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Sustainable livelihood strategies through indigenous products: A case study of Zeme Naga community

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Abstract

The Zeme Naga are an indigenous community in Northeast India known for their traditional bamboo handicrafts and other indigenous products. This paper examines how the Zeme Naga have developed sustainable livelihoods strategies through the production and marketing of indigenous products. A case study of the thriving bamboo handicrafts enterprise is presented. The Zeme Naga have preserved traditional knowledge and skills in bamboo craftsmaking, while adapting production and sales for contemporary markets. This generates income and employment for the community. However, challenges remain in terms of competition with modern products, barriers to market access, and the threat of overharvesting bamboo. The Zeme Naga model demonstrates how indigenous products can contribute to sustainable livelihoods when supported by enterprise development, fair trade partnerships, and capacity building.

Keywords: Zeme Naga, indigenous products, sustainable livelihoods, bamboo handicrafts, traditional knowledge

1. Introduction

1.1 Background on the Zeme Naga Community

The Zeme Naga are an indigenous ethnic group inhabiting the states of Assam, Manipur and Nagaland in Northeast India. With a population of around 130,000, they are one of the major

Naga tribes (Luikham, 2013). The Zeme Naga traditionally lived in remote hill villages practicing jhum cultivation or slash-and-burn shifting agriculture. Their native language belongs to the Sino-Tibetan linguistic group. The Zeme have a vibrant indigenous culture, with festivals, songs, dances, and traditional attire forming an integral part of their identity. Oral traditions, folk tales, and myths are passed down through generations. Their religious beliefs blend animism and ancestor worship with Christianity brought by missionaries in the late 19th century (Toshi & Gupta, 2015).

The Zeme economy has traditionally depended on agriculture, animal husbandry, forestry, and craftsmaking. Paddy cultivation in terraced fields and raising livestock like mithun cattle, pigs, and poultry are key agricultural activities. The surrounding bamboo-rich forests have enabled the Zeme to develop excellent craftsmanship in bamboo products like baskets, mats, and housing items which they use in daily life and also sell for income (Shimray, 2005). During the colonial era, the Zeme bartered these handicrafts with neighboring tribes for salt, iron tools, and ornaments. The 20th century saw the Zeme transform into settled agriculture, increased trade with other communities, and greater integration into the market economy (Shimray, 2005). However, their remote villages still maintain a close-knit community lifestyle. Strengthening sustainable livelihoods through indigenous knowledge, skills, and resources remains crucial for the Zeme Naga.

1.2 Importance of Sustainable Livelihoods for Indigenous Communities

Sustainable livelihoods have emerged as an important developmental concept for vulnerable social groups like indigenous communities. According to Chambers and Conway (1992, p. 6), a livelihood is sustainable when it "can cope with and recover from stresses and shocks, maintain

or enhance its capabilities and assets, while not undermining the natural resource base". The principles of sustainable livelihoods are extremely relevant for indigenous groups facing livelihood challenges.

Indigenous peoples make up over 5% of the global population and live in 90 countries, with a majority in developing countries (United Nations, 2009). Despite their unique cultures, knowledge systems and connections to ancestral lands, indigenous groups are among the most economically and socially marginalized. Poverty, land alienation, environmental degradation, loss of culture, and human rights violations threaten their traditional livelihoods and wellbeing (United Nations, 2009; ILO, 2017).

Adopting sustainable livelihoods approaches can help indigenous communities overcome these challenges. Sustainability requires maintaining productivity of existing livelihood resources without compromising future generations (Chambers & Conway, 1992). Indigenous groups like the Zeme Naga possess rich ancestral knowledge, skills, social institutions and natural resource management practices attuned to local ecology, which can inform sustainable livelihoods (Turner et al, 2000). Their indigenous products, food systems, handicrafts, medicine, arts and other cultural expressions also hold promise for income and employment generation (Luz, 2007). With relevant institutional, technical and market support, indigenous products can provide sustainable livelihoods by using traditional knowledge and practices to create economic value while preserving cultural and ecological integrity (Peralta & Kwack, 2019).

This paper examines how the Zeme Naga have developed sustainable livelihood strategies based on their indigenous handicrafts, particularly bamboo products, using a case study approach. It analyzes how building enterprises around indigenous products generates incomes and jobs for

indigenous communities in an ecological and culturally-sensitive manner. The paper also highlights the external support and policy frameworks needed to nurture these initiatives.

