

THE VERNACULAR PLANNING PRACTICES OF KURUMBA SETTLEMENTS IN ATTAPPADI: AN ARCHITECTURAL ANALYSIS

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Abstract

The settlements are the demonstrations of the needs, aspirations, and cultural identity of any society which is determined by sociocultural, economic, beliefs, practices, political factors, climate etc. The Vernacular settlements of Kurumba have created a strong connection between of social, cultural, and architectural. Their cultural beliefs of harmony, balance, and truthfulness were reflected in the settlements that were sensitive to nature, topography, climatic condition, etc. Today, most of these sensitive practices are affected due to factors of urbanization, newer government policies and schemes, lack of knowledge, etc. This change has been directly reflected in the physical and cultural fabric of the settlement in an adverse way. This research aims at analysing the Kurumba settlements under various factors like orientation, vegetation, and activity pattern which are the core aspects that a settlement formation is dependent on. The result of the whole study is recommendations that can sustain in a modern context through vernacular values and practices.

Keywords

Salai or Aalai (dwellings of Kurumbas), Ooru (Hamlet), Kurumba, Kalam (space for socialization), Thinna (space in front of the house for seating).

Introduction

India is a house of around 705 ethnic groups with 8.6% of the total population and is recognized as scheduled tribes or Adivasis who live in and around the forest region. The state of Kerala is a house of many such Adivasi communities in different parts like Wayanad, Palakkad, Idukki, Malappuram, etc. Attappady, which is a tribal taluk in the Palakkad district of Kerala with a protected Reserve Forest cover of 249km² of land area in the western parts of this taluk, has the largest tribal population. Attappady is a house of many tribal communities namely, the Irula, Muduga, and Kurumba Adivasi communities. The settlement segregation is based on community and their Hamlets are called 'Ooru'.

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Figure 1 Location

Source: Author.



Figure 2: Location Map of Attappady

Source: Author.



Figure 3: Location Map of Water sources of Attappady.

Source: Author.

Kurumba

Kurumba is the first group of Adivasis to settle in this place. They are the primitive tribes of Attappady. They live in the dense forests of Attappady valley, of Palakkad. The dialect of Kurumba is an adivasi bhasha called Kurumba bhasha, which is only spoken without a written script and is influenced by Tamil and Malayalam. They are animists, and totems, and have not been much change in their early form of worship, however, they have a close association with the Malleshwara temple. (Nair N V, 2010).

The research focuses on the Kurumba of Attappady who are the primitive tribes living in the dense forest of Pudur panchayath of Attappady and depend on agriculture, animal husbandry, and non-timber forest products for a living. They are known for their sustainable way of living, varied food habits, traditional agricultural practice, weaving techniques, sustainable architecture practices, tattooing techniques, Pachamarunnu (plant-based medication practice), folk dance and song (kuthu), etc (Nair N V, 2010). However, the community is one of the most vulnerable and socioeconomically backward when compared to other tribal communities of Kerala (ITDP Attappadi). Among the 19 Kurumba hamlets, only a few hamlets practice these vernacular sustainable practices and traditions. Hence this research makes an effort to understand, evaluate and value these vernacular architectural practices and revive these, which if not conserved would be found by future generations as eye candies of the past.

The size of responses in each hamlet varied depending on the population of the hamlet. In total a response size of 48 is taken for both as interview and survey questions. This is further designed as 40% of the responses were from the older generation (Age- 60-90years), 20% Mid age group (35-60), 30% Younger generation (18-34years) and 10% Kids (8-18years).

Data collection Method.

The primary data was collected through on-site observations, interaction and documentation which were done through the tools of maps, sketches, photographs and notes. The interaction with the inhabitants followed by interviews which were structured and unstructured or open handed interview. Further survey questionnaire was prepared which have multiple choice questions and scaled question (example: rate on 1-5), all of the above were designed based on parameters derived from the literature study.

