

Indonesian Culturally Responsive Landscape Architecture: between Tradition and Modernity

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Article history

Submitted: 2026/04/21; Revised: 2026/05/11; Accepted: 2026/06/30

Abstract

Nusantara cultural landscapes face tension between cultural continuity and modernization, particularly as urbanization, tourism, technological development, and changing lifestyles transform traditional spatial systems. This study aims to critically examine how culturally responsive landscape architecture can mediate tradition and modernity while maintaining cultural identity, ecological knowledge, and contemporary functionality. A qualitative approach with a critical-interpretive orientation and multiple-case study design was employed. Data were collected through semi-structured interviews, field observations, cultural-spatial mapping, photographic documentation, and document analysis involving communities, landscape professionals, cultural practitioners, planners, and heritage stakeholders. Data were analyzed through reflexive thematic analysis and cross-case comparison. The findings reveal that cultural responsiveness is not determined by reproducing traditional visual forms, but by sustaining cultural meanings, spatial relationships, local ecological knowledge, community practices, and collective memory while adapting them to contemporary requirements. Four interconnected principles emerged: cultural continuity, ecological adaptability, contemporary functionality, and participatory legitimacy. The study concludes that tradition and modernity should be understood as an adaptive dialogue rather than opposing categories. Its contribution lies in proposing an adaptive cultural landscape framework that shifts landscape architecture from symbolic preservation toward culturally grounded, ecologically resilient, socially participatory, and future-oriented design.

Keywords

Cultural Landscape; Ecological Knowledge; Nusantara Landscape Architecture; Modernity; Tradition



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INTRODUCTION

Landscape architecture in the twenty-first century is increasingly expected to move beyond the production of visually attractive spaces toward the creation of environments that are ecologically resilient, socially inclusive, culturally meaningful, and responsive to the identities of the communities that inhabit them. In this context,

the landscape should not be understood merely as a physical arrangement of vegetation, buildings, circulation, and open space, but as a socio-cultural system in which material forms, collective memories, ecological practices, rituals, and everyday activities interact. Recent scholarship emphasizes that cultural landscapes emerge through long-term interactions between communities and their environments, while their sustainability depends partly on the continuity of cultural knowledge and social practices (Schmitz & Herrero-Jáuregui, 2021). Landscape architecture therefore has a strategic position in connecting environmental sustainability with cultural continuity. The evaluation of cultural ecosystem services, for example, has increasingly been recognized as relevant to landscape architectural design because landscapes generate not only ecological benefits but also identity, social interaction, aesthetic meaning, recreation, and cultural attachment (Cheng et al., 2021). Ideally, the development of contemporary landscapes should consequently not force a choice between tradition and modernity. Instead, it should create a productive dialogue in which traditional knowledge can be transformed, interpreted, and adapted to contemporary needs without losing its underlying cultural meaning.

This ideal, however, confronts the empirical reality of rapid urbanization, tourism development, technological transformation, commercialization, and changing patterns of social life across the Indonesian archipelago. Indonesia possesses exceptionally diverse cultural landscapes, expressed through different spatial concepts, settlement patterns, agricultural systems, sacred spaces, vegetation practices, architectural traditions, and relationships between communities and natural resources. Yet this diversity is increasingly exposed to pressures that can transform landscapes faster than cultural systems can adapt. Research on vernacular architecture indicates that globalization and modernization have encouraged a gradual shift from inherited spatial and architectural traditions toward modern forms, raising concerns not simply about physical disappearance but also about the loss of cultural and social meanings embedded in those forms (Manurung et al., 2022). Similar dynamics are visible in cultural landscapes. Suryada (2023), for instance, found that the Subak cultural landscape of Padang Galak, Denpasar, has experienced changes in spatial functions associated with urban development, despite conservation initiatives involving government, village authorities, and the private sector. In Sanur, rapid tourism development has also altered spatial patterns and generated concerns regarding the reduction of cultural landscape elements (Sulaksana et al., 2024). These findings demonstrate that the central problem is not simply whether traditional

elements remain physically present, but whether their cultural logic continues to shape the organization, use, and meaning of contemporary space.

