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**UNDERSTANDING AND ANALYSIS OF WEAVER'S HABITAT, KANCHIPURAM  
- A VERNACULAR STUDY**

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**ABSTRACT**

Vernacular Architecture is generated by various layers-physical as well as cultural. It is an integrated out come of living and cultural patterns of people, social structures, history, climate, materials, economy, technology prevalent to specific place and the aspirations of that people. Each layer contributes varyingly, weaving complex yet a united whole. These layers form the character of the context, which is very specific to a place. The beliefs, religion, climate, materials, social structures and economy of the people of that place shape the living pattern and the habitat. A habitat in a weavers village is a composition of open, semi open and enclosed spaces interwoven together forming the public and private realm-collectively called built form or built environment. In this sense, this paper evaluate specific vernacular settlement and house forms of weaver's village of Iyyengarkulam near Kanchipuram, Tamilnadu, India and their response to culture / Artistic skills in the formation of settlement. In order to explain this response, the Traditional house form reflects the way of life and cater to the various functions of the weavers community engaged in weaving and pre / post loom activities. This paper aims to pressing the need for conservation and preservation of outstanding example of traditional human settlements that developed in accordance with occupational needs of the Artisans.

**KEYWORDS:** Vernacular architecture; weaver's habitat; Climate; Builtform; settlement.

**I. INTRODUCTION**

Vernacular architecture is influenced by a great range of different aspects of human behavior and environment, leading to differing building forms for almost every different context. The way of life of building occupants, and the way they use their shelters, is of great influence on building forms. The size of households, who shares the spaces, way of food preparation, the way of interaction within and between the families and many other cultural considerations affect the layout and size of dwellings. This paper is concerned with the ways in which vernacular settlements are studied and analysed in order to facilitate knowledge and consequently preservation of Architecture and cultural heritage.

**II. VERNACULAR ARCHITECTURE**

Vernacular buildings record lifestyles of the past when people had to find a sustainable way of life or perish. The new importance of vernacular building is that it has vital ecological lessons for today [1]. Vernacular architecture also embodies the local lifestyle and its process of evolution is completely unconscious [2]. These quotes describe some of the salient attributes of vernacular buildings. Vernacular is strongly tied to cultural and social traditions. It responds to ambient environmental conditions, and it is, in a way, a naturally evolving process. Vernacular architecture comprises all buildings, not just dwellings and relates to environmental contexts and available resources. These are customarily owner or community built and use traditional technologies. Vernacular architecture is built to meet specific needs, while accommodating the values, economies, and ways of life of the cultures that produce them [3]. The word 'vernacular' derives from the Latin word 'vernaculus' which means native. Hence vernacular architecture refers to 'native science of building.' Vernacular architecture is both regionally and socially specific. Each community over the years develops a prototype that responds to local needs and carries it forward through generations.



### III. LITERATURE STUDY ON VERNACULAR ARCHITECTURE

#### Amos Rapport – House Form and Culture

In his analysis on the determining and modifying factors of house form he suggest that vernacular building express “the needs and desires of people and requirements of the cultural and physical mileu without the interference of artistically self conscious designers.After analyzing the primitive and vernacular architecture of various cultures to determine the dorminant factor governing the house form . He concludes saying ,”our era in one of reduced physical constraints,result in the problem of excessive choice ,the difficulty of selecting or finding constraints which arose naturally in the past and which are necessary for creation of meaning House form.

#### Geoffrey Bawa

The beauty of some of the buildings ,gardens and landscape leaves a considerable residue of the subconscious understanding in the mind – help to solve some present needs for the right placement of building on the site,for the need to frame emphasize a view to open or construct a space:a wish to get a definite degree of light or shadow in a soon.”Geoffrey bawa conceded that this so called Vernacular architecture had an impact on the development of his philosophy.”In my personal search ,”he wrote in 1958,”I have always looked to the past for the help that previous answers can give”.

#### Hassan Fathy

The quality and values inherent to the traditional and human response to the environment might be preserved without a loss of the advance of science. Science can applied to various aspects of our work,which it is at the same time subordinated to philosophy,faith and spirituality.