Data Analysis

The parameters derived from the literature study are further analysed with the support of data that is collected through the survey questions, interviews and observations. The maps for data analysis were created in AutoCAD through overlaying the Google earth map, the scaled on site sketched plan and contours were drafted through the overlay of open street map, further verified through photographs. The research also involves a comparative evaluation method where analysis of data related to sustainability, for a modern structure within the same location versus the Kurumba vernacular structure, was carried out to analyse the sustainability in vernacular structures.

Literature review

Vernacular Settlement is a balance between two factors culture and climate (Mehta, 2019). While another author discusses that it also depends on sub-factors natural conditions, human-nature interaction, kinship relations, activity and socio-economic (Syam S, 2018). The parameters for this research analysis are Orientation, Vegetation and Activity pattern.

Orientation: Authors discuss the orientation in the vernacular settlements of the Nilgiri regions that share its border with Kerala and Tamil Nadu following longer walls facing North-South and Shorter walls facing East – West, topography is another factor for orientation in hilly settlements (Priya et al., 2019). In papers conclude with the point that orientation depends majorly on the climatic condition it falls in (Jaysudha et al., 2014).

Vegetation: The region has relatively high rainfall and fertile land the soil type in this region consists majorly of clayey soil (Attappadi village survey report, 2001) which helps in this rich vegetation within the settlement. According to the authors, existing vegetation on site plays a vital role in modulating the microclimate of the settlement, glare control, etc (Thirumaran1 et al., 2017). According to (Zare H.M, 2014) the relationship between vernacular settlement and nature is an inseparable aspect, eg plants or trees, natural light, the metaphor of paradise produce, etc their positions within the settlements.

Figure 4: Pictorial representation of tribal home-gardens in Attappady (Thavlam region - Kurumba settlements)



Source: George et al, 2020.

The active space is the outdoor space within vernacular settlements, they are dynamic and possess spacial flexibility through multiple activities (Jaysudha et al., 2014) (Poyil M, 2013). The outdoor community spaces within a settlement establish factors of unity, socialization, etc (Habib et al., 2012).

Introduction to the Hamlet Study

The research involves the survey of Kurukkathikkallu and Mele Gottyarkandi which are the Kurumba settlements of Pudur Panchayat, Attappadi. The altitude of the study region ranges from 900m to 1010m above sea level with coordinates 11°05' 21"North Longitude 76°31' 54"East Latitude. The four mountainous hamlets have a total population of 438 inhabitants within a walking distance of 800m.



Figure 5: Location map of the studied Hamlets of Thavalam region of Pudur Panchayat

Source: Author

These three hamlets are among the 19 Kurumba hamlets of Attappadi which still carries forward some of their sustainable vernacular practices of planning which are reflected

at the settlement level and the dwelling level. These hamlets have a combination of modern and vernacular dwellings.

Figure 6: Kurukkathikkallu Settlement Plan



Source: Author.

Case study 1 - Kurukkathikkallu Ooru

The hamlet has a population of 144 people and 38 houses among which 5 houses unused. The dwellings in the settlement are within a radius of 100m from the centre. The altitude of this village ranges from 988m to 1015m above sea level. The settlement has a combination of vernacular and modern structures, with almost 35% of vernacular structures.

