

Socio-Cultural Determinants of Kodava Ainmanes: A Vernacular Study

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ABSTRACT

Vernacular houses embody the cultural, social, and ritual values of the communities that inhabit them. Among the Kodavas of Kodagu, the *Ainmane* or ancestral house functions not only as a dwelling but also as the locus of ritual practices, kinship gatherings, and ancestral memory. This paper examines the spatial and architectural features of selected Ainmanes—Kalyatanda, Apparanda, and Paradanda—through Amos Rapoport's theoretical framework of socio-cultural determinism. Methodologically, the study combines literature review, site visits, measured drawings, photo documentation, and interviews with household members and villagers. The analysis identifies ritual centrality, kinship continuity, and ancestral orientation as cultural constants, expressed through spatial elements such as the *Nellaki Nadu-bade* (central hall), *mund* (courtyard), and ritual thresholds. Variations in materials, flooring, and roofing demonstrate adaptive responses to climate and technology without disrupting cultural symbolism. Comparative results affirm that Ainmanes are socio-culturally determined architectural forms where rituals and clan identity dictate spatial order, while environmental and material factors function as secondary modifiers. The findings situate Ainmanes as living heritage, exemplifying continuity, resilience, and adaptation in vernacular architecture. This study contributes to broader discussions on the cultural grounding of architecture and emphasizes the need to view Ainmanes as evolving cultural landscapes rather than static traditions.

Keywords: Ainmane architecture, Socio-cultural determinism, Kodava heritage, Vernacular houses, Ritual and space

Introduction

Vernacular architecture provides a critical lens to understand how cultural values and social structures shape the built environment (Ramaraj et al., 2021; Rostam, 2017). Unlike standardized architectural practices, vernacular traditions emerge organically from the lived experiences, rituals, and identities of communities (Hourigan, 2015). Among these, the ancestral houses of the Kodavas in Kodagu, known as Ainmanes, represent a distinctive architectural type that integrates domestic, ritual, and symbolic functions. More than dwellings, Ainmanes serve as centers of clan identity, sites of ancestor worship, and venues for community gatherings, embodying both tangible and intangible heritage

Amos Rapoport's theory of socio-cultural determinism (1969) underscores that the form and organization of vernacular houses are primarily determined by cultural factors, while environmental and technological conditions act as secondary influences (Otaishat et al., 2020). Applying this framework to Ainmanes offers a means to interpret how ritual centrality, kinship, and ancestral continuity shape architectural space. Despite ethnographic and descriptive accounts, there remains limited scholarship that systematically analyzes Ainmanes through such a theoretical lens. With rapid modernization and material transformations in Kodagu, many Ainmanes face physical decline and cultural dilution (Ormsby & Ismail, 2015). Documenting and interpreting them within a socio-cultural framework is crucial for understanding their enduring relevance and informing heritage conservation strategies

The objectives of this study are fourfold. First, it seeks to document the spatial organization, material features, and ritual practices associated with selected Ainmanes in Kodagu. Second, it aims to interpret the architectural components of these houses through the theoretical framework of Rapoport's socio-cultural determinism, highlighting the primacy of cultural values in shaping form. Third, the study undertakes a comparative analysis of different Ainmanes to identify cultural constants as well as adaptive variations arising from material, environmental, and technological factors. Finally, it positions Ainmanes as dynamic cultural landscapes, emphasizing their role as living heritage within the broader discourse of vernacular architecture and cultural continuity.

The scope of this study is centered on selected Ainmanes of Kodagu, specifically the Kalyatanda, Apparanda, and Paradanda houses, which were documented through site visits, measured drawings, photographic surveys, and oral interviews. The research emphasizes the relationship between socio-cultural practices—such as rituals, kinship systems, and ancestor worship—and architectural form, interpreted through Rapoport's framework of socio-cultural determinism. While the study provides in-depth analysis of representative case studies, it does not aim to exhaustively cover all Ainmanes across Kodagu, nor does it focus on purely technological or structural aspects of construction. Material variations are discussed only insofar as they reflect cultural adaptation rather than technical innovation. The findings are therefore contextually specific, yet they contribute broader insights into the role of culture in shaping vernacular architecture and heritage.

