CHAPTER - II

TRADITIONAL HOUSING CONCEPTS OF KERALA

- AN OVERVIEW.

Primitive man sought some kind of protection against wild animals, rainfall, storm, sunlight, lightning and mist and fog. People living in the Artic and Tropical regions need housing for self-protection than anything else. Houses provide a sort of protection against enemies and thieves. A house is the place where one can take rest, sleep and cook food. A house can also be utilized partially as shop, work place or a place for business of many kinds. In industrialized countries executives use to bring their official papers in files and brief cases and get done in the house at night. A considerable portion of recreational activities is now being brought into the home by means of various audio-visual devices.

Experience shows that man spends a substantial part of his lifetime in his house. As per the estimate of E.E Wood (1940) "A man working 44 hours a week, 50 weeks in an year, spends from the minimum of one-third to a maximum of substantially over two-thirds of his time at home. " Illness or unemployment increases the fraction". This manifests that a house is a part and parcel of man's life.

Housing promotes family formation. Family is a very important social institution whose important missions are reproduction of human race, bringing up of children, provision of privacy and emotional life and close personal
relationship among the members. A child is given birth to a house where he normally spends his adolescent period.

The location influences the type of nurturing that he receives, the physical health he enjoys and the mental experiences which will have far reaching influence on his adult personality. Hence it is rightly said that the "man builds houses, but houses mould man". Thus family formation and development of adult personality are reciprocal in nature, which is one of the very vital functions of housing.

Out of three prime necessities of life, shelter is the most intricate and dedicates necessity as such it create more and more complex problems. This is because of certain inbuilt constraints which are particular to housing is its immobile nature. It is also to provide the much needed social infrastructure and security to man. The primitive men hardly different from animals lived along the banks of rivers and hid on the tree tops when they saw ferocious and large animals. The first home ever built by man was probably a shelter among the rocks. Advancement of knowledge and civilization changed the concepts and structure of houses. Now the sociological and biological factors are of great importance in the construction of houses. Today the position of shelter is linked with the improvement of the quality of life. It not only fulfills the need of housing but also creates conditions conducive to the achievement of some important goals of development such as improvement of health, sanitation, education and so on. Further, the housing activity creates additional employment opportunities and induces voluntary savings.
The word “housing” is understood narrowly to denote a shelter or dwelling without regarding other things which go to makeup a satisfactory or acceptable dwelling place. In modern times “housing has broader meaning which include not only residential building but also its environment. Smith defines housing unit as "a collection of facilities for the exclusive use of separate social group called a household and that the set facilities involved in this concepts seems to changing fairly predictable ways as general living standard rises".

A house to live in is one of the basic needs. It is fundamental for man's existence and survival. For the limits of man's thermal adaptive capacity are very narrow. He is able to live only under the special environmental condition, which determine his quality of life. Climate changes beyond the adaptive capacity of man destroy his resistive power and results in illness. The shelter requirements arose because of this basic biological need. On satisfying his biological needs man also attempted to satisfy his psychological needs for refuge for rest and reproduction.

With the advancement of knowledge and civilization man became more concerned about sanitation, environment, privacy happiness, health and location of this house. He became more cognizant of better facilities, which make his life easy and enjoyable. He began to bring electricity and induct toilets, modern house appliances, equipment for interior entertainments and various devices for sound sleep within the walls of the houses. Even though all his efforts to bring various amenities within his access has made him to enjoy a comfortable
life, these have led to the emergence of various psycho-social, economic and environmental problems pertaining to housing.

About one-fourth of world's population does not have adequate shelter and lives in extremely unsanitary unhygienic conditions. Even for the advanced nations of the world, housing is an insurmountable problem. In USA itself there are over four million houseless people.

KERALA’S ANCIENT HOUSING CONCEPTS

Kerala had developed its own housing concepts from time immemorial, which is unique in the sense that it is highly scientific, technical and adaptive to the environment. The location and the panoramic view of the site of the building and its surrounding of a Malayalee’s house is exemplary. The outer gateway of a Malayalee’s dwelling place is the first eye-catching sight of a person who visits his home.

