

Domestic Architecture of Kodagu- Influence of Nature and Culture on the design of Ainmanes

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Abstract - The architecture of a region is influenced by the Geographical features, its terrain, relationship with water on one hand and the culture and religious practices of the people who inhabit it on the other.

Terrain and water play an important role in determining the overall form of habitable spaces. The levels, access, roof form is determined by the slope, flow of water and extent of rainfall a region receives. The clustering, massing and orientation are determined by the winds, ratio of wet to dry days in a year to name a few.

The culture, religious practices, determine the more subtle aspects of built form like the entrance, access, flow of spaces from one to another. Notion of privacy, sacred and mundane spaces within a dwelling etc.

Together, one can say that nature and culture determine the way a habitable space is designed and used. This is especially true in the case of traditional settlements. This paper attempts to understand such a connection between the Ainmanes of Kodagu, their evolution and determinants.

Key Words: Ainmanes, Traditional Architecture, Kodagu, Western Ghats

1. INTRODUCTION

The mountain ranges of the western ghats, running parallel to the western coast of India, are one such example. The ghats, which run through the states of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujrat from south to north, cover an overall area of 140,000 Square Kilometers in a 1600 km long stretch [1]. The Ghats are a geomorphic feature of immense importance to the subcontinent as they highly influence the monsoon winds that blow from the Arabian Sea. They act as a barrier and stop the winds and thus bring down heavy rainfall. These factors have led to thick evergreen vegetation on its slopes which are endemic to some of the rarest species on earth, making it a biodiversity hotspot. Rocky terrain, heavy rainfall for over six months in a year, dense vegetation, and the presence of numerous water bodies have largely influenced the lifestyle, sociocultural

practices, and in turn the architecture of the region. The terrain has also ensured that the influence of mainland practices is limited.

For this study, the Kodagu region in the state of Karnataka is chosen.

The paper explores the evolution of domestic architecture in the region, the materials used, the influence of factors like terrain, climate, and the influence of sociocultural practices.

1.1 Land and People

Kodavas (Coorgs as English called them) are living in the hilly terrains nestled in the Western Ghats, a small identifiable geographical area. It has rain forests, mountain peaks and valleys, heavy rainfall, inhabited by wild animals and in the past the curse of epidemic Malaria. Obviously, it is well-isolated and also insulated from the neighboring places and people. As a result, Kodavas came to have their own unique culture and customs as also a language, and dialect. They even had their own Gods in Guru Karana (ancestor worship). Naturally, their population is very small with no outsiders immigrating to Kodagu because of its hostile climate [2].

1.2 Evolution of settlements

As early as the eighth Century A D, the *mula nivasis* lived in simple mud huts with sloping bamboo and reed roofs thatched with wild grass, in *Ur Guppes* (Village settlements, Ur means Village and Guppe, Cluster). It is very likely that the earliest of these used very little wood, if at all [3]. The settlements had small openings to serve as doors or windows.

These guppes were occupied by an Okka (Clan) or two friendly Okkas. Settlements were in clusters, and families lived together and shared resources and agricultural labour. Living in clusters helped them survive wild animal attacks and brought in a strong sense of community bonding.

However, by the 15th Century CE, the ruling *Palegaras* (Local Chieftains) had broken up the Guppes and allotted each of these okkas rights over tracts of land to bring more land under cultivation and for ease of revenue collection.

Eventually, these okkas built large houses on the land allotted to them. The earliest of them were mud and reed houses that used tree trunks as pillars. Bamboo was used for rafters and the sloped roof was covered with reed. Wood was now used for doors and openings as they were abundant in the forests around. All members of the Okka or clan lived together under one roof. Such a house was called a *Balya Mane* or a big house. Eventually, they came to be known as Ainmanes ("Ain" means original, and "Mane" means house)

A part of the income from the Okka was always set aside for the maintenance of the Ainmanes. They were eventually rebuilt as large imposing mansions with mud and wood either in the same place as the old Ainmane or next to it. Most of the Ainmanes that survive today are around 300 years old.

in the current scenario, many Ainmanes are downsized by reducing the number of rooms. Flooring is cemented and modern amenities like bathrooms are added to suit the changing times. However, due to the hassles of maintenance, migration of the younger generation, and nuclear family systems, the Ainmanes are generally used for ceremonies and funerals, and only a few are occupied as full-time residences.

2. THE AINMANES

2.1 Planning

Predominantly two typologies of Ainmanes can be observed; The most common one is a single Wing rectangular structure with a sloping roof called the *Othey Pore* (Othey- Single; Pore- Hut); The other typology observed is a residential unit with an open-to-sky central courtyard called the *Mundmane* (Mund- Square Courtyard, Mane- House). While the former is commonly found, the latter is rare and in the past was a symbol of stature and political leadership, *Thakkame*.

