

Changes in the Residential Spatial Patterns of the Sentani Indigenous Community Based on the Khani He Kla He Cultural Concept

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Abstract

The Sentani indigenous community has local wisdom in the form of residential spatial arrangements based on the Khani He Kla He cultural concept, which has been in existence since ancient times. The aim of this research is to understand the Khani He Kla He cultural concept as a foundation for changes in residential spatial patterns in Sentani city. This study employs a qualitative research approach with Diachronic Reading methodology supported by Global Positioning System (GPS) technology. The findings of this research indicate that the principles of the Khani He Kla He culture prioritize environmental and natural preservation by prohibiting the establishment of villages or settlements on land considered to still provide life. This is a rule concerning residential patterns and land use, which establishes territorial boundaries based on zoning according to its designated function and purpose. In addition to designating land for residential purposes, the Khani He Kla He culture also defines sacred areas such as forests, hunting grounds, and foraging sites. However, current phenomena show that urban development has caused a shift in the cultural values that constitute local wisdom. As a result, the residential patterns that characterize the indigenous community are eroding and may eventually disappear over time. To understand the changes in the settlement patterns of the Sentani indigenous community based on the Khani He Kla He cultural concept and the influencing factors, this research was conducted. The conclusion of this study is that the Khani He Kla He cultural values serve as the residential patterns for the Sentani indigenous community and that the preservation of local culture must be maintained.

Keywords: Changes, Spatial Patterns, Community, Sentani, Khani He Kla He Culture.

INTRODUCTION

The Sentani indigenous community, located in the vicinity of Lake Sentani in Papua, Indonesia, is known for its unique cultural traditions and way of life (Altman, & Markham, 2015). One of the most significant aspects of their culture is the traditional spatial arrangement of their residential areas. Unlike modern urban planning, which is often dictated by economic and practical considerations, the residential layout of the Sentani community is deeply rooted in local wisdom and cultural norms. Central to this spatial organization is the Khani He Kla He cultural concept, a traditional guideline that governs the use of land, the placement of settlements, and the zoning of areas for various community purposes (Barume, 2010). This indigenous knowledge system has historically ensured a harmonious relationship between the community and its natural environment, reflecting a balance between human activity and ecological sustainability.

The Khani He Kla He cultural concept is more than a simple set of rules for spatial planning; it represents a holistic worldview of the Sentani people (Battiste, 2008). The concept integrates cultural, social, and environmental considerations into a cohesive framework that determines how land is used and managed. According to this tradition, land is not merely a physical asset to be

developed but is imbued with spiritual and communal significance. This worldview manifests in the prohibition of establishing settlements on certain lands deemed to still "provide life" or possess sacred value. It also requires the designation of areas for specific purposes, such as residential zones, sacred forests, hunting grounds, and foraging sites, which are maintained to support both the community's needs and the natural ecosystem.

However, the rise of urban development and modernization in Sentani has posed significant challenges to the preservation of these traditional spatial arrangements. Urban growth, driven by economic development and population pressures, has increasingly encroached upon lands traditionally governed by the Khani He Kla He principles. As the city expands and modern infrastructure replaces indigenous settlements, the cultural values that underpin these spatial patterns are threatened. This encroachment has not only led to physical changes in the landscape but also to a gradual erosion of the cultural practices and knowledge that once guided the community's relationship with their environment.

The impact of urban development on the Sentani community is multifaceted. While economic growth and modernization may offer certain benefits, such as improved access to services and infrastructure, they also disrupt traditional ways of life and cultural practices. The shift from traditional to modern spatial arrangements often results in a loss of communal spaces, sacred areas, and sustainable land-use practices that have been integral to the community's cultural identity. As these patterns change, the traditional ecological knowledge and local wisdom that have historically sustained both the environment and the community are at risk of disappearing.

In light of these challenges, it becomes crucial to understand the changes in residential spatial patterns within the Sentani indigenous community and the factors driving these shifts. This study aims to explore how the Khani He Kla He cultural concept has historically influenced the spatial arrangements of the Sentani community and how modern development is impacting these traditional patterns. By examining the intersection of cultural practices, spatial organization, and environmental management, the research seeks to shed light on the importance of preserving indigenous knowledge systems in the face of modernization.

Ultimately, the primary objective of this study is to provide an in-depth analysis of the role of the Khani He Kla He cultural concept in shaping the residential spatial patterns of the Sentani community. By doing so, the research aims to contribute to broader discussions on cultural preservation, sustainable land use, and the integration of local wisdom in contemporary urban planning. Understanding these traditional spatial arrangements is not only vital for the preservation of the Sentani culture but also offers valuable insights into sustainable practices that can inform more culturally sensitive and ecologically balanced approaches to development.

