



Cultural Influences on Traditional Mosque Architecture: Case Studies of the Katangka and Wapauwe Mosques

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Abstract: *This study examines the influence of local culture on traditional mosque architecture through case studies of the Katangka Mosque in South Sulawesi and the Wapauwe Old Mosque in Maluku. These two mosques represent a form of acculturation between Islamic values and local cultural traditions within their respective regions. The research employs a historical approach and typological analysis to identify architectural elements that reflect the social, cultural, and environmental characteristics of their local contexts. The main focus is directed toward roof forms, spatial layout, material usage, and decorative elements, as well as how these aspects demonstrate adaptation to the local climate and geographical conditions. The findings reveal that both mosques function not only as places of worship but also as expressions of the community's cultural identity. This study contributes to a deeper understanding of the diversity of religious architecture in Indonesia and offers insights for the contextual and sustainable design of future mosques.*

Keywords: Mosque Architecture, Local Culture, Typology, Indonesia.

INTRODUCTION

Indonesia's mosque architecture is a testament to the nation's rich tapestry of cultural, historical, and religious influences. As Islam spread across the archipelago from the 13th century onwards, it encountered diverse local traditions, leading to unique architectural syntheses that reflect both Islamic principles and indigenous aesthetics (Wiryoprawiro, 1986).

Traditional Indonesian mosques often diverge from Middle Eastern prototypes, notably in their absence of domes and minarets in early structures. Instead, they exhibit features such as multi-tiered roofs, known as tajug, and intricate wooden carvings, indicative of pre-Islamic Javanese and Hindu-Buddhist architectural motifs (Tjahjono, 1998). This architectural adaptation signifies a harmonious integration of new religious ideals with existing cultural frameworks.

The Katangka Mosque in South Sulawesi, established in 1603 by Sultan Alauddin, exemplifies this cultural amalgamation. Its design incorporates Javanese Islamic architectural

elements, such as the tiered roof structure reminiscent of the Demak Mosque, and robust walls that served both religious and defensive purposes (Mahusfah et al., 2020). The mosque's architecture reflects a blend of local Makassarese traditions with Islamic influences, demonstrating the adaptability of Islamic architecture in accommodating local cultural contexts.

Similarly, the Wapauwe Mosque in Maluku, dating back to 1414, reflects local craftsmanship with its sago frond walls and palm leaf roofing. Its architectural features, including the two-tiered roof and symbolic elements like the twelve supporting pillars, embody the confluence of Islamic teachings and indigenous cultural values (Handoko, 2013). The mosque's design elements carry symbolic meanings, such as the peak symbolizing monotheism and the pineapple-shaped pegs embodying the fusion of animal carvings and flora, highlighting the integration of Islamic principles with local cultural expressions.

These mosques are not merely places of worship but also cultural landmarks that narrate the story of Islam's indigenization in Indonesia. Their enduring structures offer insights into how Islamic architecture adapted to local contexts, balancing religious functions with cultural expressions.

This study aims to explore the cultural influences embedded in the architectural designs of the Katangka and Wapauwe Mosques. By examining their structural elements, historical contexts, and symbolic features, the research seeks to understand the interplay between Islamic architectural principles and local cultural adaptations. Through a qualitative analysis grounded in architectural and cultural studies, the paper contributes to the broader discourse on the localization of Islamic architecture in Southeast Asia.

Literature Review

Several scholars have explored the intersection between Islamic architecture and local cultural traditions in Southeast Asia. Early studies by Woodward (1989) and Nas (1993) emphasize how the spread of Islam in Indonesia did not replace indigenous traditions but rather adapted to them, creating unique architectural forms in mosques. This process of cultural syncretism resulted in mosques that blend Islamic religious functions with local materiality, symbolism, and construction techniques.

Frishman and Khan (2002) provide a broader overview of mosque typologies across the Islamic world, highlighting how regional interpretations of mosque design are often shaped by geography, pre-Islamic traditions, and colonial influence. Their work underscores the idea that the mosque is not a monolithic form, but a mutable one—molded by the sociocultural and environmental conditions of its context.

