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Original Research Article

Hermeneutic Reconstruction of Traditional Acehnese House Architecture Using Gadamer's Philosophy: Toward Evidence-Based Guidelines for Simple Housing Design

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Abstract: Aceh, located in the western region of Indonesia, possesses a rich cultural and historical legacy shaped by diverse ethnic influences that have formed the Acehnese Malay identity. Among its significant cultural assets is Rumoh Aceh, a traditional residential architecture that embodies local values but is increasingly threatened by modernization and changing housing practices. This study extends a doctoral research project that applies Gadamerian Hermeneutics, particularly the concept of the "fusion of horizons" introduced by Hans-Georg Gadamer, to reinterpret the architectural meaning of Rumoh Aceh within contemporary contexts. The research aims to develop a contextual design framework for simple housing based on the embedded values of traditional architecture. The findings identify four key design principles derived from Rumoh Aceh: (1) spirituality and symbolism, reflected in elements such as qibla orientation, odd-numbered staircases, and floral ornamentation as markers of identity; (2) environmental adaptation, including cross ventilation, elevated structures, and gable roofs suitable for tropical climates and disaster mitigation; (3) socio-cultural sustainability, emphasizing spatial arrangements that support family interaction, reception, and public–private boundaries; and (4) spatial flexibility, enabling multifunctional and land-efficient design while preserving cultural values. These principles were subsequently operationalized in the design of simple residential housing in Banda Aceh City and Aceh Besar Regency. The study contributes to bridging traditional architectural knowledge and contemporary housing needs by offering an evidence-based and culturally grounded guideline for sustainable simple housing development.

Keywords: Rumoh Aceh, Vernacular Architecture, Gadamerian Hermeneutics, Sustainable Housing, Cultural Identity.

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INTRODUCTION

Aceh, a province located in the western part of Indonesia, represents a historically significant cultural landscape shaped by transregional interactions and diverse ethnic influences [1]. The Acehnese people, commonly identified as part of the Malay ethnocultural group, embody a complex heritage formed through interactions with Arab, Indian, Persian, Turkish, and other communities [2]. This historical trajectory has positioned Aceh as an important center of trade, governance, and maritime networks, supported by its strategic geographical location and abundant natural resources, particularly spices and camphor [3, 4].

The province spans approximately 56,839.09 km² and comprises diverse ethnic groups distributed across 23 regencies and municipalities, each with distinct cultural traditions and architectural expressions. Among these, the coastal regions—extending from the eastern to western parts of Aceh—are predominantly inhabited by the Acehnese ethnic group, whose traditional dwelling, Rumoh Aceh (also known as Krong Badee), represents a central cultural artifact. Other ethnic groups, such as Gayo, Kluet, Tamiang, and Aneuk Jamee, likewise possess distinctive architectural traditions, reflecting the region's cultural plurality [5].

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Despite this diversity, Rumoh Aceh remains one of the most prominent and historically rooted vernacular architectures, particularly in coastal areas that once functioned as early centers of Acehnese civilization, including governance, trade, and port activities [6, 7]. However, the existence of Rumoh Aceh is increasingly threatened by rapid urbanization, socio-economic transformation, and the proliferation of standardized housing models. Field observations conducted over a two-year period indicate that traditional settlements dominated by Rumoh Aceh are now limited to specific areas in Aceh Besar Regency, including Ingin Jaya, Montasik, Indrapuri, and Seulimeum. This condition highlights an urgent need for strategies that not only preserve its physical form but also reinterpret its underlying values within contemporary housing contexts.