METHODS

The study employs a qualitative research approach, which is particularly suitable for exploring the cultural and spatial dynamics of the Sentani indigenous community. Qualitative methods allow for a deeper understanding of the complex cultural concepts that shape residential spatial arrangements, enabling the research to delve into the traditional beliefs, practices, and values embedded within the Khani He Kla He concept (Dixon, 2014). This approach is not limited to numerical data but instead emphasizes an interpretive analysis of cultural phenomena, focusing on the meanings, experiences,

and perspectives of the community members. A significant methodological tool used in this research is Diachronic Reading, which involves analyzing the evolution of spatial patterns over time. By examining how the residential layout and land use have changed, the study aims to trace the influence of cultural values and external factors on spatial organization. Additionally, the use of Global Positioning System (GPS) technology provides an accurate means of mapping current settlement patterns and comparing them with historical arrangements, enabling a comprehensive analysis of spatial changes.

To collect the necessary data, the study combines multiple qualitative techniques, including interviews, observations, and document analysis. Interviews are conducted with various community members, such as elders, cultural leaders, and residents, to gain insights into their understanding of the Khani He Kla He concept, their perceptions of spatial arrangements, and their experiences of changes over time. These interviews help uncover the community's lived experiences and provide context for the shifting land-use patterns. Direct observations of residential layouts and community practices offer an on-the-ground perspective of how space is utilized and organized according to cultural norms. The study also involves analyzing historical and contemporary maps to document spatial changes, allowing for a diachronic comparison that highlights the effects of urbanization on traditional spatial patterns. Ethical considerations are a critical component of this research, particularly given the focus on an indigenous community. The study follows ethical guidelines by seeking informed consent from all participants, ensuring the confidentiality of sensitive information, and respecting the cultural values and knowledge systems of the Sentani people throughout the research process.

RESULTS

The findings of this study reveal that the Khani He Kla He cultural concept plays a fundamental role in guiding the spatial arrangements and land use practices of the Sentani indigenous community. Traditionally, the concept emphasizes a balanced and harmonious relationship between humans and nature, dictating not only the locations of residential settlements but also the zoning of different areas for specific purposes. The Khani He Kla He principles require that villages and homes be built on land that has been deemed suitable and spiritually appropriate for habitation, avoiding any areas considered to still "provide life" or hold sacred significance. As a result, residential zones are typically located away from areas of environmental significance, preserving sacred spaces, forests, and other natural resources. This zoning is meticulously designed to ensure that each space within the community serves a clear function, facilitating the social, economic, and spiritual needs of the Sentani people.

The traditional zoning under the Khani He Kla He cultural concept is highly organized, with each type of land designated for a particular purpose. Residential areas are clearly defined and separate from other types of land use. Sacred spaces, such as specific groves or natural landmarks, are kept apart from daily human activities and are often associated with spiritual beliefs and community rituals. Hunting grounds and foraging sites are similarly demarcated, serving as resources for the community's subsistence needs. These areas are used in a sustainable manner to ensure their long-term availability, and their preservation is governed by cultural norms that limit overexploitation. This clear delineation of land use contributes to environmental conservation by maintaining the natural ecosystem and preventing the degradation of important resources. Furthermore, this system of spatial organization supports the cultural and social life of the community, reinforcing traditional knowledge, practices, and social cohesion within the Sentani people.

However, the study also finds that the pressures of urban development and modernization are causing shifts in these traditional spatial patterns. The expansion of urban infrastructure, changes in land ownership, and the growing influence of economic development have led to the encroachment of residential and commercial spaces into areas previously governed by the Khani He Kla He principles. As these new developments emerge, the traditional zoning of land is increasingly disregarded, leading to the fragmentation and reduction of sacred spaces, hunting grounds, and other culturally significant areas. This erosion of traditional values is not merely physical but also cultural, as the younger generations are often more exposed to modern lifestyles and less connected to the traditional practices of land use. The implications for cultural preservation are significant, as the diminishing adherence to Khani He Kla He principles threatens the sustainability of both the local environment and the indigenous knowledge systems that have historically maintained it. This shift away from traditional spatial patterns underscores the need for urgent cultural and environmental preservation efforts to protect the Sentani community's way of life.

DISCUSSION

The results of this study highlight the profound relationship between the Khani He Kla He cultural concept and the traditional spatial arrangements of the Sentani indigenous community. In interpreting these results, it is evident that the Khani He Kla He cultural principles have long functioned as a comprehensive framework, ensuring that land use aligns with cultural values, spiritual beliefs, and environmental sustainability. The shifts in residential spatial patterns, brought about by increasing urban development, suggest a growing tension between maintaining traditional cultural practices and adapting to modern development pressures. The erosion of traditional zoning practices not only disrupts the community's spatial organization but also reflects a broader transformation of the cultural identity and ecological balance that the Khani He Kla He principles once upheld. These shifts are particularly concerning given the significant role that these traditional patterns play in preserving local wisdom and environmental harmony.