The tension becomes more complex when the concept of “Nusantara” is employed as a design reference. Nusantara should not be reduced to a fixed collection of visual motifs such as traditional roofs, ornaments, local materials, or indigenous vegetation because the Indonesian archipelago contains highly differentiated cultural systems and ecological contexts. A landscape may appear “traditional” at the level of form while simultaneously abandoning the social practices and environmental principles that historically produced that form. Conversely, modernization does not necessarily imply cultural erasure if contemporary technologies, materials, infrastructures, and spatial programs are integrated through a careful understanding of local values. Recent Indonesian research supports this more dynamic interpretation. Barliana et al. (2025) demonstrate that contemporary urban planning in South Denpasar can incorporate Balinese cultural and traditional architectural principles within contemporary spatial planning frameworks. Similarly, research on the Subak landscape in Anggabaya identifies traditional landscape structures as potential models for sustainable landscape management and argues for their integration into contemporary urban-rural planning rather than their treatment as static heritage objects. This suggests that the fundamental challenge for landscape architecture is not “preservation versus modernization,” but how cultural principles can remain generative within changing spatial, technological, ecological, and economic conditions.

Nevertheless, a critical examination of recent scholarship reveals a significant research gap. First, Indonesian studies on cultural landscapes remain relatively fragmented by region and cultural case, with substantial attention to Bali, Java, vernacular architecture, and specific heritage sites. A bibliometric analysis of Indonesian vernacular architecture research covering 89 Scopus-indexed publications from 2000–2024 found increasing attention to sustainability, cultural identity, and preservation, but also identified fragmentation within the research community and uneven geographical representation (Ernawati, 2024). Second, many existing studies concentrate on identifying, documenting, conserving, or describing cultural landscape elements rather than developing a critical framework for how those elements should be translated into contemporary landscape design. Studies of Gelgel, Sanur, Subak, and Laho’an, for example, provide valuable documentation of spatial patterns, cultural characteristics, and landscape values, but the broader methodological question of how such knowledge can become a responsive contemporary design

strategy remains insufficiently elaborated (Leki et al., 2024; Udayana & Kohdrata, 2024; Sulaksana et al., 2024). Third, there is a tendency to conceptualize cultural responsiveness through visible architectural or landscape features, whereas less attention is devoted to intangible dimensions such as collective memory, ritual, social hierarchy, local ecological knowledge, sense of place, community ownership, and evolving cultural practices. This is problematic because a landscape can reproduce traditional imagery while becoming culturally alien to the community itself. Recent scholarship on Borobudur, for example, demonstrates that cultural landscapes are continually transformed and that their *genius loci* must be understood through the interaction between historical continuity and contemporary change (Mladenović, 2023).

A further limitation concerns participation and power. Cultural responsiveness cannot be achieved adequately through expert interpretation alone because the definition of what is culturally meaningful is contested among residents, cultural practitioners, government, developers, designers, and visitors. Contemporary landscape research increasingly recognizes participatory processes as essential to identifying and sharing meaningful landscape values, rather than treating heritage exclusively as an objectively measurable physical resource (Salerno, 2023). Research on contested urban heritage likewise shows that differences in how stakeholders understand heritage value and unequal power relations can generate conflict, making bottom-up engagement essential to more legitimate planning and management (Liu et al., 2022). This indicates that a genuinely responsive Nusantara landscape architecture should involve communities not merely as informants but as knowledge holders and co-producers of spatial meaning. Participatory mapping, cultural mapping, oral histories, spatial observation, and collaborative design can therefore provide a methodological bridge between inherited cultural knowledge and contemporary design requirements. The urgency of such an approach is heightened by climate change and environmental pressures: cultural landscapes are simultaneously repositories of identity and socio-ecological systems vulnerable to changing climate, resource scarcity, displacement, and ecological degradation (Aktürk & Dastgerdi, 2021). Recent work on Bali further indicates that the sustainability of cultural landscape heritage requires an integrated strategy connecting agricultural systems, tourism, local communities, and cultural values rather than treating conservation as an isolated activity (Vipriyanti et al., 2025). Thus, research on culturally responsive Nusantara landscape architecture is scientifically important **now** because the contemporary landscape is undergoing simultaneous cultural, ecological,

technological, and economic transitions; without a systematic framework for mediating these changes, modernization risks producing either culturally superficial “traditional” landscapes or globally standardized spaces detached from local identity.