From a theoretical perspective, vernacular architecture is understood as a culturally embedded form shaped by local knowledge, environmental conditions, and inherited practices [8, 9]. Scholars such as Amos Rapoport emphasize that traditional architecture reflects socio-cultural norms and behavioral patterns transmitted across generations, while the concept of Traditional Ecological Knowledge underscores the adaptive relationship between communities and their environments. In this regard, Rumoh Aceh can be interpreted not merely as a physical structure but as a repository of cultural meaning, social organization, and environmental intelligence [10, 11]. To address the gap between traditional values and contemporary housing demands, this study adopts Gadamerian Hermeneutics as an interpretive framework. Drawing on the concept of the "fusion of horizons" proposed by Hans-Georg Gadamer, architecture is approached as a "text" whose meaning emerges through an ongoing dialogue between past traditions and present contexts [10-12]. This perspective allows for a productive reinterpretation of Rumoh Aceh, where historical values are not merely preserved but actively reconstructed to respond to contemporary needs. This study is a continuation of a doctoral research project on the hermeneutic interpretation of Rumoh Aceh architecture[13,14]. Building upon previous findings, the present research aims to develop a contextual design guideline for simple residential housing derived from the core values embedded in Rumoh Aceh. The focus on simple housing is particularly relevant given the increasing demand for affordable housing in urban areas such as Banda Aceh City and Aceh Besar Regency, where subsidized housing programs have expanded significantly in recent years. Accordingly, this study seeks to bridge the gap between cultural preservation and practical housing development by translating vernacular architectural principles into applicable design strategies. The resulting framework is intended to inform both policymakers and communities, ensuring that future housing development remains culturally grounded, environmentally responsive, and socially sustainable.

METHODOLOGY

The results of the previous research were used as a design reference which then used the George Valdes (2024) and [15], methods for design guidance. The results of this previous research produced several recommendations, as follows:

Table 1: Framework for urban house design guidelines based on Rumoh Aceh values

Design Principle	Description
Spirituality and Symbolism	Symbolic elements such as orientation to the Qibla, odd number of stairs, and floral/calligraphy carvings are maintained as markers of spiritual value and identity.
Adaptation to the Environment	Cross ventilation, gable roofs, and stilt house structures are still considered to address tropical climates and disaster mitigation.
Social and Cultural Sustainability	The layout is designed to facilitate local social relations: family interactions, receiving guests, and the boundaries between public and private spaces.
Spatial Flexibility	The space is designed to be multifunctional and space-saving, but still maintains local values in the division and orientation of the space.

Source: Sahriyadi, 2025

The stages of the design guidelines process are as follows; determination of the type of project, introduction of traditional Rumoh Aceh architecture and contemporary architecture, pre-design, design development scheme, architectural analysis, architectural design, and budget plan. At this stage, of course, the initial design results require validation from experts who, in this context, use the role of experts from across sectors such as; art, architecture, history, and anthropology experts and supported by policy makers, namely the government through the Department of Public Works, Housing and Settlements. After receiving results and recommendations from expert input, the design was revised and consulted with stakeholders. The final result was an architectural guidebook for building simple residential homes in Banda Aceh City, Aceh Besar Regency, and the surrounding areas.

RESULTS

Design Process

Review of the Redevelopment of Aceh House

Figure 1: Reconstruction of Two Acehnese Houses in Banda Aceh City.
Source: Documentation, 2025

