

Vernacular Architecture

Lecture 8

Kerala Architecture - Introduction

As we all know Kerala architecture, is one of the most exciting of examples of preservation of vernacular architecture. The evolution of domestic architecture of Kerala followed closely the trend of development in temple architecture. Primarily, development of architecture developed in terms of temple architecture. Everything else followed. The primitive methods and the modules of circular, square or rectangular plain shapes with a ribbed roof evolved from functional consideration, initially it was just very basic shapes - circular, square, rectangular plain shapes and the ribbed roof, they concentrated a lot on the roof because it faced a lot of rainfall and they had to make sure the building did not face any rainfall. The climate of Kerala greatly influenced the traditional architecture I just mentioned. The natural building materials available for construction in Kerala i.e stones, timber, clay and palm leaves; these materials are available in plentiful and hence, are the most used building materials for architecture. This is the photo of a palace actually. When you picture palaces of Jaipur, Udaipur, Jaisalmer, this is a palace in Kerala. This depicts very clearly the importance they gave for climate, the impact climate had on architecture. Kerala has a warm humid climate. The rainfall is very heavy from south west and north east monsoons. To keep the rain and sun away from the walls the roofs of the building come down very low. That is the reason. From the beginning, the two things they concentrated on were; basic shapes and basic plans with very dominant roofs. They had verandah all around the building protecting from the external walls from sun and rain. A typical solution to a humid climate is to have verandahs and balconies throughout with lattice windows that make the wind upliftment easier. The width of the verandah varies from 2ft to 12ft. In rooms where people spend most of their time during day the window openings were brought in at ground level otherwise the windows were small so that there was only subdued light inside or had timber jalis. As I said, there needs to be air movement, accordingly the window sizes were placed. They also have an internal courtyard for better flow of air. In order to promote the flow of air, there is courtyard. Courtyard a solution which is par excellent all over India.

Building materials - the availability of Granite - a strong and durable building stone is restricted mainly to the highlands and marginally to some hilly zones. Wherever it was available, it was used extensively. Lateritic stone however is abundantly found. Lateritic stone was used directly as stone or they were used as form of building blocks or bricks. The Lateritic stone available at shallow depth can be easily cut, dressed and used as building blocks. Local stone that gets stronger and durable with exposure to the atmosphere. Lateritic stone or lateritic soil has this ability to get better or durable to wear and tear of the atmosphere. Block of this stone may be

bonded in mortars of shell lime - the classic binding material used in traditional building. Today we use cement mortar to bind materials, bricks, stones or blocks. Those days lime mortar or shell lime was the most used binding material. A lime mortar can be improved in strength and performance by admixtures of vegetable juices. The material was more organic and natural. Such enriched mortars were utilized for plastering and low relief work.

Timber - most used building material, in many varieties - from bamboo to teak and rosewood. The skilful choice of timber, artful assembly and delicate carving of wood work for columns, walls and roofs frames are the unique characteristics of Kerala architecture. The Keralites or the people of Kerala were one of the first people who had teaks and maintained documented teaks which dictated how one should go about architecture. That had every detail about how one should go about architecture, how wood should be selected, how it should be tendered, how it should be carved etc. Clay was used in many forms - for walling, making bricks and to temper with admixtures.

Palm leaves - they used a lot of thatch and tiles on roofs. The Vastu Vidhya the script they had formed for building sciences. That divided the architecture mainly into two types - Temple architecture and the Residential architecture. The Temple architecture was started from spaces that evolved.

A house in Kerala is generally called a Veedu. We will be looking further into Residential architecture. A house in Kerala is generally called 'Veedu'. Veedu gives shelter to joint family kinfolk or tharavad. Tharavad is nothing but a series of houses put together. The joint family system again as we saw in North and West. The Joint family system is the reason why there are so many houses grouped together and how neighbourhoods are formed. Joint family system consequently promotes the tradition of living in a huge shelter or in a mansion. The term is Dravidian and is used in some parts of TamilNadu and North Srilanka for all types of residential architecture, but generally the people of Kerala will refer to their Veedu as Tharavad. A Veedu is a single unit. Tharavad is a group of houses. This is how a house is generally. There are various classifications of how a house is planned, which we will look into.

There are various terms for house of different tribes according to social status and profession. As much as it is not something that must be practiced, houses were attributed as per the caste, profession and status of people. Basically they were three types of people. Today you can classify it as the poor class, middle class and the higher class but back then it was basically the, slaves, the working class (the people who worked for the higher rulers) and the higher rulers. These were the three types and accordingly the houses have been divided. The house of the Pariah - Cheri or slum people, The Slave, The blacksmith, the goldsmith, the carpenter, the weaver had Kudi. Pariah comprised of the Cheri, the Slave had the Challah and the blacksmith

and the goldsmith and the rest had a house called Kudi. Next level comprised of temple servants and ordinary Nayers; the temple servants reside in Variyam or Pisharam and the ordinary Nayers happened to be staying in Veedu or Bhavans. When you move up, the rulers or the wealthy people, the Nayar's authority was called the 'Idam' and the Raja lives in a Kovilakam or Kottaram. The Nayar's houses are also called the Tharavadu.