Literature Study

The study of vernacular architecture has consistently emphasized the interdependence between built form and cultural practices. Rapoport's seminal work *House Form and Culture* (1969) established the theoretical premise of socio-cultural determinism, arguing that the primary drivers of house form are cultural values, rituals, kinship systems, and patterns of social interaction, while environmental and technological factors operate as secondary influences (Erdogan, 2017). This framework has since been widely applied to analyze how tradition, belief systems, and collective identities are inscribed into architecture (Qin et al., 2019).

Within the Indian context, scholars have documented the diversity of regional vernacular traditions, highlighting how ritual practices, caste identities, and agrarian economies shape spatial hierarchies (KRISHNAN, n.d.). Vernacular houses in Kerala, Tamil Nadu, and coastal Karnataka provide close parallels to Kodava architecture, where central courtyards, ritual thresholds, and clan-based dwellings manifest the fusion of ritual and domestic functions (Vedhajanani & Rose, 2016).

The Kodava Ainmane, or ancestral house, has received focused attention in cultural and anthropological studies. As repositories of clan identity, Ainmanes serve not merely as residential units but as ritual centers, administrative nodes, and symbols of ancestral continuity (Appachu & Singh, 2024). Oral histories and ethnographic accounts emphasize the significance of rituals such as Bhootha Aradhane, Puthari, and ancestor worship, which directly inform the spatial organization of Ainmanes. These observations corroborate Rapoport's thesis that vernacular houses encode cultural patterns into built form.

Recent scholarship on heritage conservation, has further underscored the importance of Ainmanes as living cultural landscapes. Unlike static monuments, Ainmanes continue to evolve, accommodating material changes such as the introduction of Mangalore tiles or red-oxide flooring while retaining their socio-cultural essence. This dynamic quality situates them within a broader discourse of cultural resilience and adaptation in vernacular architecture (Henna et al., 2021).

While previous literature has provided descriptive accounts of Ainmanes as cultural and architectural entities, there remains a paucity of studies that systematically analyze their spatial form through a theoretical lens. Specifically, the application of Rapoport's socio-cultural determinism to Ainmanes has not been sufficiently explored. Consequently, there is limited understanding of how ritual centrality, kinship structures, and ancestral orientation function as primary determinants of Ainmane architecture, and how secondary adaptations—such as material changes and climatic adjustments—are assimilated without displacing cultural constants. This study addresses this gap by integrating literature review, field documentation, and oral narratives to examine Ainmanes as both cultural constructs and architectural artifacts, interpreted through Rapoport's theoretical framework.

This research endeavors to answer two primary questions: firstly, the extent to which socio-cultural practices, including rituals, festivals, and ancestral veneration, directly shape the spatial organization of Ainmanes; and secondly, what contributions the application of Rapoport's socio-cultural determinism makes to understanding Ainmanes as dynamic, living heritage rather than immutable traditions. Table 1 presents the parameters of analysis of vernacular house form based on Rapoport's socio-cultural determinism.

Table 1: Parameters of analysis of Vernacular House Form based on Rapoport's Socio-Cultural Determinism

Socio-Cultural Parameter	Manifestation in Vernacular House Form
Family and Kinship Structure	Size and number of rooms; multiple courtyards; clustering for extended families.
Social Organization and Hierarchy	Variation in house scale and ornamentation; segregation of servant/guest zones; caste-based street arrangements.

Privacy and Gender Roles	Separation of male/female areas; screened courtyards; introverted layouts; restricted visitor access.
Religion and Ritual Practices	Orientation based on cosmology; inclusion of shrines/prayer rooms; symbolic thresholds; ritual pathways.
Cultural Attitudes toward Nature	Open-to-sky courtyards; verandahs/otlas; use of sacred landscapes; preference for culturally valued materials.
Lifestyle, Customs, and Daily Activities	Kitchen and hearth location; grain storage; semi-public spaces for hospitality; multifunctional courtyards.
Aesthetic Preferences and Symbolism	Decorative motifs on facades/doorways; culturally specific color schemes; symbolic carvings and patterns.
Community and Settlement Patterns	Clustered housing around courtyards or squares; street hierarchy; relationship between private dwellings and public realm.