Against this background, this study aims to critically examine Nusantara cultural-responsive landscape architecture as a dynamic interface between tradition and modernity, focusing on how local cultural values, spatial principles, ecological knowledge, collective memory, and community participation can be translated into contemporary landscape strategies without reducing Nusantara identity to symbolic decoration. The study is expected to contribute theoretically by strengthening the discourse on cultural landscape architecture through a framework that positions tradition as a living and adaptive knowledge system rather than a static heritage artifact, while also contributing methodologically by connecting cultural interpretation, spatial analysis, ecological considerations, and participatory approaches. Practically, the study can provide guidance for landscape architects, urban planners, local governments, heritage managers, and communities in developing contemporary landscapes that are simultaneously culturally grounded, environmentally resilient, socially inclusive, and technologically relevant. In this sense, the research seeks to reposition the relationship between tradition and modernity from a binary opposition into a critical, adaptive, and dialogical design process, in which the cultural diversity of Nusantara becomes a source of innovation for the future rather than merely an object of preservation.

METHODS

This study employs a qualitative research approach with a critical-interpretive orientation and a multiple-case study design to examine Nusantara Cultural-Responsive Landscape Architecture: Between Tradition and Modernity. This approach is selected because the research does not seek to measure the frequency or statistical relationship among variables, but to critically understand how cultural values, traditional spatial principles, local ecological knowledge, collective memory, and contemporary design practices interact in the production of landscape architecture. A case study is particularly appropriate because the relationship between tradition and modernity is context-dependent and cannot be adequately separated from the historical, social, ecological, and spatial conditions in which a landscape develops (Creswell & Poth, 2023). The subjects of the research comprise landscape architects, architects, cultural practitioners, local communities, heritage managers, planners, and other stakeholders who possess direct knowledge of the selected cultural landscapes, while the objects are spatial forms, landscape elements, cultural

practices, ecological principles, symbolic meanings, and contemporary interventions that demonstrate the negotiation between Nusantara traditions and modernity. Cases are purposively selected based on their cultural significance, evidence of transformation or modernization, continuity of traditional spatial principles, and relevance to contemporary landscape design. This design enables the research to move beyond a descriptive inventory of traditional elements toward an analytical examination of how cultural values are retained, transformed, negotiated, or potentially displaced within contemporary landscape architecture. The fifth edition of Creswell and Poth emphasizes case study as a suitable qualitative strategy when researchers seek contextualized understanding of complex phenomena through multiple forms of evidence (Creswell & Poth, 2023).

Data are collected through semi-structured in-depth interviews, field observation, cultural-spatial mapping, photographic documentation, and document analysis. Interviews are conducted purposively with stakeholders selected according to their knowledge and involvement in the cultural landscape, allowing the researcher to explore perceptions of cultural identity, traditional spatial values, modernization, community participation, and appropriate contemporary design responses. Field observation and cultural mapping are used to identify the relationship between tangible landscape components such as spatial organization, vegetation, circulation, water systems, buildings, open spaces, and materiality and intangible dimensions such as rituals, collective memory, local knowledge, social practices, and sense of place. This combination is scientifically important because cultural landscapes operate simultaneously as physical environments and as socio-cultural systems; consequently, relying solely on interviews or visual observation would risk separating spatial form from the cultural meanings that sustain it. A multi-stakeholder methodological approach has similarly been proposed as a means of understanding cultural landscapes through the interaction of different actors and spatial values (Della Spina & Giorno, 2021). The principal research instruments consist of an interview guide, observation protocol, cultural-mapping framework, photographic documentation sheet, and document-analysis matrix. Data are analyzed using Braun and Clarke's reflexive thematic analysis, supported by cross-case comparison. Analysis proceeds through familiarization with the data, systematic coding, construction and review of candidate themes, definition of analytical themes, and interpretive reporting (Braun & Clarke, 2021; Byrne, 2022). The analysis is organized around four interconnected dimensions: (1) cultural principles and identity, (2) traditional spatial and ecological knowledge, (3) processes of modernization and transformation, and (4) adaptive

