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CULTURE OF RESILIENCE AND LOCAL-LEVEL ADAPTATION TO CLIMATE CHANGE: A COMPARATIVE STUDY OF THE IBAJI COMMUNITIES IN KOGI STATE, NIGERIA, AND THE BEDEY (MANTA) COMMUNITIES IN JORAKHAL, BHOLA, BANGLADESH

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Abstract
Marginalized communities often bear the brunt of climate change, largely due to structural inequalities in governance, resource distribution, and cultural recognition. This study investigates the cultural and environmental resilience strategies of two flood-prone communities like the Ibaji communities in Kogi State, Nigeria, located at the confluence point of the Niger and Benue Rivers, and the Bedey (Manta) communities in Jorakhal, Bhola, Bangladesh, who live in dynamic deltaic river environments. Both groups regularly face flooding, displacement, and socio-economic challenges, yet they respond in unique ways, influenced by their cultural practices, social ties, and local knowledge. By employing a comparative ethnographic approach, this research combines visual ethnography, semi-structured interviews, and participatory observation, all analyzed through thematic coding using NVivo. The study reveals how environmental marginalization seen in infrastructure shortcomings, governance neglect, and repeated flooding intersects with cultural marginalization, which includes the decline of traditional livelihoods, festivals, and local wisdom. What set this research apart are its cross-continental perspective, connecting culture, marginalization, and resilience in two regions facing similar vulnerabilities. This contributes valuable insights to the discussions on climate justice, political ecology, and culturally-informed adaptation. The findings suggest that collective adaptation strategies, blending of knowledge, and governance rooted in local contexts can bolster resilience, even in the face of systemic neglect. The policy recommendations stress the importance of inclusive adaptation frameworks, participatory governance, and safeguarding cultural heritage as vital elements for climate-resilient development.
Keywords: Climate Change, Cultural Resilience, Environmental Marginalization, Ibaji, Bedey, Adaptation, Political Ecology.

I. Introduction

Global climate change has intensified hydrological extremes, placing a disproportionate burden on communities with pre-existing structural vulnerabilities (IPCC, 2023; Robinson, 2020). While the physical impacts of climate change are universal, the capacity to adapt is often stratified by geography, governance, and social recognition. This study examines two distinct yet parallel contexts of vulnerability: the Niger–Benue floodplain in Nigeria and the coastal deltas of Bangladesh.

In Nigeria, the Ibaji communities experience annual inundations that displace tens of thousands and disrupt agrarian livelihoods (Adeyemi et al., 2023). Despite residing in an oil-producing region, Ibaji suffers from profound infrastructural neglect. Similarly, in Bangladesh's Bhola district, the Bedey (Manta) people historically known as "water gypsies" face cyclonic surges and riverbank erosion while battling social stigmatization and political exclusion (Alam & Kabir, 2021; Begum, 2023).

Current literature often focuses on physical infrastructure or economic metrics of

adaptation, neglecting the cultural dimensions that shape coping mechanisms (Berkes, 2021). This research addresses this gap by employing a comparative, cross-continental lens to explore how environmental risks intersect with cultural identity. The study aims to document how traditional ecological knowledge (TEK), social networks, and informal governance facilitate resilience in the face of systemic marginalization.

II. Theoretical Framework

This study is grounded in the intersection of 'Climate Justice', 'Political Ecology', and 'Cultural Resilience Theory'.

Climate justice frameworks highlight that while marginalized communities contribute least to global emissions, they suffer the most severe consequences due to inequities in resource distribution (Robinson, 2020). This is compounded by the political ecology of marginalization, which suggests that vulnerability is not merely a product of weather events but of power dynamics (Ribot, 2021). In Ibaji, this manifests as the paradox of resource wealth (oil) versus infrastructural poverty (Nwosu & Agada, 2023). In Bhola, it appears as the statelessness and social exclusion of the Bedey people (Islam & Shamsuddoha, 2021).

Cultural Resilience Theory posits that traditional knowledge and collective memory are active ingredients of adaptation (Berkes & Folke, 2020). Rituals, festivals, and communal labor are not just symbolic; they are functional mechanisms for risk-sharing and resource allocation during crises. This study argues that resilience is shaped as much by these cultural institutions as it is by physical defenses.

III. Methodology

Study Areas

Ibaji LGA, Kogi State, Nigeria

Ibaji LGA is situated at the confluence of the Niger and Benue Rivers, this agrarian area faces seasonal fluvial flooding. It is culturally homogenous, relying on farming and fishing, with strong ties to festivals like the New Yam Festival (Iriji).

Jorakhal, Bhola District, Bangladesh

Jorakhal, Bhola District is located in the dynamic Ganges–Brahmaputra–Meghna delta, Bangladesh, this area is home to the Bedey people. These semi-nomadic communities live on boats (majum) or temporary riverbank settlements and rely on fishing and traditional healing.

Research Design

The study utilized a comparative qualitative ethnographic design (Creswell, 2023). Data collection methods included:

Visual Ethnography

Visual ethnography is the documentation of spatial adaptations and ritual practices to understand risk perception (Khan, 2025).

Semi-Structured Interviews

Semi-structured interviews were conducted with 60–80 respondents per site, including elders, women, and local leaders.