A Review of Contemporary Acehnese Houses

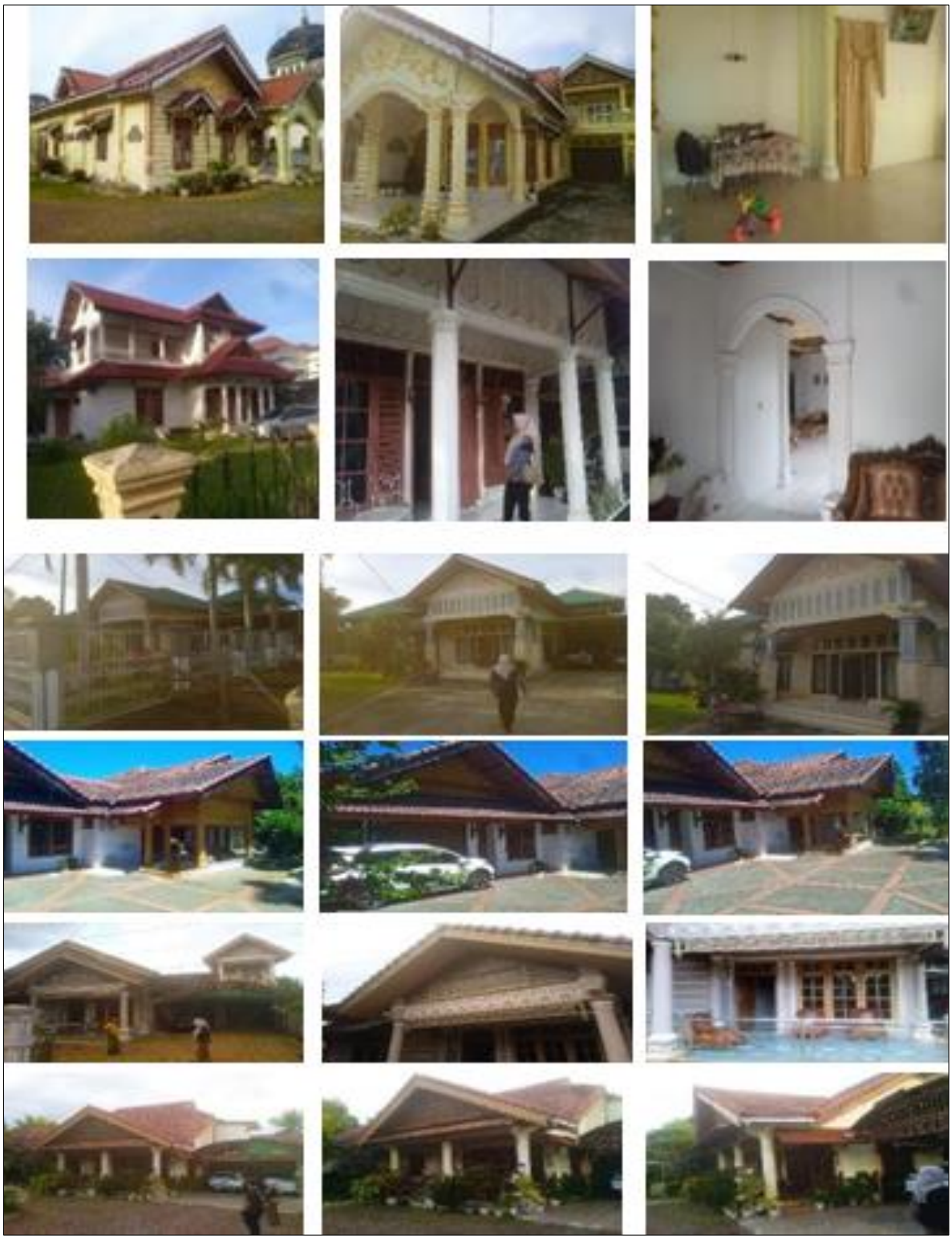

Figure 2: Contemporary Acehnese Rumoh Housing Concept in Banda Aceh and Aceh Besar.
Source: Documentation, 2025

Figures 1 and 2 are examples of the embodiment of Traditional Acehnese Rumoh Architecture. Figure 1 shows that the Acehnese Rumoh Construction still exists, although its function has changed from being a residence. The building originated from an Acehnese Rumoh purchased by a developer and then rebuilt somewhere (Gampong Penyeurat, Banda Aceh) to become a culinary tourism area as well as a cultural educational tourism, especially for Traditional Acehnese Rumoh Architecture. Meanwhile, Figure 2

shows the community applying the Acehnese Rumoh concept to modern residential buildings. However, these residences are categorized as very luxurious because the building and land area average are above 600 m², two floors, and owned by the upper class. However, the buildings were built a long time ago, between 1980-1990. These buildings are very striking, especially the use of Acehnese ornaments on each side of the building, tending to use large pillars at the front, adopting the Acehnese Rumoh roof style and spacious interiors.