Case study 2 - Mele Gottyarkandi Ooru

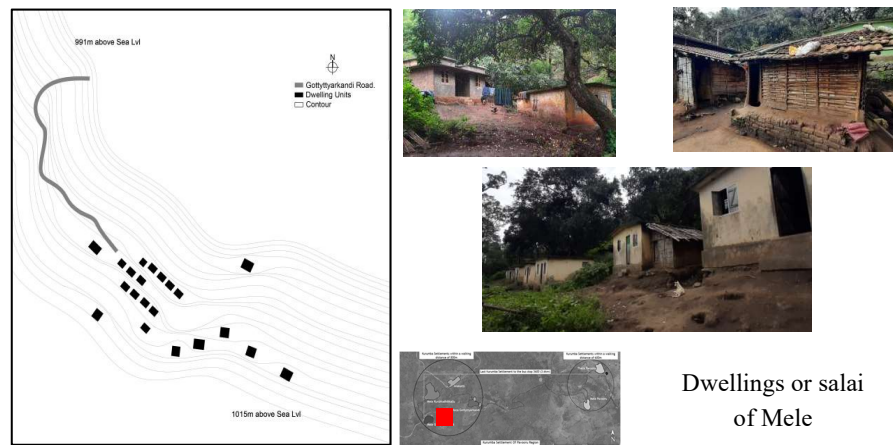


Figure 7: Mele Gottyarkandi Settlement Plan

Source: Author.

The Hamlet has a population of 97 people and 21 houses. The dwellings in the settlement are within a radius of 70m from the centre. The altitude of this village ranges

from 991m to 1015m above sea level. The settlement has majorly modern structures and just one vernacular structure.

ANALYSIS AND DISCUSSION

The parameters of analysing the settlement are based on of orientation, vegetation and activity.

Orientation of Settlement

Case studies 1 and 2

The settlements Kurukkathikkallu and Gottyarkandi falls under the Sub-tropical moist climatic zone with rain forest, during summer outdoor ambient temperatures range from 26 to 32 degrees Celsius, while wintertime readings range from 17 to 24 degrees Celsius and at an altitude above 950m above sea level.

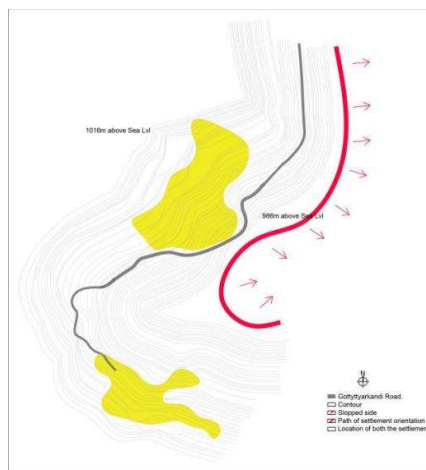
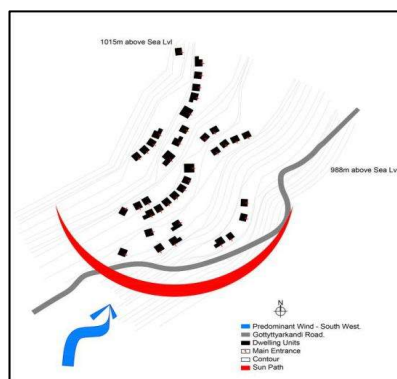


Figure 8: Couture map and placements of the settlements

Source: Author.



Topography and orientation

Figure 9:Mele Kurukkathikkallu Settlement Plan

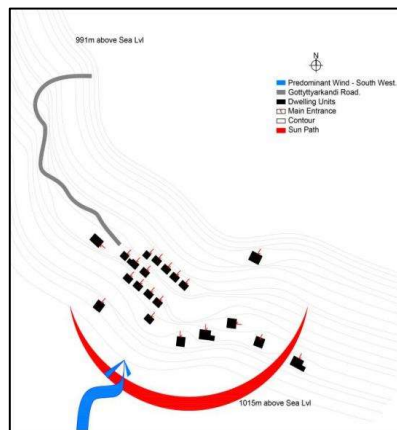
Source: Author.

Case Study 1: Kurukkathikkallu

The settlement is majorly oriented at an axis of East to South- East this is due to factors of topography and the association of settlement with sun the controlling power of the universe. The entrance of the salai should always be to the east facing the rising sun.

Case Study 2: Mele Gottytyarkandi

The settlement is majorly oriented at an axis of North East this is due to the topography factors and the cultural factor associated to the sun. The entrance of the salai should always be to the east facing the rising sun according to the Kurumba myth.



Topography and orientation
in Mele Gottyarkandi

Figure 10: Mele Gottyarkandi Settlement Plan
Source: Author.