- Beliefs in the primacy of human values in Architecture.
- The essential role of tradition.
- The re-establishment of national ,cultural pride through the act of buildings.

### IV. HISTORY AND BACKGROUND OF THE STUDY AREA

In the 16th-17th centuries , silks and sandal were brought through Tamil nadu doors into the imperial vijayanagar dynasty. The temple architecture in Tamil nadu reached its zenith when the pallavas built the city of a thousand temples at Kanchipuram. Kanchipuram is one of the seven sacred cities of India. Kanchipuram was successively the capital of pallavas, the Cholas and rajas of Vijayanagar . During 6th-7th centuries, some of the best temples in the city were built by the pallavas. Today it is known not only for its hand woven silk fabrics. Kanchipuram’s exquisite silk sarees are the woven from pure mulvery silk in Contrasting colours and have an enviable reputation for lustrem, durability and finish. The silk fabrics of kanchipuram well known to all parts of India. The super texture, colour and lusture of kanchipurum silk saree made it in every household. Though kanchipuram became an important Silk weaving centre, it is surprising that the main raw materials silk and brocade (zari) are imported from Bangalore and Surat respectively. The water used at kanchipuram possesses the unique quality of importing lusture to raw silk and this may be done of the reason why silk weaving has taken firm root in kanchipuram.

### V. PROCESS OF WEAVING SILK SAREE

#### Raw materials used for weaving silk sari at kanchipuram

Raw silk has been derived from colours. After a lapse of 21 days the colours are being boiled there by the raw silk is desired. At present colours and raw silks comes from other districts of Tamilnadu and also from Bangalore to kanchipuram. As for as kanchipuram silk sarees are concerned, it is preferred 20/22 denier and 18/20 denier of raw silk weaving of silk sarees.

### Twisting of silk yard for warp and weft

Raw silk desired from colours are doubled and twisted . Twisting factory owned by private parties to get twisted warp and weft. This twisted warp and weft are required bleached and dyed for required colour in the dye houses. The colours used for dyeing are fast and lustrous giving a shot-effect along with the zari border.

### Zari

In kanchipuram sarees, zari is used in body border and pallu portion. The contents of are red dyed silk, gold & silver. Tamilnadu. zari limited in the town supplies zari and remaining amount comes from surat.

### Weaving

The kanchipuram silk weaving is the oldest one and it is carried in traditional looms only. Most of the population in the country have looms in their houses for weaving sarees. The main weaver operates the loom by passing the shuttles of the body and wefts,there will be a solid border and pallu which forms one end of the saree.

## VI. LOCATION

**IYENGARKULAM** is the rustic village sets in the outskirts of kanchipuram District. Iyengarkulam still retains its rural character with a long winding stretch of road from the highway towards the village.The village is around 8 kilometres away from the main kanchipuram town .

Surrounding Land Use:

East - Abdhulpuram

West - Iyengarkulam Water tank & Agricultural land

South- kilthangal lake & Agricultural land

District road from kanchipuram to arni is running in east -west direction acts as a central facility,along this local shopping and school are located. 80% of the houses are owned by the weaver communities. A small temple at the entrance is usually seen in almost all the streets.