Based on the references in Figures 1 and 2, the next stage will be the pre-design and design development stages. This stage has previously gone through several stages in the research recommendations. The recommendations include: building orientation facing east-west, maintaining the stage form, considering the building's utility systems (natural and artificial), and maintaining local materials and forms. However, referring to several contemporary Acehnese houses, something that should also be maintained is the use of ornaments or decorative motifs on the building that reflect local culture and wisdom.

Floor Plan Development Scheme and Pattern

Figure 3: Floor Plan Development Scheme and Pattern
Source: Design Plan/Illustration, 2025

The figure above shows the design development scheme and pattern that will be used in the residential house. The first section shows the zoning classification on the floor plan, as the reference is the Rumoh Aceh room pattern, which consists of a front porch, a middle porch, and a back porch. The bottom section shows the layout of the modern residence that will be combined with the Rumoh Aceh.

The next schematic or drawing maintains the Rumoh Aceh room pattern in a modern form. The next plan develops the stage form, as seen in the stairs at the front and rear of the building. Two building design options are presented. The first option is a 60 m² stilt-style house. This style of house tends to look luxurious and elegant, and residents can utilize the space under the stilts for additional space, such as a social space, a rest area, a storage area, a clothes drying area, and so on. The second design option is a 45 m² house (not stilt-style), but the house is elevated like a stilt house. The house looks small but maintains its elegant function and form.

Visible Development Schemes and Patterns

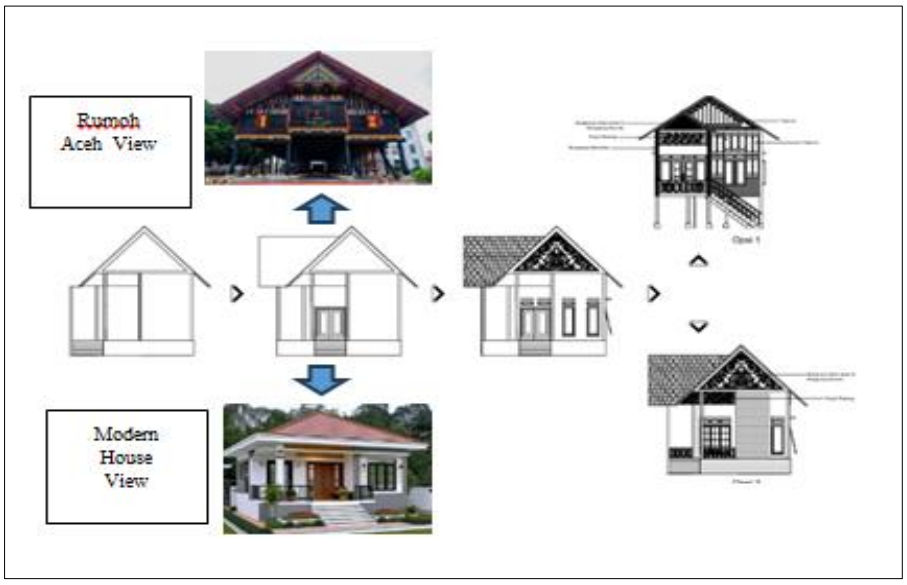

Figure 4: Scheme and Pattern for Development of Appearance and Decorative Varieties.
Source: Design Plan/Illustration, 2025

In the figure above, the design appears to have parts (the lower part or stage of the building), a body (the main area/room), and a head (roof). The design maintains the gable roof and the high or stage house type. There are two design options, the first is a contemporary stage house (type 60 m²). This house maintains the stage form of the Rumoh Aceh and applies ornaments to the front of the building (tulak angin on the upper front of the building), taloe ie (on the lower and upper front walls), bungong awan-awan, bungong keundo, and pucok rebong on the front of the building. Meanwhile, at the rear of the building, there are tulak angin and taloe ie ornaments. The various ornaments do not only function as decoration, but also have a utility function, namely as cross ventilation and natural lighting because some parts of the ornaments are made transparent. The second option features a modern minimalist building with traditional touches (45 m²). The building is relatively smaller, not built on stilts, but rather elevated, resembling a stilt house. The front of the building features a wind-repellent ornament, a combination of cloud-shaped flowers, keundo flowers, and bamboo shoots. These ornaments function similarly to option 1: they serve not only as decoration but also as utility systems.