Findings

The orientation of the hamlets or Ooru depends on two factors existing topography and cultural factors associated with the sun. The minimal terracing in the settlements leaves an area limitation for construction which makes it dependent on the line of topography which is one of the defining factors for the orientation of the hamlet. This response to the immediate context makes it sustainable planning practices.

Vegetation

Case studies 1 - Kurukkathikkallu and Case studies 2 - Mele Gottyarkandi

The settlements Kurukkathikkallu and Mele Gottyarkandi are located amid the dense vegetation regions of the Pudur panchayat. The dense vegetation in the south-west regions protect the settlements from the prevailing strong from south-west. The tree cover in the region helps in providing glare control.

Figure 11: Tree cover within the Settlement's



Kurukkathikkallu Settlement's tree cover



Mele Gottyarkandi Settlement's tree cover

Source: Author

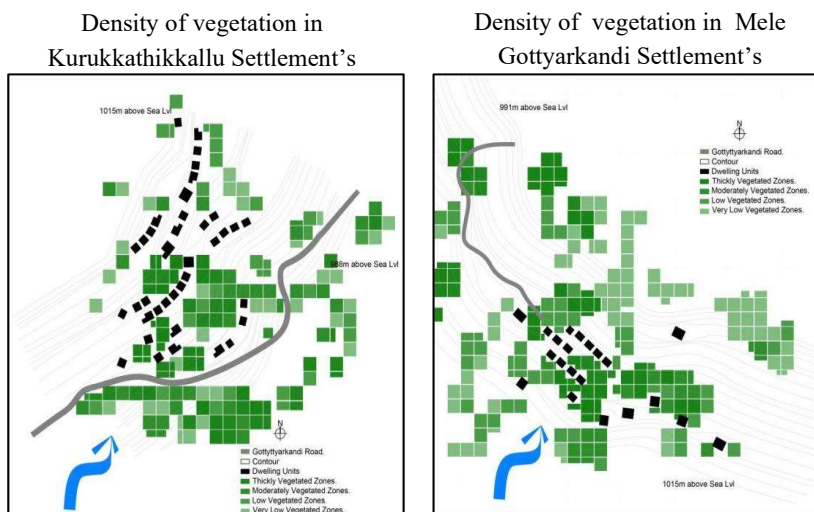


Figure 12: Density of vegetation

Source: Author



Figure 13:Vegetation analysis in the settlements

Source: Author

The settlement has combination of edible, medicinal, cultural, and ornamental under the house garden category and others under the forest vegetation category. The medicinal vegetation like vegetation - Kurunthotti, Koovalam, Brahmi, Iruveli Kuruver, Sangupushpam, Erukku etc. The ornamental category is mostly flowering plants like rose, daisy, Allamanda etc. The forest vegetation involves trees like Pambu maram, Mula (bamboo), Mudi pithai, Mula, Kurukili chedi, Pathiri, Chadachi tree, koovalam tree, teak tree, etc. The cultural vegetation are usually sacred trees within the settlements are Tamarind tree, Peepal Tree, Pila, Theembilachi palam etc, mostly placed with 'swayambhu' self-created representation of a deity. The inhabitants believe these trees protect the settlements from evil spirit; hence most of these trees are located at the entrance of the settlements. The edible vegetation category within the settlements involves mango trees, arecanut tree, nellikkay trees, papaya trees, jackfruit trees, guava, custard apple, banana, tomato, brinjal, pumpkin, varieties or beans, thovara, avara,

pepper, cardamom, cinnamon etc. The edible vegetation is not sold but is used by the inhabitants of the hamlet itself.

