Contribution of Forest Products in the Economy of the Kukna Tribal Community: A Case Study of Vansda Taluka

Rajendra Sumanbhai Patel
Research Scholar, Department of Sociology,
Veer Narmad South Gujarat University, Surat

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ABSTRACT: *This study examines the central role of forest products in the subsistence economy of the Kukna tribal community of Vansda Taluka, South Gujarat. The Kukna have historically depended on forests for food, shelter, medicine, and livelihoods. Key products such as bamboo (Vans) and mahua (Madhuca longifolia) provide not only daily sustenance but also materials for domestic industries, rituals, and socio-cultural activities. Drawing on ethnographic fieldwork, interviews with elders, and secondary sources, this paper analyzes how forest products shape household economies, community identity, and resilience. Findings reveal that bamboo is extensively used for housing, household implements, and handicrafts, while mahua provides food, liquor, medicine, and oil-yielding seeds. Other wild edibles, tubers, vegetables, and fruits supplement diets and generate marketable surplus. However, the commercialization of forests, external exploitation, and deforestation have undermined tribal rights and aggravated poverty, despite the Kukna being traditional guardians of ecological sustainability. This research contributes to debates on indigenous economies and environmental justice, highlighting the paradox that communities that conserve forests are often blamed for their destruction. Policy interventions that integrate traditional ecological knowledge with sustainable development are essential to ensure both livelihood security and cultural continuity.*

Keywords*: Kukna tribe, Vansda, forest products, indigenous economy, sustainable livelihoods, South Gujarat*

Introduction:

1. Introduction

Tribal communities in India occupy a unique socio-ecological niche where cultural survival is inextricably tied to forest ecosystems. The Kukna tribe of Vansda Taluka exemplifies this interconnectedness, as forests constitute not merely a backdrop to livelihood but a holistic domain encompassing economy, culture, spirituality, and ecological wisdom. While non-tribal societies often reduce forests to utilitarian categories of timber, fuel, and land, tribal epistemologies situate forests as living entities with intrinsic and relational value (Gadgil, Berkes, & Folke, 1993). This worldview emphasizes reciprocity, restraint, and cultural rituals that reinforce sustainability.

Against the backdrop of modernization, however, this harmonious relationship has come under strain. Expanding state control, deforestation, and market penetration have altered resource-use patterns and undermined tribal autonomy (Mehta, 1982; Sundar, 2000). These pressures raise critical questions about the resilience of indigenous economies and the extent to which traditional ecological knowledge (TEK) can inform contemporary sustainability frameworks. Although earlier scholarship has examined the economic role of individual forest products like mahua or bamboo (Solanki, 1983; Joshi, 1998), fewer studies provide a holistic ethnographic analysis of how these resources collectively sustain tribal households while shaping cultural identity and ecological practices.

This research addresses that gap by analyzing the Kukna community's dependence on forest products, not only in material terms but also in terms of social structures, ritual practices, and intergenerational knowledge. By situating the Kukna experience within broader debates on environmental justice, indigenous rights, and political ecology (Robbins, 2012), this paper highlights the paradox that communities that conserve biodiversity are often blamed for ecological degradation. The study thus aims to contribute both to localized anthropological knowledge and to global discourses on sustainability, resilience, and climate justice.

2. Literature Review

Scholarly studies emphasize the critical role of forests in tribal subsistence economies. Solanki (1983) highlights the economic centrality of mahua among Gujarat's tribal communities, while Mehta (1982) critiques colonial and postcolonial forest policies that eroded indigenous rights. More recent research (Sundar, 2000; Pathak, 2014) points to the contradiction wherein tribes, though traditional forest

conservers, are accused of causing degradation.

Globally, anthropologists like Posey (1999) and Gadgil, Berkes, & Folke (1993) stress the ecological wisdom embedded in indigenous practices, advocating for recognition of traditional ecological knowledge (TEK) within conservation policy. The Kukna experience aligns with these debates, showing how cultural identity, livelihood strategies, and ecological management converge in forest-based economies.

3. Methodology

The research is based on qualitative ethnographic methods conducted in Vansda Taluka. Data was collected through:

- Field observations in forest areas and weekly tribal markets (*haats*).
- Semi-structured interviews with community elders (aged 70–90) to document traditional practices.
- Case studies of families engaged in bamboo craft and mahua processing.
- Supplementary references from secondary literature and archival records.

This triangulated approach ensures cultural authenticity and captures inter-generational perspectives.

4. Findings

4.1 Bamboo (*Vans*)

Bamboo is foundational to Kukna life. It is used to construct walls, roofs, and fences; to make baskets, grain storage containers, fishing and hunting tools; and as children's playthings. Edible shoots are consumed as vegetables or pickles. Bamboo craft supports local household industries, with women in particular benefiting from government-backed self-help groups that sell bamboo products in regional markets.

4.2 Mahua (*Madhuca longifolia*)

Mahua is considered the "kalpavriksha" (wish-fulfilling tree) of the Kukna. Its flowers are eaten fresh, dried for storage, or fermented to produce liquor traditionally consumed and also used as medicine. Seeds yield oil used for cooking and lighting. Mahua plays an essential role in household economies, festivals, and trade, supplementing both food security and cash income. Oral testimonies of elders emphasize mahua's historical role during food scarcity, highlighting its cultural as well as economic value.

4.3 Other Wild Edibles

The Kukna also rely on tubers (such as *kudu kand*), seasonal greens, and fruits like *gunda*, *karamda*, and *toran*. These serve as survival foods during lean agricultural seasons. Historically, forest produce mitigated famine and reduced dependence on moneylenders, though debt through *khawati* (grain loans) was still standard. Today, many of these products are sold in weekly markets, increasingly reaching urban consumers seeking organic, "health" foods.