Design Result

Figure 5: Layout Plan for Type 45 and Type 60
Source: Design Results, 2025

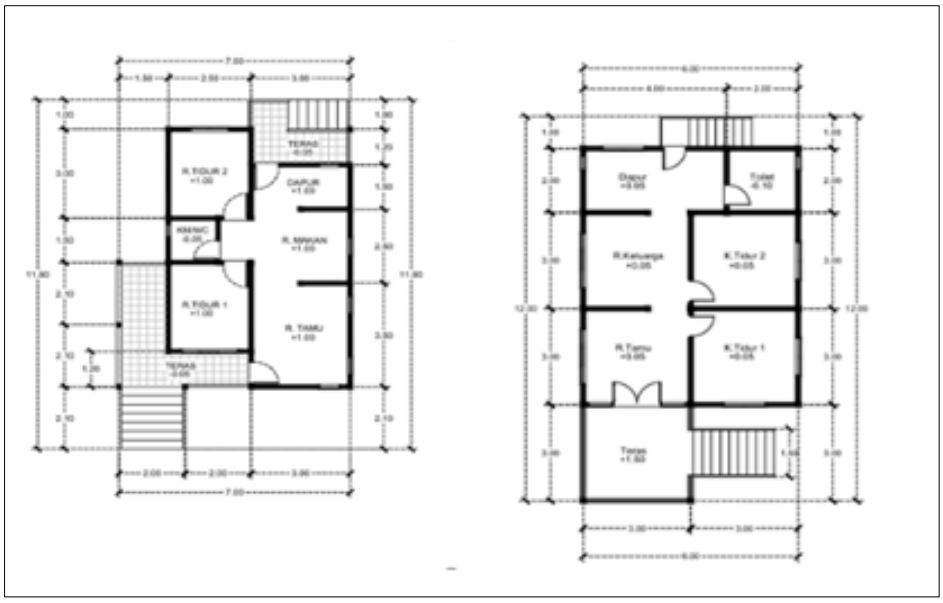

Figure 6: Floor Plans for Type 45 and Type 60
Source: Design Results, 2025

Figure 7: 3D Interior Details of a Type 45 House.
Source: Design Results, 2025

Figure 8: 3D Interior Details of a Type 60 House.
Source: Design Results, 2025

Table 2: Cost Estimation

Recapitulations	Type 45	Type 60
Preparation Work	Rp. 2.200.000.00	Rp. 2.200.000.00
Foundation Work	Rp. 11.079.129.15	-
Footing and Fence Work	Rp. 40.744.871.49	Rp. 60.207.458.59
Bricklaying Work	Rp. 30.129.265.73	Rp. 17.025.331.50
Rainforced Concrete Work	Rp. 17.455.450.63	Rp. 17.611.248.41
Flooring Work	Rp. 14.609.931.59	Rp. 15.897.000.00
Ceiling Work	Rp. 13.740.669.91	Rp. 11.367.840.00
Roofing Work	Rp. 11.807.905.00	Rp. 16.311.626.64
Frame, Door, Window, and Ventilation Works	Rp. 13.209.000.00	Rp. 13.150.000.00
ME Work	Rp. 2.256.000.00	Rp. 2.850.000.00
Clean Water/Sanitary Installation Work	Rp. 1.580.000.00	Rp. 1.940.000.00
Hanging and Lokcking Work	Rp. 2.187.000.00	Rp. 1.746.000.00
Painting, Ornamentation, and Gardening Works	Rp. 31.798.026.80	Rp. 9.160.500.00
Pillar Pre-Cast	-	Rp. 9.742.838.48
Paving Block Car-Port	-	Rp. 26.867.854.00
Flower Pot	-	Rp. 24.490.090.94
Wooden Stairs and Railing	-	Rp. 1.555.750.00
Miscellaneous Works	Rp. 650.000.00	Rp. 650.000.00
TOTAL	Rp. 193.400.000.00	Rp.232.804.000.00

