

Living the Common Styles- Kerala and South Kanara Traditional Architecture

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Abstract— This article focuses on the similarities of the domestic culture which is reflected in the Architecture of these geographies namely Kerala and South Kanara. We need to study the rich Traditional Architecture of these identified regions. In this interesting search, the amazing facts regarding similarities between Kerala's traditional Nalukettu houses and traditional Manor houses of South Kanara need to be highlighted. The Nalukettu is the traditional style of architecture of Kerala where in an agrarian setting a house has a quadrangle in the centre. Originally the abode of the wealthy Brahmin and Nair families, this style of architecture has today become a status symbol among the well-to-do in Kerala. Nalukettu is evident in the traditional homes of the upper class homestead where customs and rituals were a part of life.

The Manor houses are the dwellings of Bunt community. They are usually set amidst the agricultural fields. The houses have large courtyards to perform all the activities of farming. Usually the products from the field are got separated, cleaned and stored. They have a large cow shed at the rear of the house.

Keywords— *Nalukettu houses, Manor houses, Traditional architecture*

I. INTRODUCTION

Architecture over the ages has been an expression of social values. This has been reflected in the domestic architecture of Kerala (India's southern state) and South Kanara (coastal district of Karnataka). Although ever-changing, a distinct regional character has evolved in Kerala, decided by the local materials, climate, aesthetic values, geographical and historical factors. The same would also apply for South Kanara traditional architecture.

II. KERALA ARCHITECTURE —NALUKETTU HOUSES

Architecture of Kerala may be classified under two broad heads, namely Domestic and Religious Architecture. The traditional houses and the 'Nalukettu' belong to the domestic architecture. These are timber walled houses of the Malabar Coast in different settings such as beaches, lagoons and undulating terrains. The materials used for building the houses were biodegradable in some cases. The following stages of design have been analyzed as follows:-

THE ENVIRONMENT / SITE

Typically a Nalukettu is a detached, independent house in a large parcel of land surrounded by field and live stock. The position and sizes of various buildings, including the location of trees and paths earmarked the boundaries which were to be decided from the analysis of the site according to the prescriptions in the classic texts. The architecture of this region has been of a humble scale, merging with nature.

ARCHITECTURAL DESIGN CONSIDERATIONS

Nalukettu is typically a rectangular structure where four halls are joined together with a central court-yard open to the sky. The four halls on the sides are named:

Vadakkini (northern block),

Padinjattini (western block),

Kizhakkini (eastern block) and

Thekkini (southern block)

The outer verandahs along the four sides of the *Nalukettu* are enclosed differently. While both the western and eastern verandahs are left open, the northern and southern verandahs are enclosed or semi-enclosed [2].

DESIGNATED FUNCTIONS

The designated functions of the four halls are as follows- *Kizhakkini* is for prayer and *pooja*, *Thekkini* for keeping wealth and for human dwelling, *Padinjattini* for storage (crops and grains in the olden days) and *Vadakkini* for Kitchen.

Thachushasthram, or the Techniques of Carpentry and Traditional *Vastu* (Simply means instructions laid down for building a structure), is the governing science in the architectural form of *Nalukettu*. This branch of knowledge was well developed in the traditional architecture of Kerala and has its own branch of literature under the titles-*Tantrasamuchaya*, *Vastuvidya*, *Manushyalaya-Chandrika*, and *Silparatna* [2].

THE COURTYARD-INTERACTION ZONE

In the *Nalukettu* design, all the rooms are open to a common courtyard which helps the family to interact more often. The open courtyard provides natural ventilation as well as adequate lighting for the household, offering a healthier environment. Abundant sunlight falling inside the house through the open central courtyard acts as a natural disinfectant and limits the presence of bacteria and fungus inside the house. The rainwater would collect in open vessels placed in the courtyard thereby enabling Rain water harvesting. The inside open verandah with open court yard provides ample space for children for their activities. The central courtyard is an outdoor living space which may house some object of cult worship such as raised bed for *Tulsi*. (Sacred Plant) as seen in FIG-1

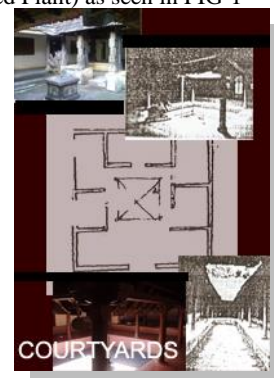


FIG-1: These Courtyards act as ventilator. The roof drains into the sunken central area and from there out of the house. Rooms are placed around the courtyard.