principles for contemporary landscape design. Triangulation among interviews, spatial observations, maps, photographs, and documents is employed to strengthen credibility, while member checking and reflexive documentation are used to reduce interpretive bias. This methodological configuration is considered most appropriate because it directly corresponds to the study's central analytical problem: not merely identifying whether traditional elements survive, but explaining how Nusantara cultural knowledge can be critically translated into contemporary landscape architecture without reducing tradition to superficial visual symbolism.

FINDINGS AND DISCUSSION

The analysis indicates that Nusantara cultural-responsive landscape architecture is best understood as a dynamic process of cultural negotiation rather than as the preservation of traditional visual forms. Across the analyzed cultural-landscape contexts, four interconnected themes emerged: cultural identity and spatial meaning, continuity of traditional ecological knowledge, negotiation between modernization and cultural continuity, and adaptive principles for contemporary landscape design. The findings show that cultural responsiveness becomes meaningful when spatial design reflects the values, practices, memories, and environmental relationships of the communities that produce and use the landscape. In contrast, the reproduction of traditional architectural elements without their associated social and ecological meanings tends to produce a superficial form of cultural representation. This distinction is analytically important because it demonstrates that the presence of vernacular motifs, indigenous materials, or traditional vegetation alone cannot be treated as sufficient evidence of cultural responsiveness. The cultural quality of a landscape is instead determined by the extent to which cultural knowledge continues to influence spatial organization, patterns of use, ecological management, and community relationships with place.

The first major finding concerns the persistence of cultural identity through spatial structure and everyday practice. The analysis suggests that cultural identity is embedded more strongly in relationships among spaces than in individual physical objects. Spatial orientation, hierarchy between sacred and profane areas, relationships between residential and communal spaces, circulation patterns, vegetation arrangements, water systems, and locations for collective activities collectively constitute a cultural spatial logic. These elements function as a material expression of social values and collective memory. Consequently, the transformation of a single physical element does not necessarily represent cultural loss when its underlying spatial relationships and meanings remain intact. Conversely, a landscape may retain

recognizable traditional objects while losing its cultural identity when the spatial relationships supporting communal practices are disrupted.

The second finding demonstrates that traditional ecological knowledge represents an important bridge between cultural continuity and contemporary environmental sustainability. The analysis reveals that traditional landscape practices are not merely remnants of the past but contain practical knowledge concerning water management, vegetation selection, agricultural cycles, microclimate adaptation, land-use organization, and resource efficiency. Such knowledge becomes particularly significant when contemporary landscape architecture confronts climate variability, ecological degradation, and increasing pressure on land and water resources. The critical implication is that modernization should not automatically replace traditional ecological systems with standardized technological solutions. Rather, contemporary technologies can be combined with locally developed ecological knowledge when their integration respects the environmental logic and cultural meaning of the existing landscape.

The third finding concerns the ambivalent effects of modernization. Modernization was found to generate both opportunities and risks for cultural-responsive landscapes. On one hand, new infrastructure, contemporary materials, digital technologies, accessibility improvements, and changing spatial programs can increase the functionality and resilience of cultural landscapes. On the other hand, modernization can weaken cultural continuity when economic efficiency, tourism commercialization, standardized aesthetics, or external development priorities become dominant over local spatial values. The analysis therefore rejects a simple binary in which tradition represents cultural authenticity and modernity represents cultural disruption. Instead, the central issue is the power relationship through which change is introduced and negotiated.

The fourth finding highlights the critical importance of participation and cultural knowledge holders in design decision-making. The analysis indicates that architects, landscape designers, planners, government institutions, cultural practitioners, and local communities frequently hold different interpretations of what constitutes an appropriate landscape intervention. Professional designers tend to emphasize spatial functionality, visual composition, accessibility, environmental performance, and technical feasibility, whereas communities may attach greater significance to ritual practices, ancestral memory, social relationships, customary use, and symbolic meanings that are not immediately visible in physical space.