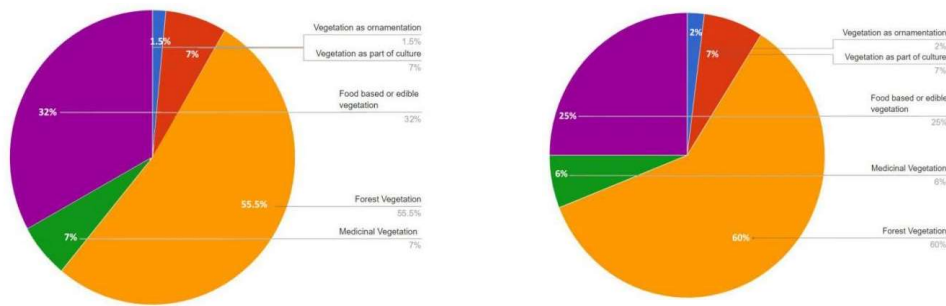


Figure 14: Pie chart showing the percentages of each of various categories of vegetation in Kurukkathikkallu and Mele Gottyarkandi settlements.

Source: Author

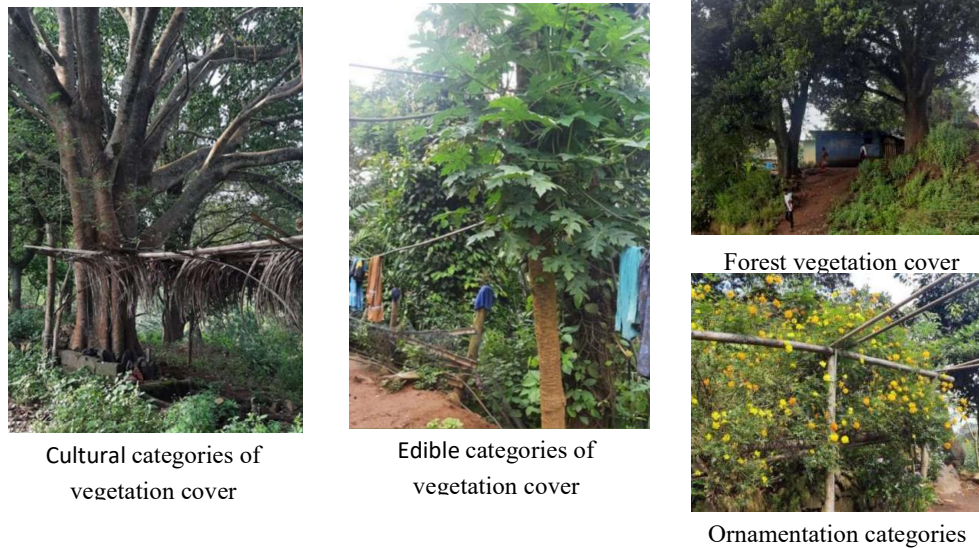


Figure 15: Photographs Various categories of vegetation cover

Source: Author

Findings

The vegetation in the settlement has both cultural and physical significant like modulating the microclimate of the settlement (glare control, protecting the settlements from strong winds), the culturally important vegetation is associated with the belief factors. The totemic rituals express this respect and reverence, the end result is ecological protection.

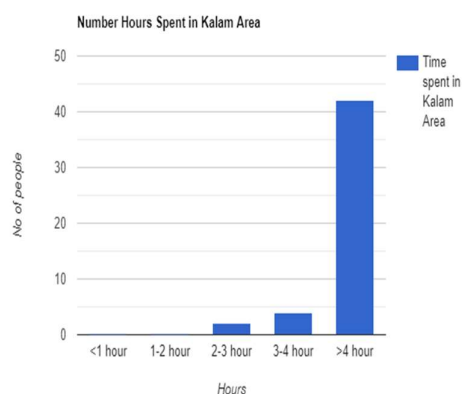
Activity analysis at the Kalam space (space in front of the house and community gathering space within the settlement).