Family and Kinship Structure

Family and kinship patterns play a crucial role in determining the spatial configuration of vernacular houses. Nuclear families often result in smaller units with fewer rooms and limited shared spaces, while extended or joint families require larger layouts, multiple rooms, and common areas that facilitate collective living. In societies where multiple generations co-reside, this frequently leads to clustered housing forms or multi-courtyard arrangements that accommodate the social and practical needs of kinship-based households.

Social Organization and Hierarchy

Vernacular houses also reflect broader social structures and hierarchies. Status, caste, or occupational identity is expressed through the scale of the house, the degree of ornamentation, and the allocation of spaces. Spatial segregation may occur in the form of separate servant quarters, differentiated guest areas, or caste-based street patterns at the settlement level. Within the house, hierarchies are reinforced through spatial order—for example, distinctions between front and back zones, or between spaces assigned to men and women.

Privacy and Gender Roles

Privacy and gender roles constitute another critical parameter in shaping house form. The degree of spatial and visual privacy directly influences the openness or introversion of layouts. In cultures where strict gender segregation is practiced, such as under the purdah system, houses often adopt introverted forms with inner courtyards shielded from public view. This spatial arrangement not only reinforces social norms but also dictates the movement and visibility of household members within and beyond the domestic realm.

Religion and Ritual Practices

Religious beliefs and ritual practices strongly determine spatial orientation and alignment. Vernacular houses often incorporate sacred principles derived from cosmology or local belief systems, such as the alignment of entrances and rooms according to ritual codes. Dedicated spaces for worship—shrines, tulasi courtyards, or prayer rooms—are embedded within the domestic fabric. Ritual pathways, thresholds, and transitional spaces acquire symbolic meaning, turning everyday movement into culturally charged practice.

Cultural Attitudes Toward Nature and Environment

The relationship between people and their natural environment is reflected in decisions about openness, enclosure, and material use. Courtyards and verandahs often serve as transitional spaces that balance environmental needs with cultural values. Settlement patterns may integrate sacred groves, water bodies, or significant landscape features into the built environment. Materials are chosen not only for their availability but also for their symbolic and cultural resonance, reinforcing identity through construction.

Lifestyle, Customs, and Daily Activities

Everyday customs and lifestyle practices are inscribed into the spatial layout of vernacular houses. Cooking and food-sharing traditions influence the location of kitchens, type of hearth, and provision of storage spaces for grains. Norms of social interaction are reflected in the presence of courtyards, verandahs, or raised platforms (otlas) that encourage communal activities. Hospitality traditions similarly shape the inclusion of semi-public areas, guest rooms, or extended thresholds that mediate between family and visitors.

Aesthetic Preferences and Symbolism

Aesthetic expression in vernacular houses is deeply tied to cultural identity and symbolism. Decoration, color, and ornamentation function as visible markers of belonging and values, often encoded in facades, door frames, and thresholds. Symbolic motifs represent cosmological, religious, or clan-related meanings, turning the built environment into a repository of cultural memory. Such preferences also differentiate communities, allowing distinct ethnic or cultural groups to imprint their identity even within similar climatic contexts.

Community and Settlement Patterns

Finally, vernacular houses must be understood within the collective fabric of settlement patterns. Clustering of houses around a courtyard, street, or square reflects traditions of communal living and shared identity.

Hierarchical street layouts often articulate social cohesion or, conversely, social segregation. The spatial relationship between private houses and the public realm thus extends the cultural logic of the household into the scale of the village or settlement, reinforcing continuity between domestic and collective life. Table 2 presents Ainmane Components and Socio-Cultural Aspects according to Rapoport's socio-cultural determinism.

