sky courtyard (Muttram), the primary source of lighting ventilation; multipurpose room (Koodam), connecting spaces (Nadai) and rooms (Arai) are the spaces conceptualised displaying the invested thoughts delicately intertwined with the spiritual needs and emotions of the occupants. A sacred planter box (tulsi madam) has been located in the courtyard for the welfare of the occupants.

The tangible forces of the environment and intangible beliefs of the locale have etched the interior spaces. The sidewalls are shared by the immediate neighbours emphasising the relationship of the part to the whole - socially as well as physically. In every housing unit, the sidewall, the principal roof supporting element is the main wall (Thai suvar) which encloses both rooms (arai) and multipurpose room (koodam) along one side. As mentioned earlier, the affluent people had an opportunity to expand their houses horizontally by adding more rooms and courtyards. Based on the number of rooms (arai), unique spaces for storage, prayer (puja), and sleeping areas have been incorporated. The front door, the courtyard and the back door have been aligned along a straight line offering visual transparency through the house. The width to depth of the units varies in-between 1:2 and 1:3 that portrays the fact, longer the axes, wealthier and larger is the family.

The rooms (arai), closer to the street are sociable spaces for entertaining the visitors and relatives. The courtyard (muttram) is the area, where marriages and the family rituals are organised. During such occasions, the guests are served food on, suitable sizes of plantain leaf. In general, the leaf has to be folded towards them after the meals, which express the intimate relationship with the relatives. The cooking spaces associated with females, have been allocated on the rear side along with the backyard that houses the cowshed with a private path on the rear side.

The backyard supports the various activities essential for preparing sumptuous food for the family. A well has been always located in the backyard, for carrying the day-to-day life activities and the house chores. Above all, the female folk have their own restrictions to enter the house like a woman during her monthly periods need to be secluded, a widow has always been considered inauspicious is neither allowed to attend marriages and functions nor permitted to enter prayer room. The interiors have been shaped up by the different intangible parameters like the social customs, believes, rituals, privacy, security. It has been brought in the reality, by the local masons who played a primary role in envisaging the spirits of the community and the individual family.



Architectural Features

Locally available resources and the knowledge of the villagers have been the principal tangible forces responsible for the interior silhouettes. They were well versed with the pitch roof which is symbolic according to the cultural anthropologist, Rapoport (1943, 22). All the interior profiles have been a combination of square or rectangular form housed under a complicated pitched roof, supported by a truss system, the deciding factor in determining the size of the rooms.

Oil lamp niches (maadams), has been integrated on either side of the doorways plays an essential role when the sun is about to settle a custom which is done even today in modern houses in the prayer room (puja). The reflected natural light from the courtyard (muttram) has been animating the interior space, keeping the interiors alive throughout the day. During the night time, the oil lamps smoothens the interiors giving an altogether different character. All the doorways have been raised from the floor level and the height lower than the height of an adult. The elders in the village claim that the proportion has been purposefully envisaged as an element of respect for the people to bow down before entering in to the house as well as rooms, leaving the interpreter in a dilemma- whether the mentioned reason is true or it is a technical shortcoming. The doorways also exhibit features where 'Thoranamams' (garland of sacred leaves) are hung during auspicious occasions. As a welcoming sign, the permanently fixed wooden plank above the doorway has been richly carved with engravings depicting sacred pots (kumbam), intricately carved floral patterns. The lower portion of the door frames are decorated turmeric paste and sacred powder "kungumam" (saffron colour).

The complicated roof system supported by wooden trusses, rafters, purlins and pot tiles have effectively rendered the interiors with natural materials, colours and textures making the interiors more organic (Wright, 1954, 23) in character. For the pitched roof the formula applied has been a right angle triangle with the proportion 3:4:5. The longest side is the hypotenuse or the sloping roof with conveniently added eaves to protect the walls during the monsoons. In addition to this the upper most portion of the walls which support the eaves broadens out in a sculptural manner where the untutored masons have effectively played with the profile of the bricks which were of dimensions 10" X 5" X 2.5" (Cooper, 1965, 25) in different courses, protects the wall during the rainy season.

Wooden columns are the vertical elements supporting the principal rafter, the eaves sloping towards the courtyard as well as the streets. Columns vary in size based on their position in



supporting the complicated pitched roof system. The wooden orders supporting the principal rafter are taller and larger in diameter when compared to the ones supporting the eaves. The former has been looked as a structural element whereas the latter as a structural and an aesthetic element with a detailed capital.