"It is quaintly placed quaintly constructed and quaintly neat and tidy in all its surroundings. It is essential that a stair or a ladder should leap up to it from the bank of green level paddy field reminding one in its construction of the days when security of life and limb and property depended one’s ability to laugh a siege to scorn When a Nair’s house was his castle, and when here, at the gateway was posted the retainers to keep watch and ward against enemies. Seats for them to rest, on to right and left, both outside and in, a quaintly and solidly carved door and lintel, a room above approved by a ladder from inside with a window for openings, whence deadly shots are some times discharged on
lawless intruders; and finally a thatched roof complete the characteristics of the

gate house.5

This shows that Malayalee is more conscientious about the tidiness and cleanliness of his dwelling place and its neighborhood and now here perhaps is the more apparent than at the gateway of his house.

The dwelling places, situated amidst the spacious orchard houses, surrounded by a neatly interlaced fence of bright prickly bamboo thorns, during the former times were used for keeping out enemies. A lush green canopy of various fruit bearing trees also surrounded the Malayalee’s houses. A square flat open yard, the floor of which is well rammed and made smooth by means of cow dung mixture with charcoal dust, intended mainly for drying paddy and other cereals, is yet another uniqueness of a Malayalee house.

The design and the architectural beauty of the houses of Malayalees’ in olden days were also not inimitable to another dwelling places in the country. The main building for instance, is scientifically designed in such a way that it must face the rising sun. The room is called Kilakkina or eastern room and behind it one or more of the chambers is placed one another which is called the Chaypu or lean to forming an enclosed veranda room. The room in the western side is called the Padinyatta-pura room, or western dwelling. The scientific reason behind the construction of western dwelling is that the building is opposite to rising sun and the Padinyatta-muri, the honored guest chamber in the house, the Sanctuary of the ancestors of its inmates - must be located with a view to felicitate sun’s earliest rays through its doorway. On either side of
Padinyattina are the Vadakkina (Northern room) and Thekkina (Southern room). The former is used for cooking and the latter for the ordinary purposes of the household. These three are the main room of the dwelling of an average Malayalee. However higher a man's position may be and however numerous maybe his dependents, he will not be permitted to put tiles on his house. Palaces and Temples alone were tiled in former days\(^6\). In the neighbourhood of the dwelling there is generally a cattle shed and some times an excavated tank for bathing purposes and a well nearer to the cooking room is also devised with a view to take water directly from the well into the cooking room. A chapel of the household deity is also found in all renowned houses and there is some times a separate residence known as Matam for Brahmin travellers and Brahmin visitors.

Like caste prejudices, discriminations in the dwelling places according to the occupant's caste were also predominant in the former days. Each dwelling place is known by different names depending on the caste of inhabitants. The house of Paraya is called a Cheri; the Blacksmith, the Goldsmith, the Carpenter and the Toddy drawer inhabit in houses called Pura or Kudy; the temple servant dwells in a Wariam or Pisharam; the ordinary Nair abide in a Vidu or Bhavanam, while the man in authority of their caste dwell in an Idam, the king resides in Kottaram or Kovilakam, the Namboodiri in an Illam, while his fellow of higher rank calls his house as a Mana or Manakkal.

Malayalees' also have a pre-conceived notion as to the sites to be selected and rejected for the welfare of the inmates of his dwelling places. Lands having circular, semi circular, triangular, hexagonal trident shaped, winnow
shaped, land sites having the shape of the buttocks of fish, elephant and tortoise were totally abandoned by Malayalees. Besides these landholding of which one end is wide and the other side tapering like the face of a cow; place where ash, charcoal, chaff of grain, bones, hairs, worms, etc., are seen or digged, land having termite hills, the center of which is deep or with hollow interior portions, or caves, soil having nasty smell and directed towards a corner are considered to be unacceptable for the purpose of a dwelling place.

Places where cereals being cultivated, places of worships, places situated in close proximity to sea, river, hermitage, cattle shed and mountains were also avoided by Malayalees in order to prevent catastrophes. Construction of two storeyed or multi-storeyed building was also considered to be undesirable.

INFLUENCE OF CASTE ON SELECTION OF BUILDING SITES

Castes played a dominant role even in the selection of building site during those days. Brahmins exclusively deserved square shaped land and soil where sacrificial grass grows spontaneously and the soil having white colour, the smell of ghee and sweet taste for the construction of their dwelling places.