In the Indonesian context, Soekmono (1995) and Arifin (2017) discuss how early mosque architecture reflects Javanese spatial hierarchies and vernacular building systems, including the use of multi-tiered roofs and wooden structures without nails. These studies provide insight into how environmental adaptation and craftsmanship define the spiritual and functional quality of traditional mosques.

Oliver (2006) contributes to this discourse by framing vernacular architecture as inherently responsive to local climate and societal needs. His emphasis on sustainability and community participation is particularly relevant in the study of Wapauwe Mosque, where traditional construction techniques and ritual maintenance practices remain central.

Finally, recent research by Gill (2012) and Yunan (2020) deepens the analysis by examining ornamental features, colonial legacies, and the layering of cultural identity in mosque architecture, especially in Eastern Indonesia. These sources collectively affirm that the architectural character of Katangka and Wapauwe Mosques emerges from a complex entanglement of Islamic faith, local tradition, and historical transformation.

METHOD

This study adopts a qualitative descriptive approach with a case study method to investigate the cultural influences embedded in traditional mosque architecture in Indonesia. The research focuses on two historically significant mosques—Katangka Mosque in South Sulawesi and Wapauwe Mosque in Maluku—which represent distinct regional adaptations of Islamic architecture shaped by local cultural and environmental factors.

The data used in this study are primarily derived from secondary sources, including academic books, peer-reviewed journal articles, architectural reports, and historical records. These sources provide comprehensive documentation and interpretation of the two mosques' architectural elements, cultural contexts, and historical development. Emphasis was placed on literature that discusses spatial organization, roofing systems, mihrab and decorative features, natural ventilation, climate responsiveness, and symbolic aspects of the mosque architecture (Tjahjono, 1998; Handoko, 2013; Ismail & Kamarudin, 2021).

The analysis employs typological and morphological frameworks. Typological analysis, following Argan's (1963) theory, was applied to classify recurring architectural elements and interpret their cultural significance. Morphological analysis helped identify formal characteristics, material choices, and spatial strategies influenced by environmental and socio-cultural factors. A comparative analysis was also conducted to highlight similarities and differences between the two mosques in terms of layout, structure, symbolism, and adaptation to climate and local customs.

By relying on authoritative and well-documented sources, this methodology enables a comprehensive understanding of how cultural values and environmental conditions influence the architectural identity of traditional mosques in different regions of Indonesia.

RESULT AND DISCUSSION

Typology of Traditional Mosque Architecture in Eastern Indonesia

The architectural typology of traditional mosques in Eastern Indonesia—represented in this study by the Katangka Mosque in South Sulawesi and the Wapauwe Mosque in Maluku—reflects a distinctive synthesis of Islamic values, local culture, and adaptation to the tropical climate. While both mosques exhibit a basic spatial pattern common to early Indonesian mosques, they also present unique features shaped by their specific historical and cultural contexts. The discussion below outlines the major typological elements, analyzed through architectural literature and visual documentation.

a. Spatial Layout

The spatial layout of Tua Al-Hilal Katangka Mosque follows a square plan supported by eight columns, including four main soko guru pillars symbolizing the strength of Islamic belief. The mosque's compact layout reflects its dual function as both a place of worship and a defensive structure within the Kalegowa Fortress. Thick brick walls and colonial-style windows support this multi-functional character.

Tua Wapauwe Mosque presents a rectangular plan without an original veranda, although one has been added in later periods. The prayer hall is supported by four wooden columns, and the structure uses traditional joinery without nails, bound by palm fiber rope (*gemutu*), showcasing indigenous construction techniques. The layout emphasizes simplicity, openness, and adaptability to local environmental and cultural contexts.