Another rarely observed typology is the L-shaped house or the *MadakMane*. [4].

2.2 Site and Location

Ainmanes were located on the ancestral land of the Okka and were designed to house a large family who was involved in its agricultural and pastoral activities. This meant that apart from dwelling spaces, there were also spaces for storing paddy, agricultural equipment, housing cattle, etc. In some places, separate shrines can also be

seen. Thus, the houses had a group of structures designed for designated activities and a few structures were added as additional units in the vicinity as the family grew. Such additions were *Alepore*.

Ainmanes are usually located in the elevated part of the land overlooking the paddy fields below. A kallonni or a stoned winding pathway with tall stone walls on either side leads us to the Ainmane. Most Ainmanes face east. The entrance complex is called a *Bakka Pore* or a Guard's Hut followed by an *Ubba* or a bamboo gateway leading to the main yard of the house, the *Patti*. In the yard, it is common to find a stone post called a *Kal Botti*, that was used to tether cattle. The *patti* and the yard to the south, called the *Kala* are used for drying paddy, coffee beans, threshing, and other harvest activities. Well, *Kanathare* is in the northeast.

The *Karanathare*, also called the Karana Kala, is the sacred ancestral platform near the ainmane, located at the foot of a sap-exuding tree. It is a simple raised earth structure on which a rough-hewn stone, symbolic of the Karanava, is embedded [5]. Karanava is the founder or the earliest member of the clan or *Okka*.

The cattle shed- *Atha Kott* is located near the Ainmane.

2.3 Parts of an Ainmane

They have a semi-open veranda with columns called the *Kayyale* approached through a few stairs. In most cases, they face east. The *Kayyale* led to the main hall or the *Nellakki Nadu Bade* through an elaborately carved Wooden Main door. All rooms in the house opened to this Nadu Bade. In the case of a *Mund Mane*, the Nadu Bade surrounded the central courtyard or the *Mund*. Most Ainmanes also have another exit door apart from the main door, usually located at the opposite end of the main entrance. Entrance or exit doors from the south are avoided. one of the rooms acts as a shrine for family elders and deities and is called the *Kanni Kombare*. This room is located customarily in the southwest. The kitchen, a large room that also accommodates dining, is located on the right side of the Nadu Bade. It is also common to find hearths in the Nadu Bade- They were used for cooking when the Ainmane housed multiple families and to warm up the place. A narrow steep staircase from the *Nadu Bade* or the *kanni Kombare* leads to the attic or Machi. The attic is built of wood and is mostly used as a store for paddy and in some cases, additional rooms for family members.

2.4 Architectural Features

A common feature in all Ainmanes is the wooden finished low parapet acting as a seating bench or *Aimara*, between the wooden pillars of the Kayyale. Aimara can also be found on the eastern wall of the Nadu bade and in the case of a Mund Mane, Aimara is between the four pillars at the

edge of the courtyard, on all four sides of the outer edge. In the past, they had ritual significance, and access to the Aimara was restricted based on class and gender.

The Stairs to the *Kayyale* and the elaborately carved main door are on the same axis and are located to the center-right of the *Kayyale*. The *kayyale* leads to a room on the right or sometimes on both sides.

The *Machi* or the attic made of wood and finished with mud as well as the attic over the kitchen called the *atta* were used to store perishables like paddy and salt as the heat from the kitchen raised up and kept these areas warm.

2.5 Materials and Construction

In general, extensive use of wood is observed. This can be attributed to the abundant availability of wood from the forests of the western ghats.

The monsoons in the western ghats are very heavy and torrential rains are common for at least three to four months a year. Such climate also supports the growth of evergreen and semi-deciduous forests along its peaks and valleys. In such a situation, it is essential that the house be designed in such a way that there is protection from rainwater and wild animals.

The ainmane was built on a raised plinth (mud platform) and had no foundation below the ground level. Wood shavings from the bark of the *kulur mavu* tree found in the forests of Kodagu were soaked in a vat of water for many days to ferment into a sticky resin. This resin was mixed with mud to form a wet mixture, which when dry became hard and strong like concrete. A large quantity of this wet mixture was applied in layers to build a rectangular platform, generally to a height of about one-and-a-quarter metres above ground level. This mud platform was allowed to settle and consolidate over a period of one summer and one rainy season to form the base on which the ainmane was built. Laterite blocks were sometimes used at the corners of the base to provide firm support for the pillars above. Space was left for a narrow, open walking path called a *thethi* or *eriy*a that extended all around the four outer walls of the house, along the top edge of the raised platform. [6].