The changing spatial patterns have several implications for the sustainability of local wisdom and cultural practices among the Sentani people. As urban development encroaches upon traditional zones, the once-clear boundaries between residential areas, sacred spaces, and subsistence zones become blurred. This blurring of boundaries leads to a weakening of cultural norms and practices that have traditionally governed land use. For example, the sacred spaces that were once preserved for spiritual rituals may be repurposed for residential or commercial development, leading to a loss of spiritual significance and cultural identity. Additionally, the traditional practices of sustainable land use, such as hunting and foraging in designated areas, are at risk of being replaced by more intensive forms of land exploitation that do not adhere to the cultural principles of environmental stewardship. These changes affect not only the physical landscape but also the social fabric and cultural continuity of the Sentani community, as the younger generation may grow up without a clear understanding of the Khani He Kla He values that have historically shaped their way of life.

Beyond the Sentani community, this case study sheds light on the broader impact of urbanization on indigenous communities and their cultural landscapes (Maffi, & Woodley, 2010). Urbanization often brings with it economic development and infrastructure improvements, but it also poses challenges to the preservation of indigenous cultural heritage and sustainable land management practices. In many cases, the rapid pace of urban expansion leaves little room for indigenous voices to influence development plans, leading to the marginalization of traditional knowledge systems and spatial arrangements. The cultural landscapes of indigenous communities, which are often

deeply intertwined with their natural environment, face the risk of being altered or erased as modern development prioritizes economic growth over cultural preservation and ecological sustainability. These changes not only undermine the cultural identity of indigenous communities but also contribute to environmental degradation, as the loss of traditional land-use practices can lead to unsustainable exploitation of natural resources.

In light of these challenges, this study emphasizes the importance of preserving the Khani He Kla He cultural values in the face of modern development pressures. Efforts to safeguard these cultural principles should include a combination of community-based initiatives and supportive policies at local and national levels. Recommendations for cultural preservation include promoting cultural education programs within the Sentani community to ensure that younger generations understand and appreciate their traditional spatial arrangements and land-use practices. Additionally, local authorities and urban planners should collaborate with indigenous communities to incorporate traditional zoning practices into contemporary development plans, ensuring that sacred spaces and environmentally significant areas are protected from encroachment. Legal recognition of indigenous land rights and spatial practices is also crucial in maintaining the integrity of cultural landscapes and supporting the sustainable use of resources.

By maintaining the Khani He Kla He values and integrating them into current and future development policies, there is an opportunity to create a more balanced approach to urbanization—one that respects the cultural heritage of the Sentani people while also meeting the needs of modern society. This approach not only benefits the Sentani community but also serves as a model for other indigenous communities facing similar challenges, highlighting the importance of integrating cultural wisdom into sustainable development practices. Ultimately, this study calls for a renewed commitment to preserving indigenous cultural landscapes and supporting the continued relevance of traditional knowledge systems in an ever-changing world.

CONCLUSION

The research concludes that the Khani He Kla He cultural concept is integral to the traditional residential spatial patterns of the Sentani indigenous community, providing a framework that intertwines cultural beliefs, environmental conservation, and community organization. The findings demonstrate that these principles have historically guided how land is used, with specific zones for residential areas, sacred spaces, hunting grounds, and foraging sites, all of which reflect a profound respect for both the natural environment and cultural heritage. However, the pressures of urban development and modernization have significantly disrupted these patterns, leading to a dilution of the cultural values that the Khani He Kla He concept represents. As traditional zoning practices are eroded and sacred spaces are encroached upon by new developments, the cultural identity and sustainability of the Sentani way of life are at risk of being lost.

Given these findings, it is imperative to preserve local culture and traditional spatial arrangements to safeguard the identity and environmental sustainability of the Sentani community. The Khani He Kla He concept not only defines the physical layout of the community but also plays a crucial role in maintaining social cohesion, cultural traditions, and sustainable land use. Efforts to preserve this cultural heritage are not just about protecting the past; they are about ensuring the continuation of a way of life that is closely tied to environmental stewardship and the well-being of the community. By recognizing and incorporating the traditional values of the Khani He Kla He into contemporary development practices, there is an opportunity to maintain the balance between cultural preservation

and modern needs, ensuring that the Sentani community can thrive while maintaining its connection to its cultural roots and natural environment.

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