Table2: Ainmane Components and Socio-Cultural Aspects

House Component / Space	Architectural Feature	Socio-Cultural Aspect (Kodava Context)
Oni (approach pathway)	Narrow, winding, paved with stones; lined with trees; defensive layout.	Reflects warlike history of Kodavas, clan feuds, and need for fortification. The hidden approach embodies security, territoriality, and privacy—core socio-cultural values of martial clans.
Forecourt (Patti)	Open, flanked by ancillary structures; transitional space before entering the house.	Acts as a semi-public gathering space for visitors, symbolic of hospitality traditions of Kodavas. Ancillary buildings signify extended family and agrarian economy (storage, cattle sheds, kitchens).
Mund (central courtyard)	Open-to-sky square courtyard at center of house.	Courtyard embodies collective family life, rituals, and festivals (e.g., weddings, community gatherings). Spatial openness reflects egalitarian kinship bonds and communal identity of the clan.
Verandah (Kaiyale)	Raised platform with seating (aimara); wooden pillars, sometimes carved.	Serves as public-facing social space, where men and guests gather, symbolizing male sociability, honor, and oral traditions (storytelling, decision-making). Carved pillars reflect status and craftsmanship.
Inner Hall (Nellaki / Nadu-bade)	Central hall lit by skylight; supported by four carved pillars; broad seats integrated.	Core ritual space of the Kodava household. Houses the sacred lamp (Nellakki Bolucha), lit daily and during festivals—marking ancestor worship and religious customs. Centrality of the hall signifies unity of family and spiritual focus.
Attic (storage loft)	Wooden floor layered with earth; stores rice, baskets, provisions.	Reflects agrarian lifestyle, surplus rice cultivation, and need for food security. Practical fire-proofing also symbolizes adaptation to environment and clan survival strategies.

The spatial configuration of the Ainmane reflects both practical needs and deep-rooted socio-cultural values of the Kodava community. The oni, or approach pathway, is often narrow, winding, and lined with trees, creating a defensive approach that embodies the martial history of the Kodavas and their emphasis on territoriality and security. Leading into the house, the forecourt (patti) serves as a semi-public transitional zone. It accommodates ancillary structures such as kitchens, cattle sheds, and storage units, thereby highlighting the agrarian base of Kodava life while simultaneously functioning as a stage for hospitality extended to visitors and neighboring clans.

At the core of the house lies the mund, the open-to-sky courtyard that embodies collective living, serving as the venue for clan rituals, festivals, and decision-making. Its openness mirrors the egalitarian kinship bonds within the clan. Surrounding this, the kaiyale or verandah acts as a threshold between the public and private, with raised platforms (aimara) and wooden pillars that provide seating for men, guests, and elders. This space is deeply associated with oral traditions, storytelling, and social hierarchy.

The nellaki or central hall reinforces the ritual heart of the household. Lit by a skylight and anchored by carved wooden pillars, it houses the sacred lamp (nellakki bolucha), symbolizing ancestral worship and spiritual continuity. Above, the attic provides practical storage for rice and agrarian surplus, ensuring food security and symbolizing the clan's adaptation to environment and lifestyle. Together, these architectural components articulate how Ainmanes are not merely dwellings but cultural landscapes where social organization, ritual, and survival strategies converge.

Methodology

This research employed a **mixed-method approach** combining literature review, fieldwork, documentation, and qualitative interviews to analyze the socio-cultural determinants of Kodava Ainmane architecture (Ormsby & Ismail, 2015). The methodology unfolded in the following stages:

1. Literature Study

A comprehensive review of scholarly works on vernacular architecture, Rapoport's theory of socio-cultural determinism, and existing research on Kodava culture and Ainmanes was undertaken. This established the theoretical framework for interpreting house form as an outcome of socio-cultural values rather than solely environmental or technological factors.

2. Site Selection and Field Visits

Representative Ainmanes across Kodagu—including the General typology and the Kalytanda, Apparanda, and Paradanda Ainmanes—were selected for in-depth study. Multiple field visits were conducted to capture seasonal and cultural variations in spatial use and ritual performance.

3. Measured Drawings and Spatial Documentation

Detailed measured drawings of plans, sections, and elevations were prepared for each Ainmane. These provided an architectural basis for comparative analysis, highlighting both shared typological features and clan-specific variations.

4. **Photographic Documentation**

Systematic photo documentation was carried out to record architectural details, construction techniques, spatial configurations, and ritual use of spaces. This visual record supplemented measured drawings and facilitated subsequent analysis.

5. **Oral Histories and Interviews**

Semi-structured interviews were conducted with Ainmane inmates, clan elders, and villagers to capture intangible cultural narratives, ritual practices, and lived experiences. These oral accounts contextualized the architectural evidence within social, historical, and ritual frameworks.

6. **Data Compilation and Comparative Analysis**

Measured drawings, photographs, and interview data were compiled into a comparative dataset. Each house was analyzed using Rapoport's socio-cultural determinism lens, focusing on parameters such as orientation, spatial hierarchy, ritual centrality, kinship organization, and adaptation to change.