These spatial characteristics align with the typology of early Indonesian mosques, where open plans and multifunctional use reflect both climatic adaptation and community-oriented practices.

b. Roof Structure of the Mosque

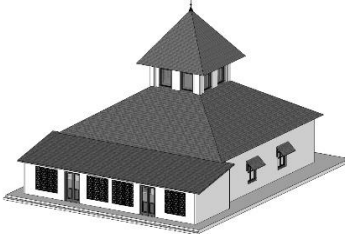

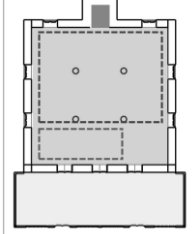

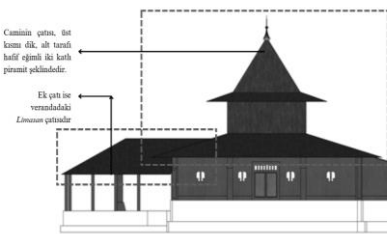
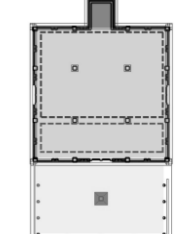
The roof of Tua Al-Hilal Katangka Mosque reflects a combination of Javanese, Chinese, and Dutch influences. It features a joglo-style tiered structure, topped with a

Chinese-style *mustaka*, and is covered with red ceramic tiles imported from the Netherlands—marked “Stoom Pannen fabriek Van Echt 1884.” These materials were purchased by Sultan Abdul Kadir of Gowa, showing colonial trade connections and local elite involvement.

Meanwhile, Tua Wapauwe Mosque has a two-tiered pyramid roof made of sago palm leaves. This design merges local and Javanese traditions while responding effectively to the tropical climate. The roof is replaced every decade through a traditional ceremony, emphasizing community participation.

Both examples confirm that mosque roofs in Indonesia serve not only as structural elements but also reflect cultural identity, climatic adaptation, and historical context (Soekmono, 1995; Gill, 2012; Arifin, 2017).

Table 1. Spatial Layout and Toof Structure

	Historical Perspective	Roof Structure	Floor Plan
Tua Al-Hilal Katangka Mosque (Sulawesi, 1603)	 <p>Established in 1603 by Sultan Alauddin in Gowa, the Tua Al-Hilal Katangka Mosque served as both a center of worship and a symbol of the spread of Islam in South Sulawesi. During the Dutch colonial period, the mosque was also used as a defensive stronghold, reflecting its strategic and political significance in the region</p>	 <ul style="list-style-type: none">Form and Materials: The mosque features a two-tiered <i>joglo</i>-shaped roof, constructed using imported red ceramic tiles from the Netherlands and decorative <i>mustaka</i> (ceramic finials) from China.Cultural Influences: The roof structure reflects a synthesis of Chinese, Dutch colonial, and Javanese cultural elements, demonstrating the mosque's role as a product of intercultural architectural exchange.	 <p>The mosque has a square floor plan supported by eight columns, including four main cylindrical pillars (<i>soko guru</i>) made of plastered brick. The design of these columns is believed to be influenced by Portuguese architectural styles, particularly resembling the Doric order found in classical Greek architecture.</p>
Tua Wapauwe Mosque (Maluku, 1414)	 <p>Located in Kaitetu Village, Central Maluku, the Tua Wapauwe Mosque was founded in 1414 by Pernada Jamilu. Originally situated at the foot of Mount Wawane, the mosque was later relocated to its present location beneath a mango tree. This movement symbolizes the early spread of Islam in the Maluku region and reflects the adaptive nature of religious and communal practices in the</p>	 <ul style="list-style-type: none">Form and Materials: The mosque features a two-tiered pyramidal roof made from sago palm thatch (<i>rumbia</i> leaves), a traditional material native to the region.Cultural Influences: The roof structure represents a blend of local Malukan and Javanese architectural traditions. Its maintenance, often conducted through customary rituals, underscores the mosque's role	 <p>The mosque originally had a simple square-rectangular plan without a front porch; a porch has since been added. The main prayer hall is supported by four large wooden columns constructed using mortise-and-tenon joints without nails, bound with palm-fiber ropes (<i>gemutu</i>). This technique reflects local craftsmanship and indigenous wisdom</p>

	archipelago.	in preserving indigenous cultural values.	passed down through generations.
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c. Mihrab and Minbar

At Tua Al-Hilal Katangka Mosque, the mihrab is a recessed niche on the western wall. The minbar is divided into three parts—upper, middle, and lower—and resembles the roof of a shrine. It is adorned with Chinese porcelain tiles, Arabic calligraphy, and Makassarese carvings, reflecting a blend of Chinese, Arab, and Makassarese cultural influences.