Case studies 1 - Kurukkathikkallu and Case studies 2 - Mele Gottyarkandi

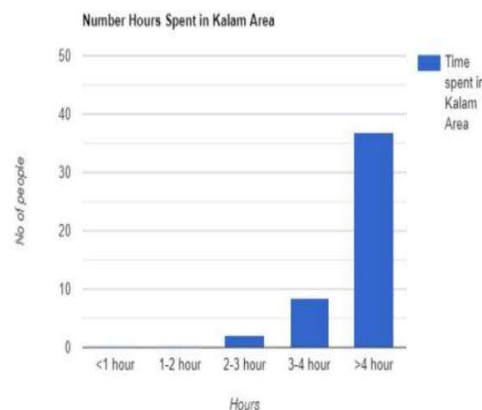
The settlements have a Kalam in front of each salai and a community Kalam for the entire hamlet.

Kalam

Kalam is a sacred space which is treated as an extension of thinna and is the most preferred space by the inhabitants within the settlements, pandal extension during functions like marriage, and first menstruation is at the kalam space. The Kalam space is the most utilized space for household activities like space grain drying; washing cloths and vessels at the end of the kalam, the part immediately next to the salai is very sacred cleaning rice and other grains, etc. The spaces are also used for interaction with outsiders, the old generation lying down, Kids and old people playing, basket weaving during the season, etc during mornings. The kalam space is used for activities like a campfire, family interaction space, and sometimes singing and dancing, and regularly inhabitants spend most of their time during the night in the kalam space.



Number of hours spent in Kalam in
Kurukkathikkallu
Source: Author



Number of hours spent in Kalam in
Mele Gottyarkandi
Source: Author

Figure 16: Survey for Number of hours spent in Kalam Area
Source: Author

Community Kalam

This space is used for hamlet togetherness like Grama sabha, funeral ceremonies, secondary burial ceremonies, harvest festivals, etc. The space is used on regular days as a place for chit-chat by the younger generation, a smoking place, etc. During these events folk songs are sung and danced. This kind of interaction in the community Kalam is found in Kurukkathikkallu and not in the Mele Gottyarkandi, because of the factors of migration and urbanization which are pushing away the art forms and practices from the hamlet. The space is losing its cultural significance.