7. **Synthesis and Interpretation**

The findings from individual Ainmane studies were synthesized into a comparative framework. This highlighted the cultural constants across Kodava houses, as well as variations shaped by clan identity, historical role, and ritual practices.

Case studies

The selection of the Kalytanda, Apparanda, and Paradanda Ainmanes as case samples was guided by the need to represent the diversity of socio-cultural determinants shaping Kodava clan houses while ensuring continuity in their shared architectural grammar. Each of these Ainmanes embodies a distinct dimension of Kodava cultural life, allowing for a comparative analysis across ritual, administrative, and ancestral orientations.

The Kalytanda Ainmane was chosen for its strong association with hero worship and ritual performance, making it an exemplar of how mythology and ritualized practices are spatially embedded in clan houses. The Apparanda Ainmane, linked to Bopu-Dewan, represents the integration of administrative authority, agrarian economy, and social hierarchy into architectural organization, thereby demonstrating how political and economic roles influenced house form. The Paradanda Ainmane, in contrast, was selected for its strict ritual conservatism and spatial orientation toward ancestor worship, illustrating how kinship and ritual continuity supersede environmental and pragmatic concerns.

Together, these three case studies span the spectrum of cultural determinants outlined by Rapoport—ritual centrality, kinship continuity, and adaptive variations—while reflecting both constants and diversities in Kodava vernacular architecture. Their documentation through site visits, measured drawings, and interviews also ensured reliable representation of the architectural and socio-cultural landscape of Ainmanes.

Kalytanda Ainmane, Kunjilla Village

The Kalytanda Ainmane is strongly associated with the legend of Kalyatajjapa, a clan hero worshipped as a demi-god. This mythic association makes ritual performance a central characteristic of the house. The verandah (kaiyale) is expansive and functions as a cultural stage where kattivarse, bhootha aradhane, and koolata performances take place. Large kanni 7636imar (corner pillars) and 7636imara (wooden bench-like slabs) reinforce the importance of this semi-public threshold. The inner hall (nellaki nadu bade) houses the ritual lamp, where ceremonial events are conducted, underscoring the centrality of ancestor worship. The presence of an upper floor with bifurcated halls used for storage and clan gatherings reflects adaptation to both ritual and pragmatic needs. Overall, the Kalytanda Ainmane highlights the integration of hero worship, ritual performance, and clan identity into spatial design. Figure 1, 2 and 3 present site plan, floorplan and photo documentation sample of the house.



Figure 1: Site plan of Kalytanda Ainmane

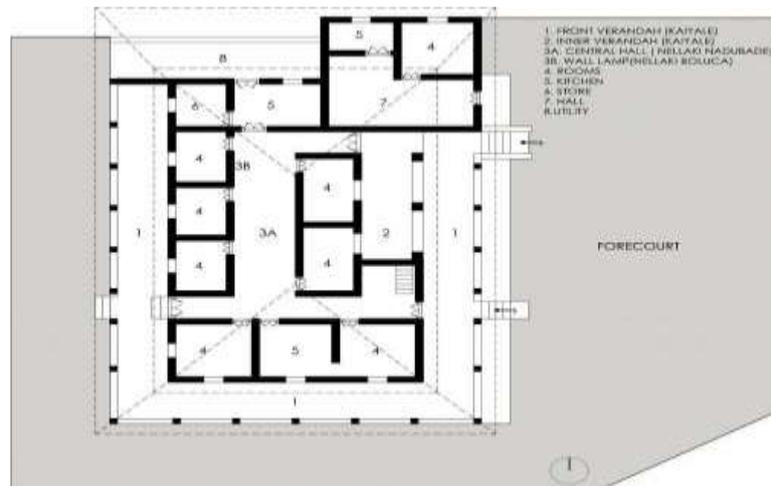


Figure 2: Floor plan of Kalytanda Ainmane



Figure 3: Images of Kalytanda Ainmane

Apparanda Ainmane, Yavakapadi Village

The Apparanda Ainmane is notable for its administrative and economic functions, owing to the clan's historical ties to Bopu-Dewan under Dodda Vira Rajendra. The site plan itself reveals hierarchy: a western approach from the road, a northern connection to paddy fields, and ancestral graves strategically placed to the north. The forecourt is expansive, accommodating ancillary structures and a granary, reflecting the agrarian and administrative base of the clan. The house itself retains the archetypal square plan with central mund and nellaki, but with more pronounced practical adaptations such as elevated plinths to resist monsoon flooding. The emphasis here is less on ritual display and more on consolidating social and economic power through architecture, with spaces like the central hall serving as both ritual core and a quasi-administrative gathering space. Figure 4 and 5 presents plans and photographic documentation samples of the house.