At Tua Wapauwe Mosque, the mihrab is very simple, consistent with the mosque's overall minimalist architecture. The wooden minbar, made from *nani* and *lara* (*Metrosideros*) trees, stands adjacent to the mihrab. Measuring 180 × 86 × 220 cm, it dates back to the mosque's founding and represents enduring local craftsmanship. The presence of a red-and-white triangular flag motif hints at historical foreign influences.

d. Ornamentation

At Tua Al-Hilal Katangka Mosque, the architectural details reflect a blend of local and colonial influences. The 2-meter-wide windows are reminiscent of Dutch colonial style, similar to Fort Rotterdam. The white walls follow the *Nieuwe Bouwen* style, suggesting colonial simplicity and authority. The mosque also retains a historic drum (*bedug*) made by the Bone Kingdom—one of three gifted to Bone, Luwu, and Gowa Kingdoms. Known for its powerful resonance, it could be heard from up to 3 kilometers away.

The minbar, shaped like a temple roof, features Chinese porcelain tiles and carvings in Arabic script and Makassarese language, highlighting a fusion of Chinese, Arab, and local cultures.

At Tua Wapauwe Mosque, Islamic decoration is seen in the roof eaves, where carved wooden nails with pineapple motifs secure the roof boards. Below the eaves are calligraphic wood carvings reading “Allah–Muhammad” at the four corners.

The old mosque door includes a brass turtle-shaped plate inscribed with *Shalawat Nabi*, symbolizing blessing and protection, also alluding to the mosque's coastal proximity. The *bedug*, originally 3 meters long and made from *Pterocarpus indicus* with deer hide, was shortened by the Dutch as its sound echoed off Fort Amsterdam's walls 200 meters away. A preaching stick made from segmented wood was brought by 13th-century Arab preacher Tuni Ulama, representing the continuation of da'wah in Maluku.

Finally, the mosque retains antique lamps using coconut oil, and Portuguese-style hanging lanterns with adjustable height, bearing historical traces of foreign influence.

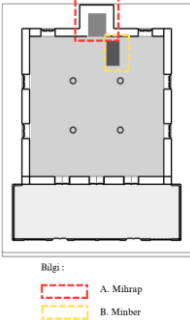
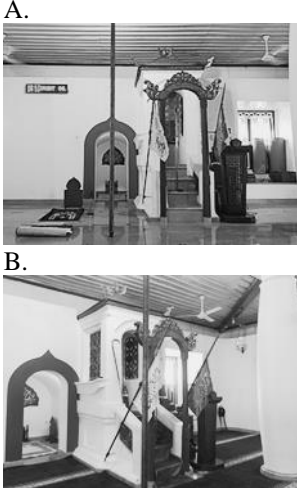

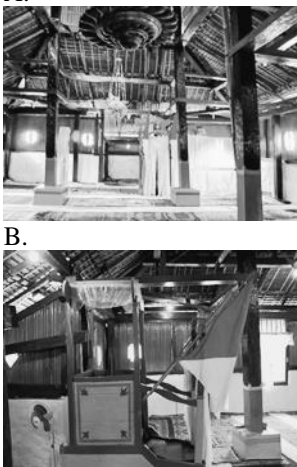
e. Local Cultural Influence

At Tua Al-Hilal Katangka Mosque, the architectural form blends various cultural elements. The large cylindrical main column reflects classical Greek Doric style, indicating influence not only from Islamic and local traditions but also from European architecture. The joglo-style roof and the use of imported Chinese ceramics highlight both local adaptation and extensive trade networks. The **drum** gifted by the Bone Kingdom signifies inter-kingdom cooperation in Sulawesi. Altogether, the mosque represents a fusion of Bugis-Makassar traditions, colonial European forms, and Arab-Chinese influences. This integration illustrates how Islam in the region evolved through architectural adaptation and cultural synthesis.