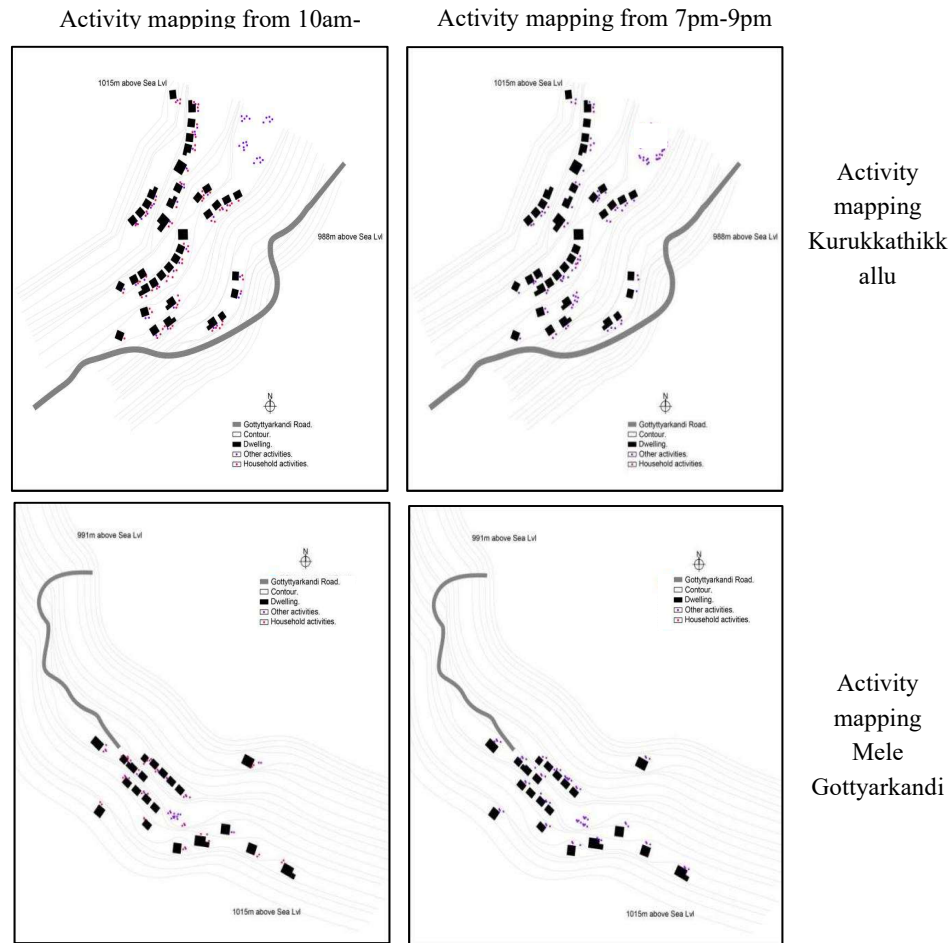


Figure 17: Activity mapping in the Kalam Area

Source: Author



Figure 18: Photographs of Activities at Kalam Space

Source: Author

Findings

Kalam is the most active space within the settlement every individual spend major part of their free time at the kalam space, the community Kalam in Kurukkathikkallu Ooru and not in Mele Gottyarkandi Ooru. Kurukkathikkallu Ooru community Kalam is dynamic in nature. The Kalam space establishes sense of unity, sharing and interaction.

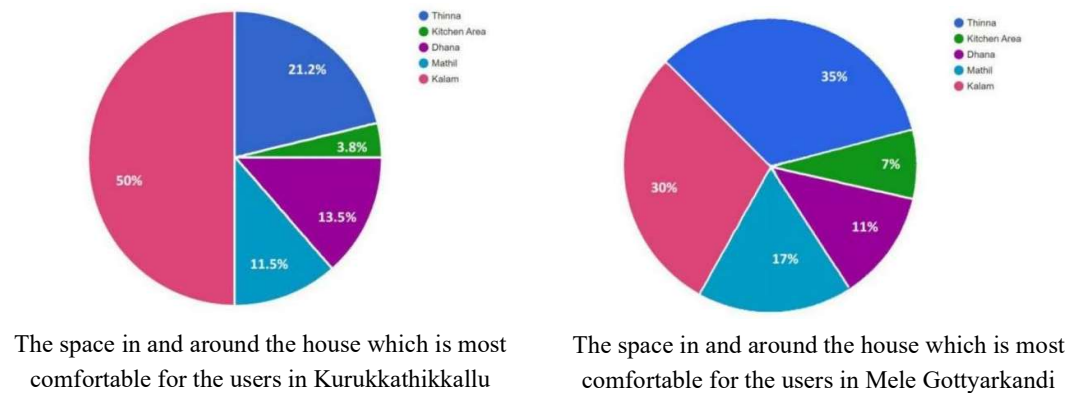


Figure 19: Survey for the most thermally comfortable space within the settlement

Source: Author

CONCLUSION

The study of two settlements Kurukkathikkallu Ooru and Mele Gottyarkandi Ooru under parameters Orientation, Vegetation and Activity pattern have helped us understand the aspects of sustainability that is reflected in the settlement through their way of living and cultural beliefs system. The study also gives a comparison that clearly indicates the changes that is occurring in the settlements.

Recommendations

The newer or redeveloping of Ooru's or hamlets of the Kurumba settlements should have a holistic planning and design approach that could accommodate their modern needs.

1. Minimal terracing and maintaining the fabric of the site, through minimum of cut and fill.
2. Further, establishing the connection between contours and orientation.
3. Maintaining the existing forest vegetation of the site and planting medicinal, cultural, and edible categories of vegetation within the settlements.
4. Maintaining the Kalam, Thinna, and Salai sections, this connecting space within the settlement would establish social interaction and further maintain the essence of unity and togetherness.

Organizing awareness programs and workshops in the hamlet that would revitalize the folk construction practices and help them to understand the unique nature of their settlement, with a people participation model making a vernacular constructing team at each hamlet.

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