There are five types of domestic architecture - the humble house, known as any building treaties of Kerala; Cheri, chala, kudi, variyam or pisharam or pumatham. The lower level houses are the simple houses which were basic mortar, basic building blocks and thatched roof. Then came the Ekasala, an I-shaped rectangular hall. Halls are the basic building blocks or space blocks with which houses were formed. First was the Ekasala hall, then came the Nalukettu which is actually a courtyard with a four different halls. The great mansion Ettukettu and Pathinarukettu was nothing but multiples of the Nalukettu. Nalukettu is nothing but a courtyard with four rooms. Ettukettu and Pathinarukettu are nothing but multiples, eight and sixteen room houses. The Commoner houses are simple ordinary houses scattered in the cities and villages. Those are very vernacular and basic houses. We will be talking in detail about the bigger ones.

Literally the local term of house is 'Veedu'. The Classical Indian architecture acknowledges a concentric arrangement of buildings and a generic spatial structure of the sala or the hall. As I said, in India, the diverse culture dictates that houses are generally grouped together, faced towards a social gathering space or a courtyard. The Ekasala is a single hall house. The Dvisala is a two-hall house, that's how it was built. Then the Nalukettu. Nalukettu is the only local term for house that implies structural importance since it is associated with the Chausala. There are no local terms for dvisala, trisala and Ekasala. The courtyard and the four halls surrounded by it, is called the Nalukettu. The terms used generally for the hall houses, the Naalukettu goes on to become the Ettukettu and the Pathinarukettu and also the Tharavadu.

The two important types of dwelling unit that shall be discussed are as follows; House of the Nayar's - there are an important ruling community who lived in mansions that were mostly grouped together and called the Tharavadu. The houses of the Namboothiri - another important community of traditional Kerala history, they too lived in dwellings that were of the 'nalukettu' unit and were called as the 'Illam'. These are the huge houses, huge mansions of the Nayers and the Namboothiris. You'd notice they have really large roofs, attic spaces which have ribbed cables through which wind could easily pass through.

House of the Nayers

The Nalukettu architecture is basically a rectangular shaped structure wherein four halls are joined together with an inner courtyard called 'Nadumuttam' which faces the open sky. The

primary feature of a Nalukettu is again a courtyard like other spaces in the north and west and its called the Nadumuttam. Muttam means an open space that is directed towards the sky. The four halls on the sides are named Vadakkini, Kizhakku, Thekkini and Padinjat. Denoting the different directions of the era, many believe that this form of architecture have been inspired from the 'Pagodas' of South Asia and Aryan culture. When you look at the roofs, you do have a kind of similarity with Pagodas of Japan and China. The union of four blocks is vital in Nalukettu. Nalukettu is not a Nalukettu if there are not four halls with a courtyard in between. The open courtyard to which these four blocks face is also very important because it is considered in terms of dimensional ratios and size. The location and the way, the direction these halls face are of atmospheric importance. The building materials like red bricks, mud and woods used in Nalukettu were also locally available. Nalukettu was a typical feature of the Tharavadu houses in Kerala and joint families lived under one roof in such homes. This architecture concept was purely based on Thatchu Shasthra. As I said, they had documented texts of how architecture should be practiced, similarly they had one for science of carpentry and traditional Vastu. They had all set of ordinant way of looking at architecture, carpentry, science of building, etc. Just like Nalukettu, you can also find the Ettukettu and the Pathinarukettu, these houses had a simple layout and sheltered numerous people. The whole being protected with a compound wall or fence. Now we talked about the Nalukettu, the huge Ettukettu or the Pathinarukettu, these are secured or protected from outer people or other forces by a compound wall that is huge and put around the entire structure. An entrance structure (padippura), may be constructed like the gopuram of the temple. An entrance is not just an entrance, they make sure it is emphasized, Gopuras or towers can be built as the entrance. This may constitute one or two rooms for guests or occasional visitors. Again, the socio-cultural aspects, the people of India encourage guests but they make sure that they had a limit from where they came. Guests could come till the Padippura of the Kerala houses and interact and leave. The position and sizes of various buildings, including the location of trees and paths within the compound wall were to be decided from the analysis of the site according to the prescriptions in the classic texts. As architects, we place a lot of importance on site analysis, this is something they followed right from the start in vernacular architecture and it is prescribed in their classic texts. The analysis involves the concept of Vastu Purusha Mandala, the Vastu - the study of energies and appropriate grids were chosen to house the suspicious structures. The site planning building design was done by learned vishwakarma sthaphathis, that is where the tradition of sthaphathis evolved. Sthaphathis as master builders who are essentially the master architect of a particular building or a group of buildings, they were the Vishwakarma sthaphathis who synthesized the technical matters with astrological and mystical sciences. They didn't just look at design principles or principles that dictated based on climate but also looked at astrological, astronomical and mystical sciences which could not be explained then.