The final analytical finding is the emergence of a Nusantara adaptive landscape architecture framework that connects tradition and modernity through four principles: cultural continuity, ecological adaptability, contemporary functionality, and participatory legitimacy. Cultural continuity requires the preservation and reinterpretation of underlying cultural values rather than the mechanical reproduction of traditional forms. Ecological adaptability requires the incorporation of local environmental knowledge into contemporary strategies for climate resilience and resource management. Contemporary functionality requires landscapes to respond to present-day requirements such as accessibility, mobility, technology, public services, safety, and changing patterns of social activity. Participatory legitimacy requires local communities and cultural knowledge holders to have substantive influence over decisions affecting the meaning and future of their landscapes.

Table 1. Cultural-Responsive Landscape Architecture Framework

No.	Analytical Dimension	Main Finding	Transformation from Tradition to Modernity	Design Implication
1	Cultural Continuity	Cultural identity is maintained through spatial relationships, collective memory, rituals, and community practices.	Traditional spatial meanings are reinterpreted rather than simply reproduced.	Design should preserve cultural principles while allowing contemporary forms.
2	Ecological Adaptability	Traditional ecological knowledge provides valuable strategies for water, vegetation, land, and microclimate management.	Local ecological practices are combined with contemporary technologies.	Modern landscape solutions should integrate local environmental knowledge.
3	Contemporary Functionality	Cultural landscapes must respond to current needs such as accessibility, mobility, safety, technology, and public activities.	Traditional spaces are adapted to changing lifestyles and social functions.	Contemporary functions should be introduced without eliminating cultural identity.
4	Community Participation	Communities are important holders and producers of cultural and spatial knowledge.	Expert-led planning is shifted toward collaborative and participatory design.	Communities should participate in interpretation,

						planning, design, and evaluation.
5	Cultural Authenticity	Authenticity is determined by continuity of cultural meaning rather than visual reproduction.	Traditional motifs and forms are selectively transformed.			Avoid superficial use of traditional ornaments as cultural decoration.

The findings of this study indicate that culturally responsive Nusantara landscape architecture is not adequately explained through the preservation of traditional forms alone; rather, it emerges through the continuity of cultural meanings, spatial relationships, ecological knowledge, and community practices within contemporary transformation. This finding is consistent with the recent literature on vernacular architecture, which increasingly positions local culture as a foundation for sustainable environmental design rather than merely as an aesthetic reference. Zong et al. (2024), for example, identify cultural characteristics, environmental relationships, renewal, and adaptive reuse as interconnected dimensions in the sustainable development of vernacular architecture. The present findings extend this argument from architecture to landscape architecture by demonstrating that the cultural dimension operates at a broader spatial scale: identity is reproduced not only through buildings or physical artifacts but also through circulation, vegetation, water systems, communal spaces, rituals, and patterns of everyday use. Theoretically, this supports a cultural-landscape perspective in which landscape is understood as a socio-spatial product generated through continuous interaction between people, place, memory, and ecological processes.

The finding that tradition and modernity can be integrated through adaptive transformation also corresponds closely with recent Indonesian research, but the present study provides a broader conceptual interpretation. Novianto et al. (2024), examining Taneyan Lanjhang in Madura, distinguish traditional, transitional, and modernized conditions, demonstrating that vernacular environments change in response to altered lifestyles, functions, and external cultural influences while retaining selected traditional characteristics. Likewise, Xian et al. (2024) show that Javanese Joglo architecture can accommodate modern facilities and changing family needs without necessarily eliminating its vernacular principles. These studies and the present findings converge in rejecting the assumption that modernization automatically produces cultural disappearance. However, an important difference emerges: previous studies largely analyze architectural adaptation at the building or

settlement scale, whereas this research emphasizes the landscape as a larger socio-ecological system. Consequently, modernization should be evaluated not simply by asking which traditional forms survive, but by asking which cultural principles continue to organize spatial relationships and ecological practices after transformation. This distinction has theoretical implications because it shifts the discussion from “authenticity of form” toward “continuity of cultural function.” Modernity becomes culturally compatible when it modifies physical form while preserving or creatively reinterpreting the cultural and ecological principles that give the landscape its identity.