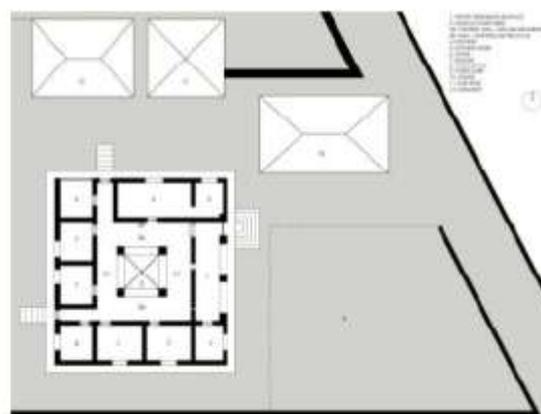


Figure 4: Plan of Apparanda Ainmane



Figure 5: Photographs of Apparanda Ainmane

Paradanda Ainmane

The Paradanda Ainmane is distinguished by its ritual conservatism, most clearly expressed through its spatial orientation. Access is exclusively from the west, as the eastern entrance is ritually prohibited due to its linkage with ancestor graves to the west. This reinforces the primacy of ancestral veneration in shaping house form. The central mund is larger here compared to other Ainmanes, giving prominence to communal rituals and gatherings. Both front and rear verandahs are present, reflecting ritualized thresholds and social interaction. The attic substitutes for an upper floor, used mainly for storage, while flooring materials reveal cultural continuity and pragmatic adaptation—red oxide today, cow-dung plaster in earlier times. Roofing with Mangalore tiles represents a modernization that does not compromise ritual symbolism. The Paradanda house emphasizes ritual purity, ancestral linkage, and sacred orientation above all else.

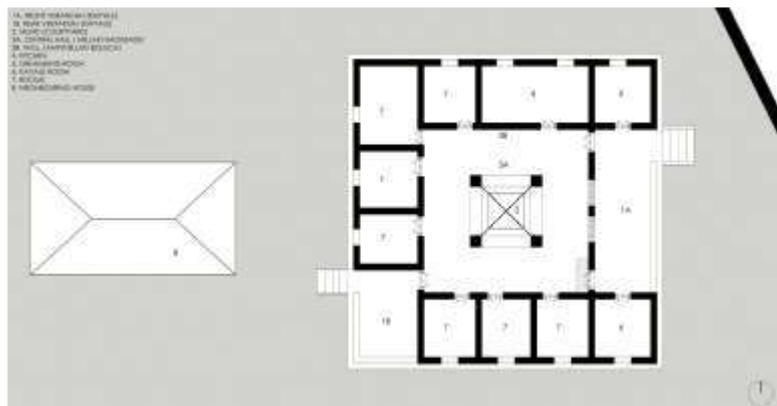


Figure 6: Plan of Paradanda Ainmane



Figure 7: Photographs of Paradanda Ainmane

Results

The comparative analysis of Kodava Ainmanes—Kalyatanda (Kunjilla), Apparanda (Yavakapadi), Paradanda, and generic typologies—through Rapoport's socio-cultural lens reveals consistent cultural determinants alongside adaptive variations. The findings are summarized below in table 3.