Figure:1



*Settlement pattern of the weaver's village ,Iyengarkulam.*

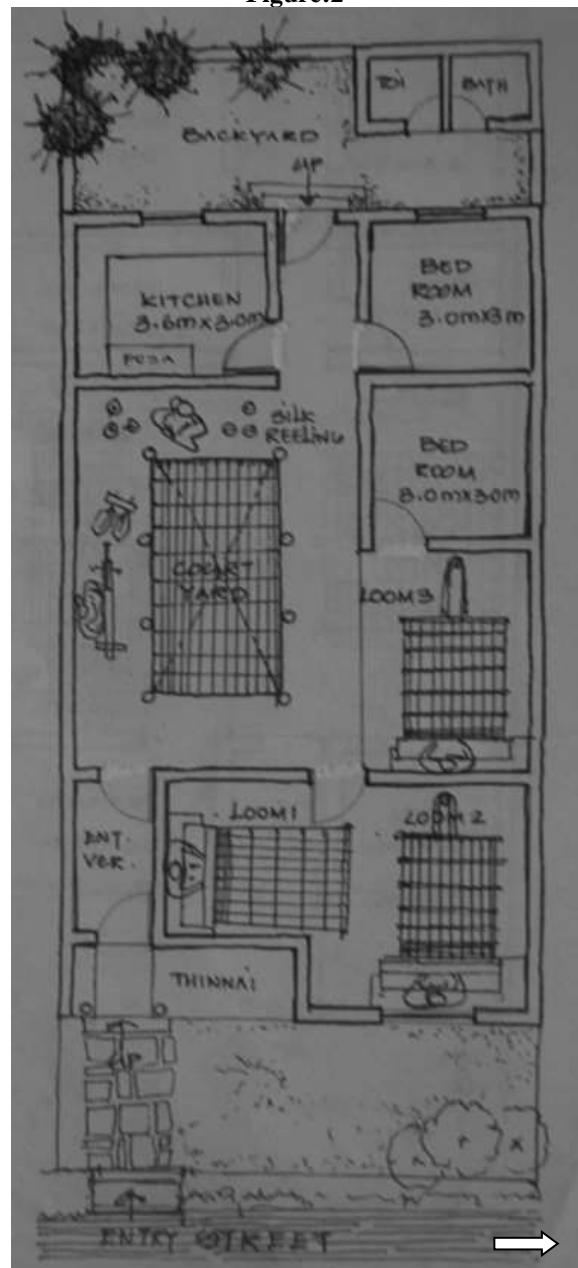
**TPOLOGY 1**

No of Adults = 4 Nos

No of Children = 2 Nos

No of Looms = 3 Nos

The Approach road to the house used as space for outdoor activity and vehicular and pedestrian movement. Drumstick trees at the front, Tamarind and thorny bushes at the backyard. Brick walls and Timber Truss supporting wooden Rafters. Country tiles are used as a Roofing Material. Steel Rod meshes used for security of the open courtyard. Activities performed in one space vary with day and night.

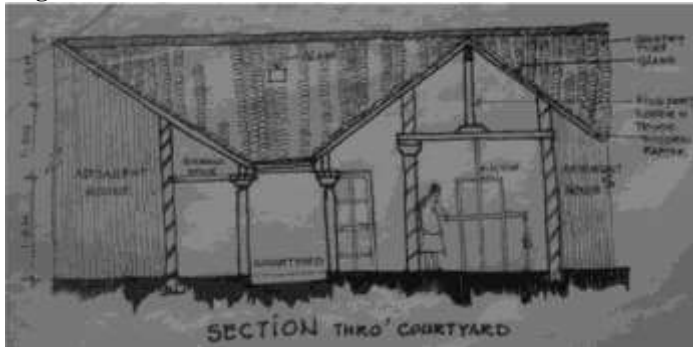
**Figure:2***Plan of Typology 1*

[vijayasree\* *et al.*, Vol.7(3): March, 2018]  
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**OUT DOOR ACTIVITY RELATED TO WEAVING**

The entire outdoor activity of degumming and threading takes place on the street fronts although the street is used by vehicular and pedestrian traffic as well as parking of vehicles . 3 to 4 houses share a space in front and jointly do this activity. This is an activity of work it also becomes a social activity as it involves a collection of people from various house. Toilets are usually located on the backyards away from the main houses where as one can find some additional toilets attached with the houses in the new structures. Thinnai in the front of house is used for twisting of silk and brocade (zari). This area is also used for informal evening chats by old people.