Participant Observation

There were immersion in daily routines, including river navigation and community meetings.

Data were analyzed using NVivo 14, employing a multi-layer thematic coding approach to identify patterns of marginalization and resilience across both sites.

IV. Anatomy of Marginalization

Environmental Marginalization

Both communities exist in environments defined by hydrological volatility. In Ibaji,

upstream dam operations and river siltation exacerbate natural flooding, destroying crops and isolating communities for weeks (Ojolowo & Wahab, 2022). In Jorakhal, the Bedey face cyclonic surges and riverbank erosion that destroy floating settlements (Alam & Kabir, 2021). This physical vulnerability is deepened by an "infrastructure deficit," where the lack of roads, healthcare, and safe shelters transforms manageable hazards into disasters (Adeyemi et al., 2023).

Cultural Marginalization and Identity Erosion

The study found that environmental shocks directly erode cultural systems. In Ibaji, frequent displacement interrupts the New Yam Festival, a critical event for social cohesion and agricultural timing (Okafor & Adebayo, 2022). Similarly, for the Bedey, the loss of fish stocks and river access threatens the transmission of boat-building skills and riverine rituals (Begum, 2023). This "cultural erosion" diminishes adaptive capacity, as the local knowledge embedded in these traditions is essential for survival strategies.

V. The Culture of Resilience: Adaptation Strategies

Despite systemic neglect, both communities exhibit remarkable adaptive ingenuity rooted in their cultural identities.

Indigenous Coping Mechanisms

Resilience in these communities is highly spatial and material.

Ibaji

Farmers utilize floating gardens and elevated granaries to protect food security during floods. They also engage in rotational fishing to preserve stocks (Udo, 2021).

Bedey

The community utilizes boat mobility as a primary adaptation, relocating entire floating homesteads in response to riverine fluctuations (Alam & Kabir, 2021).

Collective Action and Informal Governance

Where the state is absent, social capital fills the void. In Ibaji, age-grade associations and elders coordinate labor sharing and flood relief. Among the Bedey, kinship networks manage cooperative fishing and conflict resolution (Islam & Shamsuddoha, 2021). These informal governance structures provide a safety net that formal institutions fail to offer (Adger, 2019).

Knowledge Hybridization

A key finding is the emergence of hybrid knowledge systems. Communities are not relying solely on tradition; they are integrating it with modern science. Ibaji farmers now combine traditional planting calendars with state-issued rainfall forecasts. Bedey fisherfolk merge meteorological advisories with traditional readings of river behavior to navigate cyclones (Khan, 2025; Ahmed & Rahman, 2022).

VI. Comparative Insights

While both communities share the experience of flood vulnerability and systemic neglect, the nature of their marginalization dictates their response (see Table 1).

Table 1: Comparative Insight

Category	Ibaji Community	Bedey Community	Comparative Insight
Shared Experiences	Experiences persistent flooding and limited state support.	Experiences persistent flooding and limited state support.	Both communities face high flood vulnerability and systemic neglect.
Traditional Ecological Knowledge (TEK)	Relies on TEK for predicting floods and organizing communal	Relies on TEK for seasonal mobility and water-based survival strategies.	Both communities depend strongly on TEK and collective structures (Berkes & Folke, 2020).

	response.		
Spiritual Resilience	Uses river rituals for protection and post-flood recovery.	Maintains spiritual water rituals tied to identity and resilience.	Spiritual practices support psychosocial recovery in both settings.
Nature of Marginalization	Resource paradox: oil wealth but severe underdevelopment.	Social stigmatization and statelessness; lack of formal citizenship rights.	Ibaji's marginalization is resource-related, while Bedey marginalization is socio-political and identity-based.
Adaptation Strategies	Land-anchored adaptation: raised buildings, elevated farmlands, and seasonal relocation.	Mobile adaptation: floating homes, migratory water-based settlements.	Ibaji adapts by modifying land-based structures; Bedey adapt through fluid, mobile lifestyles.

Source: Author's Analysis, 2025

VII. Policy Implications and Recommendations

The study underscores that technical solutions alone are insufficient. Climate resilience policies must be inclusive, justice-oriented, and culturally informed.

Integrate Cultural Knowledge

Policies should formally recognize TEK and support cultural institutions (festivals, rituals) that foster social cohesion.

Participatory Governance

Marginalized groups, including women and youth, must be included in adaptation planning. Informal governance structures (elders/kinship networks) should be integrated into formal disaster risk management (UNDP, 2024).

Targeted Infrastructure Funding

There is an urgent need for the intentional development of area-specific infrastructure plans, backed by statutorily available funding windows for both Ibaji and Bedey communities.

Hybrid Strategies

Adaptation programs should promote the fusion of scientific forecasting with indigenous knowledge to create robust early warning systems.

VIII. Conclusion and Recommendations

The comparative analysis of the Ibaji and Bedey communities reveals that resilience is inseparable from culture. While environmental and political marginalization constrains these communities, their culture manifested in TEK, social networks, and hybrid innovation provides a powerful shield against climate shocks. To be effective, global climate adaptation frameworks must move beyond "one-size-fits-all" engineering solutions and embrace a holistic approach that honors local knowledge, protects cultural heritage, and addresses the root causes of structural inequality.

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