Table 3: Comparative analysis of Ainmane house components and spaces

House Component / Space	General Ainmane (Kodava Clan House)	Kalyatanda Ainmane (Kunjilla)	Apparanda Ainmane (Yavakapadi)	Paradanda Ainmane
Approach & Orientation	Oni (narrow, defensive approach) leads to forecourt; houses deep inside plantations.	Approach via flight of steps; well near entrance; strong ritual access sequence.	Western road approach, eastern forecourt; multiple ancillary accesses.	West entrance only (sacred, linked to ancestor's grave); east entrance prohibited.
Forecourt Patti	Open court before main house; ancillary structures around.	Forecourt with concrete flooring, space for Bhootha Aradhane, Koolata (rituals).	Forecourt in east; also used as administrative / clan meeting space .	Forecourt with dual verandahs; used for hospitality and ritual gatherings.
Verandah (Kaiyale)	Guest-receiving space; wooden aimaras (seats); carved pillars.	Extended verandah around house; venue for ritual displays, performances .	Typical front verandah, linking into hall; smaller scale than Kalyatanda.	Front and rear verandahs —reflect ritual beliefs and provide dual function (public & semi-private).
Central Courtyard (Mund)	Square mund at center, with living spaces around.	Nellaki Nadu Bade (inner hall) with Nellaki Bolucha (ritual lamp); strong ceremonial focus.	Square mund with living spaces around; skylight for natural light.	Larger mund than others; dominant ritual core around which rooms are arranged.
Hall (Nellaki Nadu Bade)	Open central hall around mund, supported by 4 wooden pillars.	Ritualized central hall with sacred lamp niche ; zoning linked to Vaastu practices.	Central hall illuminated by skylight; circulation hub; master's room placed prominently.	Central hall zoned around mund; no upper hall (attic only).
Rooms & Zoning	Rooms radiate around hall; kitchen typically in north.	Rooms extroverted from hall; kitchen zoned north; reflects Vaastu codification.	Inner rooms open only into hall (privacy + inward focus).	Rooms around hall; emphasis on communal living over individuality .
Upper Floor / Attic	Attic used for rice/provision storage.	Upper floor hall for viewing rituals; bifurcated with jalli wall; ritual + storage use.	Upper floor used for storage; circulation via side staircases.	No upper hall; attic purely storage (agrarian adaptation).
Flooring	Earth/cow-dung flooring for coolness & purity.	Stone base + ritual flooring near Nellaki Bolucha.	Elevated plinth + functional flooring to avoid floods.	Cow-dung coating (earlier); later red-oxide flooring (modern adaptation).
Roofing	Sloping tiled roof, jackwood structure.	Extended roof with wooden pillars; symbolic kanni kamba.	Sloping tiled roof; jackwood beams.	Mangalore tile roofing (colonial trade influence).
Socio-Cultural Significance	Ainmane as clan identity marker, ritual and administrative hub .	Strong ritual identity (associated with hero Kalyatadjappa); verandah as stage for rituals.	Served administrative functions ; integrated granary, ancestor graves, ancillary buildings.	Strong ancestral connection (west access); enlarged mund and dual verandahs emphasize ritual centrality .

· **Cultural Constants:** Across all Ainmanes, the **central hall (Nellaki Nadu-bade)** and **mund (courtyard)** emerge as the primary spatial constants, validating Rapoport's notion that culture, not environment, is the core determinant of house form. These spaces serve ritual, kinship, and ceremonial functions that transcend variations in material or orientation.

· **Ancestral Orientation:** Entrances and approaches consistently reference **ancestor veneration**. For example, Paradanda prohibits the east-facing entry, while Kalyatanda explicitly connects the west entrance to ancestral shrines. Such patterns reveal that thresholds are not merely functional but deeply symbolic.

· **Verandah as Mediator:** The verandah (Kaiyale) consistently serves as a **liminal cultural space**—a stage for rituals, social performances, and interaction between insiders and outsiders. Its adaptability across Ainmanes demonstrates resilience in maintaining cultural symbolism while responding to different site contexts.

· **Adaptations and Material Shifts:** Secondary factors such as climate, construction technology, and available materials produce variations—use of red-oxide vs. cow-dung flooring, Mangalore tiles replacing earlier roofing. Yet, these do not alter the fundamental cultural order of space.

· **Kinship and Hierarchy:** Spatial allocations (e.g., master's room placement in Apparanda, inner verandah for pattedar in Kalyatanda) reflect clan hierarchies and reinforce kinship systems, aligning with Rapoport's argument that **house form embodies social structure**.

Discussion

The comparative analysis of the four Ainmanes—General (archetypal), Kalyatanda, Apparanda, and Paradanda—reveals both structural consistencies and cultural variations that underscore the role of socio-cultural determinants in shaping Kodava domestic architecture. Following Rapoport's (1969) premise that

house form is a direct manifestation of cultural values, it is evident that the Ainmane is not merely a functional shelter but a spatial embodiment of ritual, kinship, and collective memory.