The walls were made of thick mud, perhaps 30 to 50 cm thick. They were designed to resist strong monsoons. Paddy husk, wood glue, and water were regularly used to lend rigidity to the mud, which was then poured in layers. These walls had good insulating characteristics, protecting the people from strong winds and heavy rains.

Earlier, reed or thatch was laid on a structural framework of bamboo or rough-hewn wood, which were eventually replaced by local clay tiles and then by Mangalore tiles on

a beam and rafter network made of wood. Most Ainmanes today have Mangalore tiled roofs, however, it is common to see roofs of *Aleypore*, Cowsheds, etc to be covered with thatch or wooden slats.

2.6 Socio-Cultural Adaptations

Architecture, interiors, and the religious practices of the Kodavas: The Kodavas are nature and ancestor worshippers and are a close-knit community. The Ainmanes reflect their lifestyle and beliefs. However, in recent times, Ainmanes are more of congregation spaces where all members of the clan come together to celebrate festivities like *Puthari*, *Cauvery Sankramana*, or for funerals of clan members.

The community has some specific rituals and practices whose reflections can be seen in the architecture of the Ainmane as well. The *Kayyale* or the entrance veranda with wooden columns is a distinct feature. The columns taper upwards and the first column to the left of the entrance stairs is revered as a representation of the ancestors and is called the *Kanni Kamba*. In the case of a *Mund Mane*, the Column at the southwestern edge of the Mund or courtyard is assigned as *Kanni Kamba*.

The *kaiyale* in an *ainemane* is the space assigned to receive visitors and to hold family meetings. The plank or seat nearest to and facing the main door is accorded special ritualistic significance, being associated with the first ancestor of the family, who may also have built the house. This is termed *karanavanda aimara* and is often reserved for the eldest male family member in the family meetings. It is never used for sleeping by anyone. In addition, only men are usually allowed to make use of the space. [7].

The *Nadu Bade* in all Ainmanes has a hanging lamp called the *Nellakii Bolcha* or the *Thook Bolcha*. This lamp is revered, and all ceremonies happen in front of it.

Another interesting feature is the entrance pathway to the Ainmane itself, the *Kalloni*. *Kallonis* are narrow and have turns and twists and are flanked by high stone walls on either side. The design is in response to the constant threat posed by wild animals and a result of years of oppression, attacks, and plunder especially during the reign of Tipu Sultan. In larger Ainmanes, escape passages and tunnels can also be observed.

It is interesting to note that most of these features remain common not just to Kodava Ainmanes but also among other communities that were the original inhabitants of the region- Kodagu Gowda, Amma Kodavas, etc. Architecture and the interiors are influenced more by the local practices and norms rather than mainstream Brahminical Hinduism as observed in Traditional Domestic Architecture in other regions. The formidable western Ghats that separated Kodagu from the mainland

and restricted the flow of ideas and people is one of the major reasons.

2.7 Climatic and Geographic Adaptations

The monsoons in the western ghats are very heavy and torrential rains are common for at least three to four months a year. Such a climate also supports the growth of evergreen and semi-deciduous forests along its peaks and valleys. In such a situation, the house must be designed in such a way that there is protection from rainwater and wild animals.

Raised Plinths, sloping roofs with heavy overhangs and steep pitches, and small windows to avoid heat loss are some of the features that are adopted in response to climate and geographical features.

The ceilings of the Ainmane are made of wood and coated or finished in mud called Machi. The attic is mostly used for storing perishables like paddy, salt, etc. The heat rising from the kitchen permeates through the wooden ceiling and keeps the attic warm and thus preventing food items from perishing.

The short walls rise above the ceiling and have small windows for ventilating the attic. The sloping roof with a high pitch sits on top of the short wall.

The steep overhangs protect the kayyale and the walls of the house from heavy rains.

The kitchen location is such that the walls are low, and the southwestern winds do not blow away the fire in the hearths. Also, in case of a fire, the flames are blown away from the house and not into it.

In the case of the *Mund Mane*, the *mund* is open to the sky and the rainwater collected is taken out through an underground drainage system.

All materials required to construct the Ainmane are procured from the surroundings themselves. The forests provide wood and the wood-based resin required for construction. Different types of mud required are sourced from the site or riverbanks in the vicinity. The thatch required for the roof was sourced from the paddy fields of the *okka*. In recent times these thatch roofs have been replaced with Mangalore tiles.