The Kshatriyas were entitled to get places for the construction of their houses in areas where bamboo grows and soil having colour and smell of blood and stringent taste and the length of such site should not exceed one-eighth of its width.

Vysyas were allowed to their habitation in areas where Karuka (agrostislineris) grows, yellow coloured soil having the smell of rice and bitter taste. Length of their site should be one-sixth of its width.
The Sudras were allowed to occupy landholding for the purpose of their dwelling where *Attudarbha* (*Eragrostis Cynosuroides*) grows spontaneously, soil having black colour, smell of liquor and pungent taste. Length of such land should not exceed one-fourth of its width.

From the above it is quite evident that Malayalees had an age old housing concepts and tradition of their own which is matchless in all respects.

**VASTU TRADITION IN KERALA**

*Vastu* is regarded in India more as a philosophy rather than as a science. Philosophically speaking, *Vastu* is a nomenclature given to all gods given objects. *Vastu* becomes *Vastu* when it is shaped to suit individual needs. The *shilpy* (sculptor) is one who moulds *Vastu* into, *Vastu*. The word *shilpy* comes from the word “shile” meaning discarded. A sculptor is one who shapes discarded stone, tree, etc. according to his imagination. Therefore architecture is the same as sculpturing.

Architecture can be divided into *Aalaya Vasthusasthram* (Housing architecture) and *Chitra Vasthusasthram* (Pictorial architecture). Housing architecture includes the architecture of both temples and human houses. Pictorial architecture includes: sculptural science known as *Prathima Sasthram*, which is three-dimensional and semi-sculptural science, which is known as *Arthaprathima Sasthram*. Kautilya in his *Arhasasthra* had defined *Vastu* as anything that helps man to sit, to travel and to work in. This includes houses, temples, gardens, dams, bridges, wells, ponds and artificial lakes. There are many texts dealing with this science in Sanskrit, which include *Mayamatham*. 
Maanasaaram, Samrankana Soothradhara, Viswakasmeeyam, Kaashyapeeyam, etc. But lack of knowledge of Sanskrit is the greatest obstacle in the understanding of the contents of these books.

Ignorance of Sanskrit has actually led to consider this science to be considered as mere superstition. Hence many people forget the traditional knowledge handed down over generations enclosed in these texts and seek solace in superstitious beliefs and practices. As a result, the science itself has had to suffer much insults and damages.

Man differs vastly from animals in their genetic constitution. Thus while birds and fish migrate from regions of unfavourable climatic conditions, man builds his nest on top of snow-covered mountains and in deserts and settles there. This is possible largely due to the human will power which is god's blessing to man. It is the same indomitable will power of man that enables him to overcome all odds, fighting against even astrological predictions. Even the great astrologer Varahamihira has admitted that man can change and shape his future if he has the sufficient will power and determination.

The same will power can be used to give beautiful orientation to human dwelling places. The science of Vastu helps to achieve this in the most effective and simple manner. So, if in a plot, a house can be constructed only by facing the south, the Vastu tradition does not give up the plot as unsuitable for human habitation. Instead the science gives guidelines as to how to build a house facing the south with suitable amounts of sun's energy and cosmic energy
favouring the building. In such cases, the slope of the earth, the size of the
courtyard, the convenience of planting trees etc. have to be taken into account.

On analyzing the architectural measurements of the ancient
Nalukettu and Ettukettu, it can be seen that the southern wall of the
Thekkinippura and western wall of the Vadakkinippura are 24 centimetres thicker
than the rest of the walls. It was mainly to withstand the strong and intense rays
of sun from the south and also the rays of sun in evening from the west for which
these walls were constructed so. The rays discovered and named by modern
science as Alpha, Beta and Gama and other rays discovered by them while
passing through a medium is weakened due to the peculiar structure of these
traditional Keralite Vastuvidya.