**Figure:3**



*Section through courtyard*

**Figure:4**



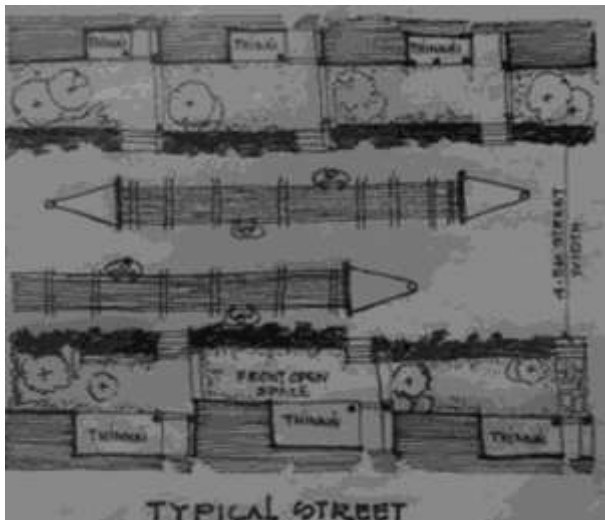
**Figure:5**



*Interior details*

Row of tiled roof gives the aesthetically pleasing street facade. The opening and thinnai are provided on south of each house gives rhythmic solids and voids elevation.

**Figure:6**



*Arial view of typical street & outdoor weaving activity*

**Figure:7**



*Interior showing loom*

**Figure:8**



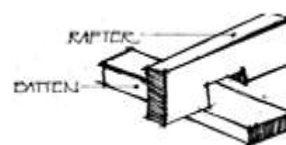
*Entrance door*

**Figure:9**



*Street facade with Row of tiled roof*

**Figure:10**

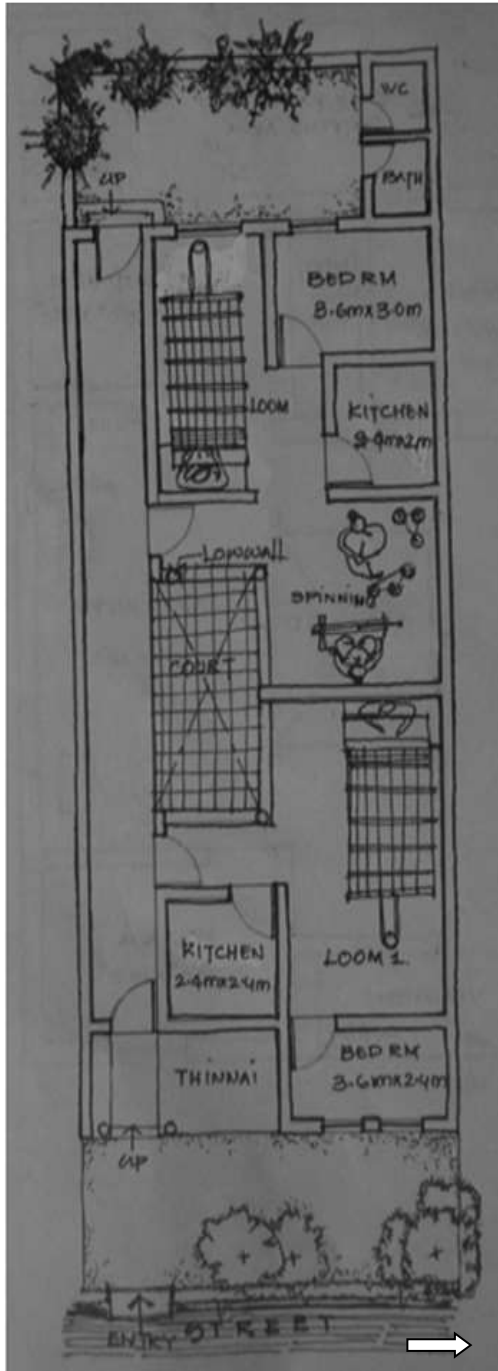


*Wooden Rafter details*

**TPOLOGY 2**

- No of Families = 2 Nos
- No of Adults in 1<sup>st</sup> family = 3 Nos
- No of Children = 2 Nos
- No of Adults in 2<sup>nd</sup> family = 4 Nos
- No of Children = 1 Nos
- No of Loom = 2 Nos