## EXPLORING THE TYPOLOGIES

A limited number of typologies have been derived from the standard model based on the economical conditions coupled with the family size of the occupants. The affluent expanded their houses horizontally by adding more rooms and inner private quadrangle. On the whole, the houses can be classified based on the number of courtyards namely, single courtyard dwelling units with less or more rooms; double courtyard dwelling units with two primary courtyards or

one primary and secondary smaller one in the kitchen; triple courtyard houses with three primary courtyards or two primary and secondary smaller one in the kitchen.



The typical sectional elevation through the front and rear doorways depicts the alternate occurrence of covered and open to sky spaces inculcating the solid and void character. The natural light and ventilation through enlightens the inner spaces uniformly and highlights the aesthetics sensations of the local crafts man. Looking into the transverse section through the courtyards the inner row of columns support the ridges arranged along an axis perpendicular to the street in the multipurpose room (koodam). In addition to this a swing has been hung from the structural member, occurs where the roof springs, with adequately sized wooden plank for an adult to lie down and sleep comfortably. This area has been used for sleeping also during the hot summer season.

The private room (arai) used for sleeping during the winter and rainy season, has wooden storage spaces along the wall and wooden members have been hung from the roof for keeping mats, pillows etc.

The room (arai) has a raised platform has been incorporated where a row of pots with smaller pots placed on top of the other (adukku panai) to store grains. The kitchen (samayal arai) has

separate spaces for cooking, cleaning and storing vessels. The firewood (viragu), fuel for cooking has been conveniently stored in the backyard. In addition to this, the backyard also supports washing and hanging of clothes for drying.

## REFERENCES:

1. Bachelard, Gaston. "The oneiric house", Housing and Dwelling – Perspectives on modern domestic architecture- Domestic spaces as perceptual, commemorative and performative, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 74-77, Printed by The Cromwell Press, Trowbridge, Wilts.
2. Chauhan, Uttara. "Organically inclined", Indian Architect and builder, March 2000, 19-127, Jasubhai media, India
3. Cooper, Ilay. And Dawson, Barry. Traditional buildings of India, London, 1998, 10-12, 21-28, 164, 165, Thames and Hudson, Printed by Pozzo Gros Monti, Italy.
4. Douglas, Mary. "The idea of a home: a kind of space", Housing and Dwelling – Perspectives on modern domestic architecture – What is home?, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 61-68, Printed by The Cromwell Press, Trowbridge, Wilts.
5. Heidegger, Martin. "Building, dwelling, thinking", Housing and Dwelling – Perspectives on modern domestic architecture – What is home?, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 50-54, Printed by The Cromwell Press, Trowbridge, Wilts.
6. Pathak Apoorva, Austere explorations, Indian Architect and Builder, January 1998, 24-30, Jasubhai media, India.
7. Pevsner, Nikolaus. "An outline of European architecture", Housing and Dwelling – Perspectives on modern domestic architecture - Who interprets? The historian, the architect, the anthropologist, the archaeologist, the user?, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 21 -23. Printed by The Cromwell Press, Trowbridge, Wilts.
8. Rapoport, Amos. "The nature and definition of the field", Housing and Dwelling – Perspectives on modern domestic architecture - Who interprets? The historian, the architect, the anthropologist, the archaeologist, the user?, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 26-32, Printed by The Cromwell Press, Trowbridge, Wilts.



9. Rapoport, Amos, House, form and culture, 1969, 2, 3, 8, 16, 61, Prentice Hall, 1969
10. Srivastava, Urvashi. "A city in continuum – Remapping Banaras", A+D, Volume. XIX No.1, Jan-Feb 2002, 108-113, Media Trans Asia, India
11. Sthapathi V. Ganapati, Sthapathya Veda, India, 2001, pp 323, 381, 382, Dakshina Publishing house, Chennai.
12. Tuan, Yi Fu. "Architectural space and awareness, ", Housing and Dwelling – Perspectives on modern domestic architecture- Domestic spaces as perceptual, commemorative and performative, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 7-81, Printed by The Cromwell Press, Trowbridge, Wilts.
13. Wright, Frank Lloyd. "Building the new house", Housing and Dwelling – Perspectives on modern domestic architecture - Who interprets? The historian, the architect, the anthropologist, the archaeologist, the user?, Ed. Miller, Barbara Lane, New York, Routledge, 2007, 23-25. Printed by The Cromwell Press, Trowbridge, Wilts.

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