Most materials and techniques are local to the place and have developed organically over the centuries. The steep and rugged terrain of the ghats restricted communication and movement of goods and people and hence construction practices for a long time. However, with the migration of *Airis*(Carpenters) from Kerala to Kodagu, we can observe elaborately carved wooden elements in some Ainmanes, like the panels above the main doors, wooden panels in the Kayyale, etc.

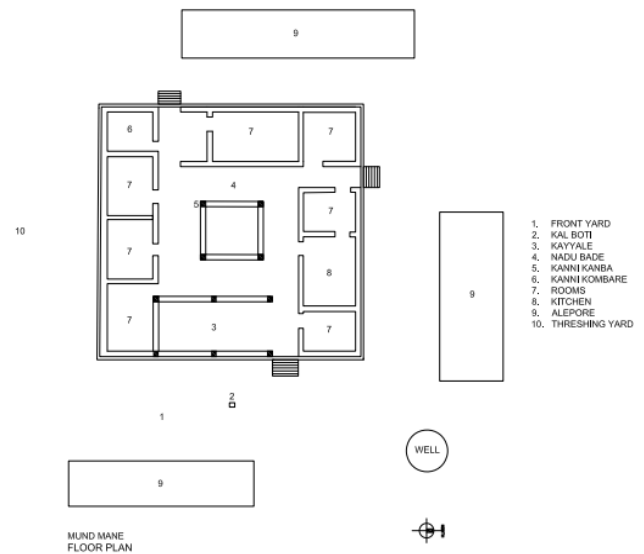
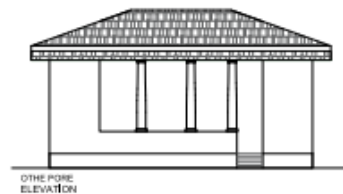


Fig -1: Plan and Layout of MundMane, Based on Ainmanes of Kodagu by Chinnappa Boverianda and Nanjamma



Othe Pore ELEVATION

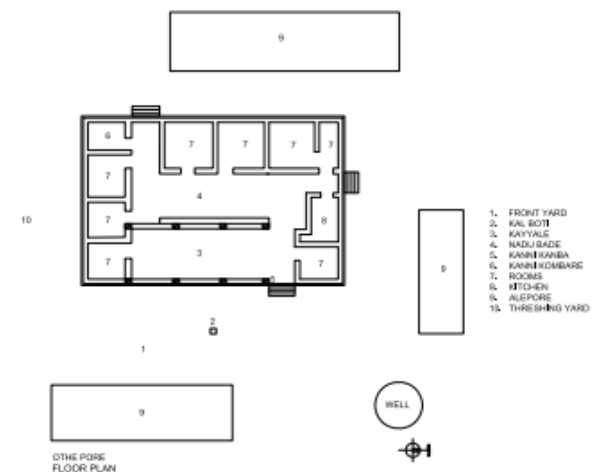


Fig -2: Schematic plan and Elevation of an Othey Pore Based on Ainmanes of Kodagu by Chinnappa Boverianda and Nanjamma



Fig -3: The Balladchanda Ainmane- Typical features of tapering columns in the Kayyale, the wooden Kaimara, Small windows, and steeply sloping roofs can be observed. The Kal Boti in the yard is also seen. [8]



Fig -4: The Mukkatira Ainmane, built around 1870s, The front Veranda is an addition made in the 1910s. [9]

3. CONCLUSIONS

In conclusion, The Kodava Ainmanes, the nucleus of Kodava social and cultural life. The design of the Ainmanes, it has been observed, have been predominantly influenced by the presence of thick forests and heavy rainfalls throughout the year along with unique socio-religious practices of the Kodavas. These practices borrow from the indigenous traditions as well as from the neighboring hilly regions of Kerala from where the earliest migrations can be observed.

The secondary influence has been the needs of security and protection especially from the 16th Century CE onwards.

Throughout this time, Ainmanes remained the center of all social and religious activities.

The importance and functions of the Ainmanes changed drastically during British rule as the norms for property division changed and cultivation of coffee became an important economic activity.

In the current situation, these Ainmanes act as occasional congregation spaces where the entire clan meets for festivals like *Huthri* or *Kail Pod* or during the funeral of family members.

Many of these Ainmanes are in dilapidated conditions or are only occasionally used due to migration of younger members from Kodagu to other places, Difficulty in maintaining large expanses of property and the change in family systems.

ACKNOWLEDGEMENT

To the authors of the book, *Ainmanes of Kodagu-Chinnappa Boverianda and Nanjamma*, who left us intrigued with the quantum of research and documentation they had taken up in their advanced age. Their initiative to conserve the heritage of Kodagu will always be remembered.

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