The house of the Nayers, we will talk briefly about each space. The Padippura, the entrance structure. The Poomukham, this is the open space where the head of the family rested and he could receive guests. The people of Kerala are more matriarchal people meaning the maternal uncle was the most important man, it wasn't the father of the family who was the most important but it was the maternal uncle of the family who was the most important, he took the most important decisions and the oldest lady in the house. They had much less seclusions for women, they were more accepting of them. This is the house of the Nayers, huge mansion, this is probably an Ettukettu with two courtyards and eight rooms.

Next we move on to the 'Chuttu verandah'. They have a verandah to either side in front of the house, they have hanging lights with equal distance hanging from its slope roof. They have slope roof, they have lights, these are guiding spaces through which the house progresses. The Ambala Kulam or the Pond. Something which is lavish or which the people or the Nayers considered necessary was a separate pond for each family. It so happened that each of the Nayers had a separate pond for bathing for each house. The water bodies were maintained to synthesize energy flow inside. Not only was it utilitarian but also used to have energy flow inside the house. This is the courtyard, the Nadumuttam or the central open courtyard is the prime centre. This is where the natural energies circulate within the houses. In Vastu Purusha, you must have heard the open space in between is an important space, it opens up to the sky and it encourages energies to flow in and outside through the building. Architecturally if you look at it, it is just a logic to allow natural energies to circulate within the house and act as an air purifier. These Nadumuttam have a central plant with tulasi or a growing tree. These trees help us purify the air, that was the basic reason. This is an Ambalakulam, an example. This is a lavish pond at the end of the house which was used for bathing.

We will move on to the Spatial configuration. It is an introvert complex, a simple courtyard for houses meaning it was inward looking. The central courtyard was the focal point, the main rooms are located on the western wing. The rooms on the north western side are used for cooking. The Vastu Purusha principles are being followed, the rooms on the southern sides are used for daily household activities. Steep pyramidal roofs with a 45 degree pitch, this 45 degree pitch or slant was necessary to keep the heavy rainfall out. For example, these are spaces around. On the right lower corner, you have the poovukellam or the open courtyard space where the karanavar sits and welcomes people. To the left lower corner, you have the Ambalakulam and then there are also spaces as the status grows, the house also grows, there is a house for cattle, a separate space for storage, granary etc.

House of the Namboothiris

Now, we will move on to the houses of the Namboothiris that are called Illams. This is again the same courtyard formation, the Nalukettu with a little bit of differences. They are concentrated

mainly in Trichur. Illams are affluent Nambudiri families of Trichur that are self contained complex of buildings in a wide secluded compound. The main difference or the significant difference would be that they are more than one or two storeys high but other than that, more or less they are the same, Padipura tanks for bathing. Optional buildings such as Granary, a kitchen or feeding guests and a shrine or a temple itself. A shrine can be added, Namboothiris believe in adding a shrine or a deity. This is an example of a Namboothiri house, the storeys are automatically more than one or two, you have the gable roof with wooden ribs, the highly inclined roofing surrounded by plants and trees. There are four wings; northern, southern, Eastern, western, the built structures were on Southern and western wings. The granary on the south has solid walls of laterite or wood. The Western block is generally raised because that is where the sun hits most, raising the western hall gives shade to the rest of the portions. It is here where the official ceremonies take place and the men also learn or sleep. It makes it a warm place, the west, to be able to sleep or use for religious purposes. The corner room in the north west is used as a storage room or for sleeping. Another example of dambal kolam or the pond for bathing.

The kitchen without exception, is always placed in the north East corner. This is a very strictly followed Vastu Purusha principle as well, the kitchen is placed in the north east corner simply because the first rays of the rising sun hitting the kitchen brought in good energy. Since the wind comes from the southwest of Kerala, it is the most logical position to ensure the smoke escapes the building directly. Those days smoke was an important residual from the cooking area, they had to cater to that also. The northern side next to the kitchen is used for the performance of the most important ritual of Shredda, the human ritual of pouring Ghee on the sacred fire. Yagnas or sacred fire Yajnas were carried out near the kitchen. When placing it near the kitchen, make sure that the smoke and the good energy are channeled accordingly. This is an example of the first storey or the second storey part of the Illams. These are actually verandahs, verandahs are very necessary solution or element in architecture. We have ribbed gables, well slanted roofs and a lot of use of wood as you can see. The puja room is located on the north or in the East next to the kitchen. The practical reasons for not building on the northern and eastern sides is to allow smoke to escape and minimize the chance of an external fire. They use wood fire based cooking, thus they had to be prepared to extinguish fire as well. The Northern and Eastern sides where the wind could push away the smoke was the most apt place, the corner rooms were segregated from the main blocks, they are separated by corridors, stairwells and doors going to the outside. These rooms are not considered for rituals and are used as entrance rooms, bedrooms, the delivery rooms, (south East corner) or occasionally for storage (north west corner).