ETTUKETTU AND PATHINARUKETTU

For larger homes and wealthier families, there are more elaborate forms of the Nalukettu, called the Ettukettu (eight halled with two central courtyards) or Pathinarukettu (sixteen halled with four central courtyards) as in FIG-2

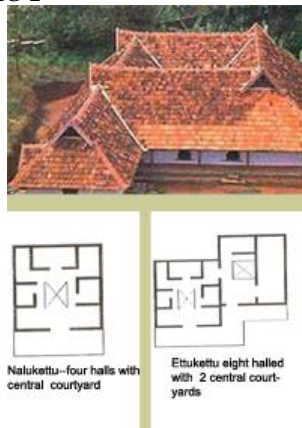


FIG-2: Nalukettu Houses and Ettukettu houses [4]

PLANNING AND LAYOUT

Basically the domestic Architecture of Kerala follows the style of detached building. The rectangular plan is usually divided into two or three activity rooms with access from a front passage. The projecting eaves cover a verandah all around as in FIG-3



FIG-3: Verandahs ---A transition from the outside to the inside [4]

A Kerala courtyard house is a compact structure in a large compound, next to a *kullam*, bathing tank. In its most developed form the typical Kerala house is a courtyard type-Nalukettu. The Nalukettu is the principal structure of a garden compound. The setting of the building in the open garden plot was again necessitated by the requirement of wind for giving comfort in the humid climate. The garden may contain cattle sheds, bathing tanks, wells, farm buildings, grain stores (silos), etc., as ancillary structures, the whole being protected with a compound wall or fence [3].

III. ARCHITECTURE OF SOUTH KANARA

South Kanara is the coastal region of Karnataka state. It is along the western ghats along the Arabian sea. South Kanara consists of the districts of Dakshina Kannada & Udupi districts. These lie in the warm humid climatic zone, where the Annual temperature variation is around 5 to 8 deg Celsius. The annual rainfall is more than 3000mm/year. Hence the humidity is very high. In the warm humid climate to achieve comfort indoors providing ventilation becomes an important aspect. The predominant winds are from the south- west direction & the rains are also received from the same direction. The unique problem in this region is to control the effect of the sun and the driving rains from the same direction and the same time effectively allowing good ventilation.

SPATIAL ORGANIZATION

The vernacular houses in South Kanara region were usually built in the middle of agricultural fields. The houses were surrounded by very high compound walls. The living areas were arranged around one or two courtyards. The size and character of the vernacular houses were governed by the size of the family and the community which it belonged to. Usually the large houses were built on more than half an acre of land [1].

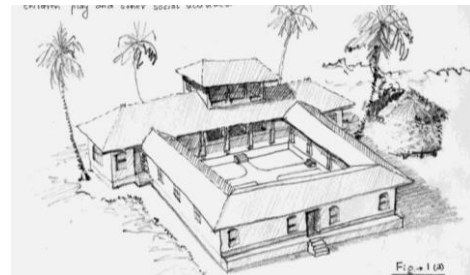


FIG -4: View of a Vernacular house in South Kanara region

Usually the rear of the house would be occupied by the cowshed, storage and toilet area. The courtyard in front of the cowshed was being used for all farming activities, like storage of grains, cleaning of grains & storage of dry hay. The compound walls were very high more than 3 meters high.



FIG-5: View of the courtyard between the house & compound wall

MATERIALS & METHODS USED IN CONSTRUCTION

In the vernacular structures, sustainability and energy efficiency are an integral part of construction. The interiors are comfortable using appropriate materials for construction. The roof was sloping with covering of Mangalore tiles. All-important spaces would have false ceiling made of timber. The living room which were very huge, would be provided with double tiling so as to provide insulation. The walls were constructed with laterite blocks which are more than 30 CMS in cross section, which would give protection from rain & heat due to the material density. The windows were made of timber with vertical mullions also made of timber. This would cut down the amount of solar radiation entering the interiors but would allow the breeze inside [1].

The sketch below gives the typical section of a vernacular house which shows the detail of mud wall constructed over granite foundation and large overhangs to protect the structural wall from rain and sun.

DETAILING

The sloping roofs have a large eaves projecting usually 50 to 60 CMS projecting beyond the wall. At the end of these eaves are the gutters to collect the rain water. In this way the rain water doesn't flow on the walls and the surface is not wet.