5. Discussion

The findings from this study emphasize that forest products, such as bamboo and mahua, are far more than material resources; they are embedded within the social, cultural, and spiritual fabric of the Kukna community. This observation aligns with broader anthropological debates on the holistic nature of indigenous economies, where subsistence practices cannot be disentangled from cosmology, kinship, and ritual (Sahlins, 1972). For the Kukna, resource use is guided not by the logic of capitalist accumulation but by principles of reciprocity, sustainability, and cultural continuity. Thus, forest products should be understood within what Scott (1976) terms the "moral economy" of subsistence societies, wherein livelihoods are tied to norms of fairness, community solidarity, and ecological ethics.

From the perspective of political ecology, the Kukna case reveals the tension between local resource users and external structures of power. As Robbins (2012) notes, political ecology emphasizes how environmental change is not simply ecological but also social, shaped by unequal power relations. State control over forests, commodification of resources, and the intrusion of market actors have reconfigured the Kukna's access to their traditional commons. Historically, colonial and postcolonial forest policies criminalized indigenous practices of shifting cultivation, collection, and trade, transferring authority to bureaucratic and commercial actors (Mehta, 1982; Sundar, 2000). This structural displacement has resulted in what Bryant and Bailey (1997) call "ecological marginalization," where those most dependent on natural resources are simultaneously rendered most vulnerable.

Furthermore, the Kukna experience illustrates the paradox of conservation, wherein tribal communities that have historically safeguarded biodiversity are frequently blamed for its depletion. It echoes Sundar's (2000) critique of Joint Forest Management, which nominally involves local people but often sidelines their decision-making power. The resulting exclusion not only undermines ecological stewardship but also disrupts cultural practices tied to forests. In this sense, the Kukna's struggle reflects broader debates in

environmental justice, highlighting the inequitable distribution of ecological benefits and burdens (Schlosberg, 2007).

Another dimension that emerges from the findings is the adaptive resilience embedded in indigenous practices. Resources like mahua serve as "famine foods," providing critical support during agricultural scarcity, while bamboo-based crafts diversify household economies. These adaptive strategies align with Berkes and Folke's (1998) framework on "social-ecological resilience," which argues that traditional knowledge systems foster adaptive capacity in the face of environmental uncertainty. The Kukna's ethnobotanical knowledge, ritualized use of species, and rotational harvesting techniques illustrate forms of resilience that are often overlooked in mainstream policy discourses.

However, resilience cannot be romanticized without acknowledging structural constraints. Market exploitation, debt cycles, and restrictive forest laws continue to erode the sustainability of these practices. The commodification of bamboo and mahua, while providing income, also exposes households to fluctuating markets and middlemen exploitation, thereby weakening their economic security. This tension reflects the double-edged nature of commercialization: it can empower indigenous households through income generation but also destabilize subsistence safety nets when integrated into volatile market systems.

In broader terms, the Kukna case contributes to debates on sustainable development and climate resilience. International policy frameworks, such as the UN's Sustainable Development Goals (SDGs), increasingly stress the importance of indigenous knowledge for biodiversity conservation and climate adaptation. Yet, on the ground, there remains a disconnect between policy rhetoric and actual recognition of tribal agency. Incorporating Traditional Ecological Knowledge (TEK) into participatory governance frameworks is not merely a matter of inclusion but a necessity for developing holistic models of sustainability that bridge local practices with global imperatives.

Thus, the Kukna economy offers critical insights into the intersections of ecology, identity, and justice. It shows that indigenous communities are not passive victims of ecological decline but active agents of conservation, possessing knowledge systems that have global relevance. By situating their experience within frameworks of political ecology, moral economy, and resilience studies, this discussion underscores the need for rethinking policy and academic approaches toward tribal livelihoods. Rather than viewing forest-dependent communities as backward or ecologically destructive, they should be recognized as custodians of cultural landscapes whose practices hold valuable lessons for contemporary sustainability challenges.

6. Conclusion

The findings of this study affirm that the Kukna tribal economy continues to be deeply intertwined with forest products, despite multiple socio-political and ecological disruptions. Bamboo and mahua stand as emblematic resources whose roles transcend the economic sphere, extending into ritual life, social cohesion, and cultural resilience. Alongside these, the use of tubers, greens, and wild fruits reflects an adaptive livelihood system that has historically buffered the community against famine, scarcity, and external dependence. Such practices embody a sophisticated form of ecological knowledge, transmitted orally across generations, which holds contemporary relevance in global sustainability debates.

Yet, the study also reveals a series of contradictions and challenges. Deforestation, state-centric forest policies, and market exploitation have marginalized tribal rights while eroding customary governance systems. The Kukna experience underscores the structural inequities of political ecology, wherein indigenous conservers are rendered vulnerable by external interventions. This paradox raises pressing policy questions: how can governance frameworks secure access rights, acknowledge cultural values, and simultaneously ensure ecological sustainability?

For academia, this case contributes to the growing body of work on indigenous economies and environmental justice by situating micro-level ethnographic insights within broader theoretical debates. For policy, it demonstrates the necessity of integrating TEK into community-led forest management, thereby reconciling conservation goals with livelihood security. For future research, attention must be directed towards gendered dimensions of forest use, comparative analyses across tribal groups, and the potential of linking indigenous practices with global sustainability and climate adaptation frameworks.

Ultimately, the Kukna community's lived experiences illuminate a broader truth: sustainable futures cannot be envisioned without recognizing, respecting, and empowering those who have historically nurtured ecological balance. Their practices and worldviews offer not only survival strategies for marginalized groups but also critical lessons for humanity in an era of climate crisis.

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