The cost comparison shows that Type 60 housing (Rp. 232.8 million) is approximately 20.4% more expensive than Type 45 (Rp. 193.4 million), reflecting differences in size, spatial complexity, and additional features. In both types, the largest cost components are footing and fence work, bricklaying, and reinforced concrete, indicating that structural elements dominate overall expenditure. Notably, footing costs are significantly higher in Type 60, suggesting a larger building footprint, while bricklaying costs are higher in Type 45, indicating denser wall configurations. Type 45 allocates a relatively large proportion to finishing elements (painting, ornamentation, landscaping), implying an emphasis on visual and cultural expression, potentially aligned with values of Rumoh Aceh. In contrast, Type 60 includes additional functional components (e.g., carport, precast pillars), reflecting greater spatial and lifestyle flexibility. Type 45 emphasizes cost efficiency and aesthetic-cultural integration, whereas Type 60 prioritizes functional expansion and spatial capacity, illustrating how cost distribution reflects differing architectural and user priorities.

DISCUSSION

This discussion underscores that sustaining the relevance of *Rumoh Aceh* traditional architecture amid rapid modernization requires a robust interpretive framework, notably Gadamerian hermeneutics through the concept of the *fusion of horizons*. Within this perspective, architecture is not merely conceived as a physical artifact but as a dynamic construct of meaning, continuously shaped through the dialectical engagement between inherited cultural values and contemporary socio-spatial demands. The findings demonstrate that the core values of *Rumoh Aceh* can be systematically translated into operational design principles, encompassing spirituality and symbolism (e.g., qibla orientation, the use of odd-numbered steps, and ornamentation as identity markers), environmental responsiveness (cross-ventilation, gable roofs, and stilt-house typology as adaptive strategies to tropical climates and disaster mitigation), socio-cultural sustainability (spatial configurations that facilitate family cohesion, guest reception, and the delineation of public and private domains), and spatial flexibility (the provision of multifunctional spaces without compromising cultural integrity). These principles are operationalized through two housing design alternatives: the 60 m² stilt-house model, which offers enhanced spatial capacity and functional expansion through the utilization of the underfloor area, and the 45 m² elevated model, which provides greater spatial and economic efficiency while retaining essential traditional attributes. Cost analysis reveals that the 60 m² typology entails approximately 20.4% higher investment than the 45 m² alternative, primarily due to the dominance of structural components such as foundations, reinforced concrete elements, and wall systems. In contrast, the 45 m² design allocates a relatively larger proportion of its budget to finishing elements, including ornamentation and landscape features, as a means of reinforcing cultural expression. Overall, these findings affirm that the integration of traditional values within contemporary design frameworks not only facilitates the preservation of architectural identity but also generates housing solutions that are adaptive, contextually responsive, and sustainable across functional and economic dimensions.

CONCLUSION

This study makes a substantive contribution to bridging the longstanding dichotomy between vernacular architectural preservation and the exigencies of contemporary housing development through the

formulation of rigorously grounded, evidence-based, and culturally embedded design guidelines. The reconstruction of Rumoh Aceh is thus not confined to the preservation of its material and formal attributes; rather, it entails a critical hermeneutic reinterpretation of its underlying philosophical and socio-cultural values, which are systematically translated into modest housing prototypes that demonstrate functional efficiency, climatic responsiveness, and social sustainability. In this regard, the study advances a paradigm in which intangible cultural logics are operationalized into coherent architectural strategies, thereby reinforcing the epistemic continuity between tradition and modernity. Moreover, the findings generate salient practical implications for key stakeholders, including policymakers, developers, and local communities, by articulating a context-sensitive framework for the provision of housing that is simultaneously affordable and culturally resonant. This integrative approach not only enhances the socio-spatial quality of housing provision but also contributes to the safeguarding and reproduction of local identity within the pressures of rapid urbanization. Consequently, the study positions vernacular architecture not as a static relic of the past, but as a dynamic and adaptive knowledge system capable of informing sustainable and contextually grounded development trajectories.

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