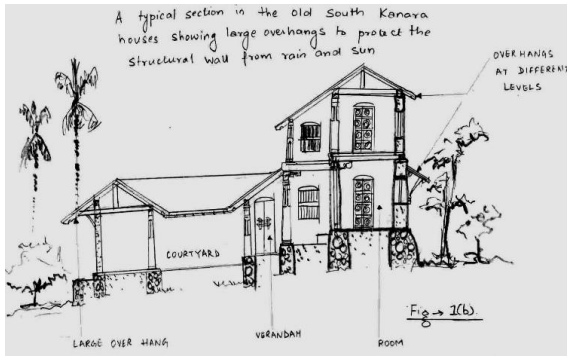


FIG-6: Typical section across the vernacular house

IV. COMMON PARADIGMS BETWEEN THE TWO STYLES AND THEIR FEATURES.

Site planning

Both the layouts are detached, independent in a large parcel of land with certain water bodies enhancing the landscape

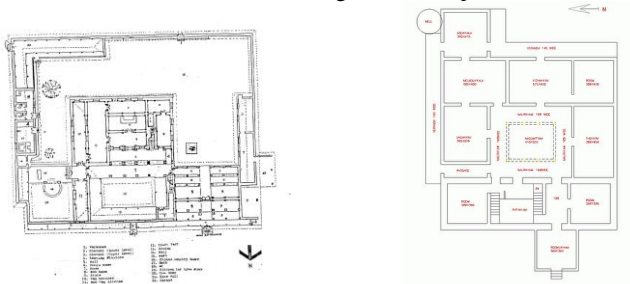


FIG-7: Plan of South Kanara Manor house FIG-8: Plan of Kerala Nalukettu

Entrance gateways

Both the contexts have got bold entrance gateways emphasizing entrance.

In Kerala the entrance structure is (*padippura*) constructed like the gopuram of a temple.

Usually in south kanara the entrance structure is the continuation of the high compound wall, it consists of seating areas and sometimes double storied.

Courtyard

In the context of Kerala and south kanara, the Courtyard acts as a space for rituals besides acting as a comfort provider. One usually sees a Tulsi plant in the middle of the courtyard.

Planning

In its Layout the Nalukettu house has rooms surrounding a central courtyard.

In the Manor houses we have hierarchy of the living spaces, the public spaces- living room or Chavadi where gathering/ meeting take place are placed immediately after the entrance. The private spaces are towards the interiors.

Materials

Timber/ Wood are the prime structural material abundantly available in many varieties in Kerala and South Kanara. The skillful choice of timber, accurate joinery, artful assembly and delicate carving of

wood work for columns walls and roof frames are the unique characteristics of Traditional Kerala and South Kanara architecture.

In case of Kerala and South Kanara, Mangalore tiles (baked mud-clay) have been used as roofing material. The resin of cashew nut seed is applied to the timber because of its availability, economy and power of preservation.

ROOF FORMS

Keralan roofs are pitched at steep 45 degrees, with a curved ridge from which rafters radiate at either end and gables projecting over a hipped section.

South Kanara roofs have a pitch of usually 23 to 30 degrees. Usually in the front elevation they have hipped profile.

In style and technique there are remarkable similarities between these two contexts.

ELEVATIONAL TREATMENT

The elevation is simple with clean lines rising to support the roof above which appears projecting the flow of a smooth circular arc onto its eaves.

V. CONCLUSIONS

Since time immemorial, Traditional Domestic Architecture of Kerala and South Kanara have similarities which have been reflected in their Design and Roof forms. The design has further been influenced by climatic, geographical and historical factors.

A remarkable feature of the houses of South Kanara and Kerala is their excellent adaptation to the typical climatic conditions of the region, which may be classified as warm- humid.

Relief from oppressive, sticky heat is critical in providing thermal comfort.

Thermal comfort in Nalukettu and Manor houses is achieved by proper layout, selection of appropriate materials for construction, design and detailing.

Usually the temperatures during the day are in the range of 32 to 38 degree Celsius. During monsoon months from June to September there is heavy rainfall (about 3000mm annually) from south west.

The courtyards, though usually enclosed, admit sufficient breeze. The thick walls of mud provide insulation from external solar heat.

The architectural detailing evolved is effective in mitigating the adverse affects of the harsh climate in the South Kanara and Kerala region.

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