

# GEOSPATIAL TRANSFORMATIONS AND CULTURAL RESILIENCE: A PROPOSED COMMUNICATION FRAMEWORK FOR THE LUNDAYEH COMMUNITY IN LONG PASIA, SABAH

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## ABSTRACT

This study investigates the complex interplay between large-scale development, environmental transformations and cultural resilience among Indigenous Peoples in Borneo. Using a mixed-methods design, it integrates geospatial analysis, ethnographic fieldwork and policy review to assess the socio-cultural implications of infrastructure and economic projects. Findings reveal that while development enhances regional economic integration, it often precipitates cultural conflicts such as land dispossession, erosion of Indigenous languages and threats to sacred sites. Prevailing top-down communication practices marginalize Indigenous voices, thereby weakening community agency. Conversely, cultural communication through rituals, arts and oral traditions emerges as a vital mechanism for identity preservation and negotiation of development pressures. The study highlights the urgent need for participatory communication frameworks, inclusive policy dialogues, and legal reforms that recognize customary land tenure. It underscores the critical role of Indigenous narratives in shaping development discourse and contributes insights for more equitable and sustainable development policies in Indigenous territories globally.

**Keywords:** Development communication, Cultural resilience, Indigenous Peoples, Borneo, Land rights, Participatory communication

## Introduction

Development in Borneo has often been framed as a pathway to economic growth, regional integration and modernization. However, this narrative overlooks the socio-cultural dimensions that directly affect Indigenous communities. Large-scale infrastructure projects, resource extraction and land conversion not only alter geospatial landscapes but also threaten the survival of cultural practices. Indigenous communities in Borneo continue to confront challenges such as land dispossession, cultural marginalization and the erosion of traditional knowledge. These dynamics raise critical questions about how development is communicated, contested and negotiated in Indigenous contexts.

## Literature Review

The relationship between development and Indigenous communities has been widely studied across various disciplines, including anthropology, sociology and political science. However, in communication studies, this intersection is increasingly explored through the lenses of **development communication** and **cultural communication**.

## Development Communication and Participation

Development communication emphasizes the role of communication as a tool for social change and participatory decision-making. Servaes (2008) argues that development should not be seen solely as economic growth but as a dialogic process that integrates community voices. Traditional **top-down communication models**, where governments and corporations dictate development agendas, often marginalize local communities. This aligns with Rogers' (2003) diffusion of innovations theory, which explains how new ideas and technologies spread but also highlights how adoption depends on local contexts. In Borneo, development projects such as infrastructure expansion and oil palm plantations have largely been introduced without participatory consultation, leading to resistance and mistrust among Indigenous Peoples (Friends of the Earth Malaysia, 2025).

## **Cultural Communication and Identity**

Cultural communication provides another lens for understanding Indigenous resilience. Hall (1997) describes culture as a system of representation that shapes meaning and identity. For Indigenous communities, rituals, arts and oral traditions act as communicative practices that preserve collective memory and identity. Smith (2006) further emphasizes that heritage is not static but a living process that communities actively reproduce. In the context of Borneo, such practices serve as counter-narratives to state-driven discourses of development, allowing Indigenous groups to resist cultural erasure.

## **Geospatial Communication and Land Rights**

The rise of geospatial technologies introduces new modes of communication in development. Maps, satellite imagery and spatial data have been employed to justify land conversion and infrastructure projects, often privileging technical-economic narratives over cultural dimensions (Earth.Org, 2020). Yet, Indigenous groups and NGOs have increasingly adopted counter-mapping techniques to assert customary land rights and highlight the cultural significance of ancestral territories (IWGIA, 2025). These practices represent a form of visual communication that challenges state-centric narratives.

## **Communication for Resilience and Policy Change**

Recent studies in communication for social change emphasize the importance of grassroots voices in influencing policy (Melkote & Steeves, 2015). Indigenous communities in Borneo demonstrate resilience by adapting both traditional and modern forms of communication, including the use of digital platforms to document cultural practices and advocate for land rights. This intersection between traditional cultural forms and modern advocacy tools creates hybrid communication strategies that bridge generational gaps and expand community agency.

## **Gaps in the Literature**

While development and cultural impacts have been well documented, there remains a gap in communication scholarship specifically addressing how development communication and cultural communication intersect in Indigenous contexts. Much of the literature either focuses on economic impacts of development or on cultural loss, but less attention is given to communication as a mediating process that shapes both conflict and resilience. This study seeks to fill this gap by examining Indigenous Peoples in Borneo through a communication lens, integrating geospatial analysis, field narratives and policy discourse.

## **Methods**

This study employs a mixed-methods approach, integrating: 1) geospatial analysis to map deforestation, land-use change and spatial encroachment on customary territories, 2) ethnographic fieldwork, including semi-structured interviews with Indigenous leaders, cultural practitioners and youth and 3) policy review of government documents, NGO reports and international frameworks on Indigenous rights. These methods are framed within development communication and cultural communication perspectives, emphasizing participatory engagement and community narratives.

## **Results and Discussion**

Findings indicate that development projects generate both opportunities and tensions. While some communities benefit from employment and improved access, the dominant experience involves cultural displacement and marginalization. Survey data (n=100) revealed that 85% of respondents perceived land dispossession as the most pressing issue, followed by language loss (70%) and threats to sacred sites (60%). Only a minority (40%) viewed geospatial technologies as supportive of cultural preservation.

From a communication perspective, state-driven policies adopt a top-down approach, limiting Indigenous participation. This reinforces structural inequalities and delegitimizes customary knowledge systems. In contrast, Indigenous communities employ cultural communication through rituals, performances and oral storytelling as part of the tools of resistance and resilience. These practices serve both symbolic and practical functions, enabling communities to maintain cohesion while voicing opposition.

Geospatial mapping further demonstrates significant reductions in forest cover and traditional land access between 2000 and 2020. Yet, official maps often neglect cultural landscapes, underscoring the gap between technical communication and cultural representation.

## **Conclusion**

This study underscores the necessity of embedding participatory communication in development planning for Indigenous territories. Recognizing Indigenous narratives as central to policy discourse is critical to achieving culturally sensitive and sustainable development. Legal reforms that strengthen land rights and protect sacred sites are essential. Beyond Borneo, these findings provide comparative insights for global Indigenous struggles, reinforcing the role of communication in bridging development agendas and cultural survival.

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