At Tua Wapauwe Mosque, the influence of local culture appears in several aspects: (1) Traditional Building Techniques: Constructed without nails or wooden pegs, the structure uses palm fiber ropes (*gemutu*) and mortise-tenon joints, reflecting indigenous craftsmanship adapted to local contexts. (2) Local Materials: Built with native timber and

a thatched roof made of sago palm leaves, the mosque showcases sustainable use of regional resources suited to the local climate. (3) Decorative Details: The integration of religious symbols—such as *Allah–Muhammad* carvings—and local motifs like pineapple finials and turtle-shaped brass plates demonstrates a blend of Islamic spirituality with local artistic expression. (4) Social and Ritual Functions: The replacement of the roof through traditional ceremonies reflects the mosque’s role beyond worship—as a cultural and communal institution where local customs and religious life converge.

Table 2. Mihrab, Minbar, Decoration and Local cultural Influence

	Mihrab and Minbar	Mosque Decoration	Local Cultural Influence
Tua Al-Hilal Katangka Mosque (Sulawesi, 1603)	 <p>Bilgi : A. Mihrap B. Minbar</p>	 <p>A. B.</p> <p>A. Drum (<i>Bedug</i>) B. Minbar (Pulpit)</p>	<p>Local cultural influences can be observed in the use of Greek-style main columns (Doric order), the joglo-shaped roof, and the ceramic materials imported from China. The drum originating from the Bone Kingdom reflects inter-kingdom cooperation, while the combination of architectural elements illustrates acculturation among Bugis-Makassar culture, European colonialism, and Arab and Chinese influences.</p>
Tua Wapauwe Mosque (Maluku, 1414)	 <p>Bilgi : A. Mihrap B. Minbar</p>	 <p>A. B.</p> <p>A. Calligraphy on Roof Eaves B. Sermon Pole C. Drum (<i>Bedug</i>) D. Antique Lamp</p>	<p>In traditional nail-less construction techniques, the use of local materials such as wood and thatched roofs, and local decorations such as calligraphy and pineapple motifs, the influence of local culture can be observed. Traditional rituals for mosque maintenance emphasize the socio-cultural role of mosques in community life.</p>

CONCLUSION

This study has explored how cultural influences shape the architectural typology of traditional mosques in Eastern Indonesia through two representative case studies: the Katangka Mosque in South Sulawesi and the Wapauwe Mosque in Maluku. The findings demonstrate that both mosques embody a sophisticated fusion of Islamic religious principles with local traditions, materials, construction techniques, and environmental adaptations. The Katangka Mosque reveals a layered cultural composition—featuring elements from Bugis-Makassar heritage, Javanese typologies, Chinese porcelain, Dutch colonial forms, and even European classical references. Meanwhile, the Wapauwe Mosque exemplifies indigenous craftsmanship, utilizing local timber, traditional joinery techniques without nails, and spiritual symbolism embedded in vernacular motifs.

The spatial organization, roof structures, mihrab and minbar designs, and decorative elements of both mosques not only serve religious functions but also act as cultural archives—preserving centuries of social, political, and trade interactions. These architectural characteristics challenge the notion of Islamic architecture as a monolithic form and instead emphasize its adaptive and syncretic nature in diverse regional contexts. In doing so, this research affirms that traditional mosque architecture in Indonesia is not merely a product of religious prescription, but a dynamic expression of cultural identity, local ingenuity, and environmental responsiveness.

Recommendations

Future research should expand the scope of inquiry to include other traditional mosques across Eastern Indonesia, especially those from lesser-studied regions such as Papua or the Nusa Tenggara islands, to gain a broader understanding of regional variation and cultural integration. Additionally, interdisciplinary studies incorporating anthropology, history, and environmental science could further enrich the analysis of how architecture serves as a living medium for cultural continuity. Lastly, given the increasing threat of modernization and neglect, urgent conservation strategies are needed to preserve these heritage mosques—not only as religious landmarks but as vital embodiments of Indonesia's pluralistic architectural legacy.

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