**Figure:11**



*Plan of Typology 2*

**Figure:12**

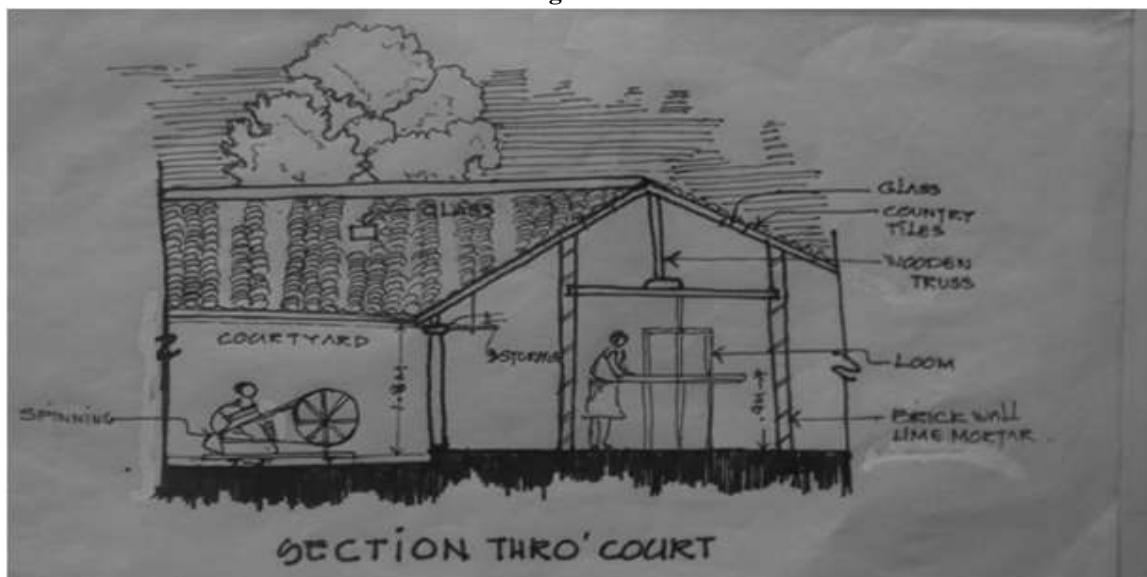


*Main entrance door*

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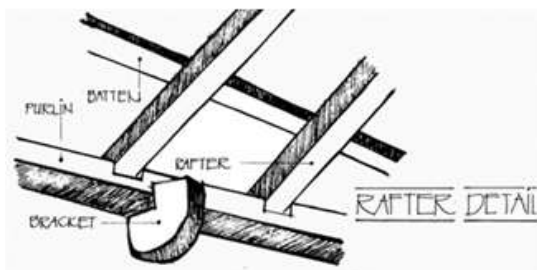
Weaver's houses on either side of this house.threading and spinning of zari and silk done in thinnai,nadai or in any room.Weaving is done in work room with open court on one side and fixed glazing on the sloped roof above to provide adequate lighting. Throw shuttle bench looms are used for weaving.Folding of sarees done on any room. Kitchen,cooking activities done on the rear end of the house. Males sleep on the thinnai in summer.Courtyard ,the generic indian vernacular element varying in sizes,acts as a focal point and organising element in the space used for lighting and ventilation purpose.Courtyards are traditional elements,in the builtform.an effective climatic feature.sloped roof ,rustic vernacular aesthetics add to the quality of form and space . Rough and Rugged stone slabs contributing to the natural feel. Country tile roof provides adequate heat insulation to interiors. Level of noise from weaving loom does not give disturbance to other activities. Cycles are parked in nadai-corridor. The ridge of all the houses in this street are more or less in same height. White wall with dark brown colour country tile roof gives balance to the front facade. Voids, solid wall and sloped roof in the front elevation are proportionate to human being.