In ancient times, even the trees planted around a house had a
practical purpose. Hence the tamarind tree was planted at the south. Though the
width of a single leaf of the tamarind tree is very small, the total expanse of its
branches and leaves is much larger than other trees. Hence when a tamarind
tree is planted in the south, the intensity of the sun’s rays percolating through its
branches will be minimum. Moreover, the tamarind tree has the ability to absorb
the harmful ingredients of the sunlight, which is used in the formation of the sour
fruit. It is to be remembered that in Ayurveda the tamarind leaves are boiled in
water which is used to wash wounds, even cancerous ones, has the property of
healing. Hence the superstition that if the tamarind tree grown in the southern
part of the house is cut, it may cause the deaths of the master of the house.
Similarly, the Elanji tree in the east, the Ezhilampala in the west and the
Nagamaram in the north are suggested. So also beginning from the east the Nalpamara tree, Arayal, Athi, Peral and lithi are planted, which along with the flowering trees planted all around the house, fill the house with sweet fragrance and pure air.

It is however indeed sad that there is no branch called Keralite Vastuvidyā. The Nalukettu, which is considered as symbol of our Vastuvidyā, is actually an evolution from the Middle Asian Pagodas and the village structure in the Aryan culture. Different kinds of Nalukettu structures, viz., Nandyavartham, Sarvathobhadram, Swasthikam, etc., can be seen all over India with slight variations. However in the roof structure, Keralites have made their own contributions. Three-dimensional, Pyramid-shaped and huge-sized roofs made out of small pieces of wood put together are the unique contributions of traditional Keralite architecture. Similarly, the practice of raising the Thekkini and Vadakkini; above the other storeyes is also a hallmark of traditional Keralite Vastuvidyā which enables to adjust to the sun’s rays from the south and the west and also the cosmic radiation.

The unique features of the Kerala style of architecture are largely due to the peculiar features of the production materials obtained here and the climatic conditions prevailing here. Abundant use of red bricks and wood are the essential features of native architecture. It is largely due to the use of these production materials that carpenters gained prominence in the domestic architecture in Kerala. It is noteworthy that the word used for architecture in the native tongue is Thachusasthram. This is derived from Thachan, which means
carpenter and the other kinds of labourers like Sthapati, Soothragrahi, Vardhaki, etc., are non-existent. Small windows, which are traditionally named to denote cow’s eye, elephant’s eye, etc., show the orientation towards small-sized windows. But unfortunately due to the blind copying of imported designs, large windows have displaced the native preference for smaller-windows. These huge windows with large glass shutter allow intense light energy and heat energy into the house. Moreover for reasons of security and fear of mosquitoes, the windows are rarely opened. Thus the light energy reflected into the rooms through the glass windows raises the room temperature. Thus at night when the atmospheric temperature is 20-30 degree centigrade, the room temperature will shoot up to 40-50 degree centigrade. Moreover the concrete roof radiates the heat absorbed during daytime into the room at night. The ceiling fan quickens this process.

It is a good practice to paste tiles on concrete roofs to decrease the heat. These tiles prevent the extreme heating up of the roof in summer and protect the roof from getting wet during rainy season. Thatching tiles are a very important contribution of the native architecture of Kerala. There is a widespread misconception that the Portuguese introduced this practice in Kerala. But the only architectural text in India where this practice of using thatching tiles is mentioned in the Keralite text Vastuvidyā written in the 12th century A.D. The sixteenth chapter of this work entitled Losthavidhi deals with the use of different kinds of tiles and their manner of production. This text was written much before the advent of the Portuguese. Hence the scientific analysis of the use of tiles in
this text shows that this feature is the sole contribution of Kerala and is not influenced by the Portuguese.

The scope of Vastuvidya is very vast as it contains the gist of various sciences. It even deals with the laws regarding sleep. Thus sleeping in the proximity of grains, animals, old people, fire, intoxicated people, bamboo, etc., is strictly banned. Similarly sleeping with the head directed towards the north or the south and with wet feet is also banned by Varahamihira in Brihadsamhida. All these factors have to be borne in mind by the architect while designing the house.

The free flow of air and the pressure system are vital in the designing of a house. Similarly the triangular shaped roof follows the Pythagoras Theorem whereby the 3-4-5 arithmetical systems fulfill it.