Primacy of Ritual in Spatial Organization

Across all Ainmanes, the mund (courtyard) and Nellaki Nadu Bade (central hall) emerge as the ritual and social cores of the house. These spaces embody the Kodava worldview in which ritual performance, clan gatherings, and collective decision-making take precedence over individual notions of domestic privacy. In this sense, the Ainmane reflects a cultural order where communal life and ritual obligations dominate spatial planning, underscoring the primacy of cultural determinants over purely functional concerns.

Kinship and Ancestral Continuity as Spatial Drivers

The orientation and access of Ainmanes are governed not by environmental considerations but by ritual imperatives linked to kinship and ancestry. The Paradanda Ainmane, for instance, situates its sacred west entrance in direct alignment with ancestral graves, demonstrating how ancestor veneration dictates spatial hierarchy. Features such as the Nellaki lamp niches, forecourts, and ancestral linkages consistently appear as non-negotiable cultural constants across all case studies, reinforcing the centrality of kinship continuity in house form.

Variation as Expression of Clan Identity

While the spatial grammar of Ainmanes—comprising courtyard, verandah, hall, and attic—remains consistent, variations in scale, layout, and emphasis reflect the historical trajectories and ritual identities of individual clans. The Kalytanda Ainmane emphasizes hero worship and ritual performance, the Apparanda Ainmane incorporates administrative and economic functions, while the Paradanda Ainmane prioritizes ritual purity and ancestral orientation. These distinctions highlight how architecture becomes a medium for expressing clan-specific identity within a shared cultural framework.

Integration of Social Hierarchies and Collective Life

The verandah functions as a liminal space that mediates between the domestic interior and the public exterior. It accommodates hospitality, caste-based performances, and communal rituals, making it a threshold of both social interaction and ritual practice. While these verandahs symbolize egalitarian clan participation, they also reinforce ritualized hierarchies within the community. Thus, Ainmanes embody both collective solidarity and subtle internal differentiation, encoded in spatial design.

Economic Base and Pragmatic Adaptations

The agrarian foundation of Kodava society is clearly inscribed in Ainmane architecture through the provision of attics for grain storage, ancillary granaries, and expansive forecourts used for economic and social functions. Practical responses to environmental and technological conditions—such as elevated plinths for rain protection, Mangalore tile roofs, and red-oxide flooring—represent adaptive modifications. However, these remain secondary to cultural imperatives, aligning with Rapoport's hierarchy wherein culture precedes climate and technology in shaping house form.

Cultural Continuity Amid Modernization

Despite material transformations over time—from cow-dung plastering to red-oxide flooring, and from clay tiles to Mangalore tiles—the ritual functions of core spaces remain intact. This persistence underscores Rapoport's proposition that cultural determinants are more resilient than material or environmental ones. Ainmanes thus exemplify cultural continuity amid modernization, functioning as living heritage that sustains ancestral memory while adapting pragmatically to contemporary needs.

In sum, the Ainmane exemplifies the deep entanglement of architecture with ritual, kinship, and memory in Kodava society. The comparative study shows that while the structural grammar of the Ainmane is consistent across clans, its ritual syntax varies, producing distinctive typologies that embody each clan's historical trajectory, ritual obligations, and socio-political roles. Thus, the Ainmane persists as both a symbol of continuity and a canvas of cultural variation, embodying the Kodava ethos across generations.

Conclusion

The comparative study of Kodava Ainmanes confirms that their architectural form is primarily a cultural construct shaped by ritual practice, kinship, and ancestral memory rather than by environmental or technological factors. Across all case samples, the mund and nellaki nadu bade emerge as ritual cores, reinforcing the primacy of collective ceremonies and ancestor worship in spatial organization. Orientation rules, such as the Paradanda Ainmane's sacred west-facing entrance, further demonstrate that kinship and lineage continuity dictate spatial hierarchies. While modern materials like red oxide flooring or Mangalore tiles have been adopted, these remain superficial changes; the cultural constants of ritual spaces, communal verandahs, and storage-based attics persist. Thus, Ainmanes exemplify Rapoport's thesis that vernacular architecture is best understood as the material expression of cultural values, where built form embodies social organization, ritual centrality, and clan identity.

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