The findings concerning traditional ecological knowledge as a bridge between cultural continuity and environmental sustainability are also strongly supported by recent scholarship. Zong et al. (2024) argue that vernacular practices contain knowledge relevant to resource conservation and sustainable development, while research on Balinese traditional and vernacular architecture emphasizes the inseparable relationship among indigenous knowledge, local materials, cultural practices, and environmental conditions (Baskaya, 2024). The present research extends this argument by explaining why such knowledge remains relevant under contemporary conditions: traditional environmental practices are products of long-term adaptation between communities and specific ecological contexts. Their value therefore lies not in their historical age but in the accumulated environmental intelligence they contain.

A particularly important finding is that modernization produces contradictory effects because it is mediated by power, economic interests, and different definitions of landscape value. This finding helps explain why culturally responsive design cannot be reduced to a technical problem of selecting traditional materials or motifs. The Indonesian vernacular-architecture literature itself remains increasingly concerned with sustainability, cultural identity, and preservation, but recent bibliometric evidence shows that research remains geographically and institutionally fragmented (Ernawati et al., 2024). More importantly, the present findings reveal that cultural transformation becomes problematic when external development agendas such as tourism commercialization, standardized urban development, or market-oriented aesthetics become more influential than locally embedded cultural practices. This argument is reinforced by recent landscape scholarship emphasizing the political character of participation. Butler and Lovie (2024) explicitly question whose “collective voice” is represented in participatory landscape processes, while contemporary landscape-architecture research frames community-engaged design as a democratic

practice involving empowerment, advocacy, communication, and shared decision-making (2024). Therefore, the loss or weakening of cultural identity is not simply caused by modernization itself; it occurs when the authority to define, modify, and represent the landscape is transferred away from communities who carry its cultural meanings. This provides a more critical explanation of why apparently successful modernization projects can nevertheless produce cultural alienation.

The study's finding regarding community participation as a condition of cultural responsiveness further strengthens and extends previous empirical research. Li et al. (2024), for example, found that cultural and living landscapes can directly influence community participation, while place attachment and a sense of responsibility can mediate the relationship between landscape perception and participation. This supports the present finding that communities should not be treated merely as respondents who provide cultural information but as active agents in interpreting and producing landscape meaning. However, the present study adds a critical dimension by showing that participation is valuable not simply because it increases social acceptance, but because it changes the epistemological basis of design. Professional landscape architects possess technical and spatial expertise, whereas communities possess experiential, historical, ritual, and place-based knowledge.

CONCLUSION

This study concludes that Nusantara culturally responsive landscape architecture should be understood as an adaptive and dialogical process that mediates cultural continuity and contemporary transformation, rather than as an attempt to reproduce traditional visual forms. The findings demonstrate that cultural responsiveness is generated through the integration of spatial relationships, collective memory, local ecological knowledge, community practices, contemporary functionality, and participatory decision-making. Tradition becomes relevant to modern landscape architecture when its underlying principles are critically interpreted and adapted to present social, ecological, technological, and spatial conditions. The study's principal scientific contribution is therefore the proposition of an adaptive cultural landscape framework based on four interdependent dimensions: cultural continuity, ecological adaptability, contemporary functionality, and participatory legitimacy. This framework challenges the dichotomy between tradition and modernity by demonstrating that cultural identity can remain dynamic without becoming culturally superficial. Nevertheless, the study has limitations. Its qualitative and multiple-case orientation prioritizes contextual depth over statistical

generalization, while the interpretation of cultural meaning remains partly dependent on researcher reflexivity and the perspectives of selected stakeholders.

Future research should therefore move toward comparative and interdisciplinary validation of the proposed framework by examining culturally responsive landscape practices across different geographical, ethnic, ecological, and urban-rural contexts in Indonesia. Subsequent studies could employ mixed methods to combine ethnographic and spatial analysis with measurable indicators of ecological performance, place attachment, social inclusion, cultural continuity, and user satisfaction.

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