Generally four directions are considered in the construction of houses. But in Vastuvidya ten directions are taken into account at the time of construction of houses. According to these directions the intensity of sunlight, the direction of the wind, the slope of the rain, etc., are calculated. Orientation of Chatussala as per Vastu, Ten directions of Vastuvidya with their effects and the Evil effects on tilting the direction of house other than the one mentioned in Vastuvidya are exhibited in Plate – I, Plate – II and Plate – III respectively.
Plate - I

Orientation of Chatuussala as per Vastu

Northern House facing South
Seventh Yoni (can be used for West, but not for South and East)
* For Vaishyas
* Budha is god
* Guna: Raja
* Usage: For Coat, Bedspread, Clothes
* Gives Happiness

Western house facing East.
* Fifth Yoni (can be used only for West; not North, South or East)
* For Shudras
* Shani is God
* Guna: Thamas
* Usage: Storage of Food Grains
* Will give Grains

Southern House facing North
* Third Yoni (can be used for North and West, but not for East)
* For Kshatriyas
* Kusa is God
* Guna: Thamas
* Usage: For Sitting & Furniture
* Gives Wealth

Eastern house facing West
* First Yoni (can be used for all other houses)
* For Brahmins
* Brihaspathi is God
* Guna: Sathwa
* Gives all Good effects

Plate - II

TEN DIRECTIONS IN VASTU VIDYA

Inconsistent and Mentally Shaky

Will give happiness

Childless, Infertility

NW  NNW  NORTH  NNE  NE

WNW

WEST Will give grains

WSW

SW  SSW  SOUTH  SSE  SE

Will lead to quarrels

Will give wealth

Will lead to fear

Notes: NW - North West; NNW - North North West; NNE - North North East; NE - North East
WNW - West North West; ENE - East North East
WSW - West South West; ESE - East South East
SW - South West; SSW - South South West; SSE - South South East; SE - South East

Source: Text: Manushyalaya Chandrika (16th Century)
Model of a Tilted Direction of the House as against the Orientation of Chatussala

THE DIFFERENT METHODS TO TEST THE SUITABILITY OF A PARTICULAR PIECE OF LAND

If the taste, odour and colour of a particular piece of land are contradictory, building a house there will not be favourable to the owner. If a negative opinion is doubted, the following tests can be conducted at night and the suitability of the land can be assured.

At the centre of the plot where the construction of the building is intended, a square shaped pit has to be dug. A raw earthen pot filled with the traditional Navadhanyam (nine different kinds of grains) closed with another earthen pot has to be placed in the pit. Then the pot used to close the filled pot should be filled with ghee. Then four different kinds of wicks one white, second red, third yellow and fourth black have to be put into it with the white facing east, the red facing the south, the yellow facing west and finally the black facing the north. Then they are to be lighted imagining a Brahmin in the east, a Kshatriya in the south, and a Vaishya in the west and a Sudra in the north. The pit has to be kept closed after lighting the wicks. Later on when the pit is opened, of the white wick is burning, that pot is suitable to be lived in by Brahmins and if it is the red wick that is burning, then it is suitable for Kshatriyas. If the yellow wick is burning, then it is meant for Vaishya and finally if the red-coloured wick is burning, then it is suitable for Sudras and if all the four wicks are burning, then it is ideal for all the four castes. If no wick is burning, then it can be concluded that the plot is unsuitable to be lived in by any caste.
There is another way of conducting the experiments. A similar pit has to be dug in the middle of the plot and it has to fill with wastes. Then according to the caste of the owners of the plot, a flower of particular colour has to be dropped into the water with prayers. Thus for Brahmins white flowers, for Kshatriyas’ red flowers, etc., are to be dropped. If the flowers flow towards the right, that plot is suitable to be lived in. But if it flows towards the left, the land is unsuitable. Similarly of the flower approaches directions like east, it is suitable and if it flows towards the corners, the land is unsuitable. While conducting those experiments, it is always advisable to offer prayers and offerings to deities like Ganapathi. If such tests are conducted and the suitability of the plot assured, then in future life much misery and sorrow can be averted.

THE SUITABILITY OF UNEVEN LAND

A plot that is low-lying at the east can be used for building houses as it can give prosperity to the owner. Similarly, if the northern side is low-lying, the owner will enjoy material prosperity. But if the western side is low-lying it will lead to loss of money and living in a plot whose southern side is lower than the other sides will lead to death itself.
REFERENCES


6. Ibid.