Figure:13



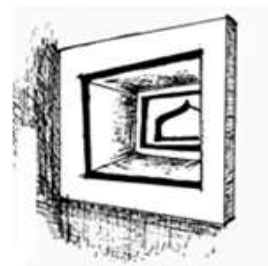
Section through courtyard

Figure:14



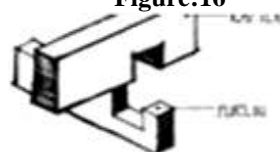
Roof details

Figure:15



Lamp Niche at the entrance door

Figure:16



Joinery details in the roof

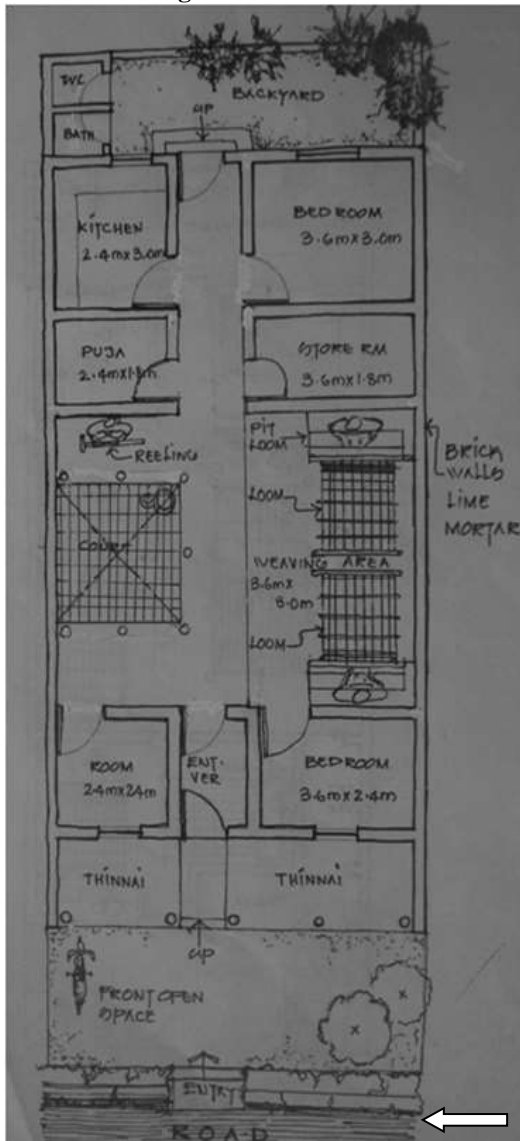
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**TPOLOGY 3**

No of Adults = 4 Nos  
 No of Children = 2 Nos  
 No of Looms = 2 Nos

The front elevation is divided into 9 equal parts. In that, entrance to the house is on 1st and 2nd equal parts. Textured tiled roof gives pleasing appearance with solid white blank wall and shaded thinnai portion to the front elevation. The width of the plots vary from 8m to 10m with a length of around 16m to 25m. The house has open to sky courtyard to provide lighting, a very long backyard with lots of trees, wells and toilets. Houses have either outdoor front open space with thinnai. Longer axis of the streets facing north and south provides shade in the morning and evening for outdoor activities. Street hawkers, pedestrian, vehicular movements along with weavers outdoor activity (threading and degumming). The colour, texture, proportion, solids, voids in the street facades of different streets are similar.

**Figure:17**



**Plan of Typology 3**

**Figure:18**



**Entrance door**



**Figure:19**



*Entrance door with Thinnai on both sides*

## VII. INFERENCE

The colour, texture, proportion, solids, voids in the street facades of different streets are similar. Rhythm is created by timber pillars, voids to individual houses. thinnai, windows, eaveboards and pillars gives rhythmic value to the street facade. Row of tiled roofed houses facing east and west provides shade to the streets in the morning and the evening for outdoor activity.

**Figure:20**



*Street facade with Row of tiled roof*

Row of tiled roof gives the aesthetically pleasing street facade. the opening and thinnai are provided on south of each house gives rhythmic solids and voids elevation.

## VIII. CONCLUSION

Vernacular houses had been constructed with some underlying principles conveyed from one generation to other, to make it respond positively to the prevailing climatic conditions and also respond to the social and cultural aspects of that specific region. Thus helped to attain aspects of comfort and practicality without deviating from the past. Vernacular houses are the best examples of the continuity of culture and tradition through ages. This paper aims to pressing the need for conservation and preservation of outstanding example of traditional human settlements that developed in accordance with occupational needs of the Artisans.

## IX. ACKNOWLEDGEMENTS

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