2. Indigenous Products of the Zeme Naga

2.1 Types of Products

The Zeme Naga utilize their indigenous knowledge, skills, and local natural resources to produce a range of goods for livelihood and cultural needs. These include diverse bamboo products, textiles, food items, herbal medicine, and more.

Bamboo handicrafts are the most iconic Zeme products. Their bamboo artistry is manifested in baskets, mats, bags, containers, utensils, furniture, housing materials, agricultural tools, jewelry and ceremonial items (Shimray, 2005; Luikham, 2013). Weaving with cotton and eri silk produces textiles like shawls, skirts, shoulder bags. Food products include rice beer, herbal teas, spices, wild edible plants, and dishes made from freshwater fish, crabs, eels, mushrooms and bamboo shoots collected from local forests (Jamir, 2018). The Zeme also possess extensive knowledge of medicinal plants found in their region, using them to treat various ailments (Lalmuanpuii et al., 2013).

2.2 Traditional Knowledge and Skills

Creating these indigenous products involves extensive traditional ecological knowledge and specialized skills passed down over generations. For instance, the Zeme have traditionally managed community bamboo groves and harvested bamboo in a sustainable manner based on traditional wisdom about species suitability, maturity timelines, and regeneration practices (Choudhury, 2006).

Making bamboo handicrafts requires knowing which bamboo species and parts to use for different products, pre-processing techniques like splitting, slicing, drying; and finally weaving and assembling methods (Shimray, 2005). Skills like using a dao (machete) to split bamboo culms lengthwise without breaking require years of practice. The intricate symmetrical weaving patterns testify to Zeme expertise. "Designs and motives have been memorized and internalized as part of the process of skill acquisition" (Barooah, 2013, p. 55). Knowledge of natural dyes from plants like the anolla tree and processes like fermenting eri cocoons, spinning, and weaving produce vibrant Zeme textiles (Barooah, 2013). Thus, Zeme products showcase both ecological knowledge and specialized handcraft skills embedded in their culture.

2.3 Cultural Significance

For the Zeme, these indigenous goods are closely linked to community traditions, customs, and identity. Bamboo and textiles feature extensively in Zeme material culture. Baskets, shoulder bags, headgear, tools, even food items and housing materials crafted from bamboo frame daily life. Eri silk textiles similarly comprise traditional outfits as well as ceremonial attire and gifts (Toshi & Gupta, 2015). The ubiquitous use of these biodegradable, natural products reflects the Zeme worldview of humans coexisting sustainably with nature.

Specific items carry important cultural meanings. For instance, a finely woven eri shawl is a customary gift for special occasions, while rice beer served in bamboo cups plays a central role in celebrations, rituals and social bonding (Shimray, 2005). Such goods reinforce Zeme cultural values like community ties, respect for nature, and pride in their identity. Indigenous products are markers of what makes the Zeme unique. Sustaining these livelihoods thus also perpetuates Zeme heritage.

2.4 Eco-friendly Production

A key aspect of Zeme products is that their production process is eco-friendly and less resource intensive compared to modern industrial methods. Bamboo harvesting follows traditional rhythms attuned to natural regeneration rather than maximizing yields (Choudhury, 2006). There is zero waste, with every bamboo part serving some purpose, and the biodegradable nature of the material completes the cycle. Traditional pre-processing and weaving are manual, not requiring electricity or fossil fuels. Natural dyeing has a much lower environmental impact than synthetic dyes. Eri silk production lets silkworms live out their natural life cycle and uses an organic host plant (Barooah, 2013).

Such low-carbon production protects local ecology and aligns with indigenous worldviews of respecting nature. Especially in today's context of climate change and sustainability, the eco-friendly nature of Zeme products provides an advantage and opportunity to develop truly green livelihoods.

3. Sustainable Livelihood Strategies

3.1 Generating Income from Indigenous Products

The Zeme Naga have developed various strategies to earn sustainable livelihoods from their indigenous products. While these goods served cultural and subsistence needs earlier, the Zeme have now adopted market-oriented approaches to supplement farming income. Their ancestral knowledge and artisanal skills provide a solid foundation for indigenous enterprises.

A major income source is selling bamboo handicrafts through local markets, roadside stalls, dealers and retailers (Shimray, 2005). Weaving eri silk shawls and textiles generates additional earnings for Zeme women (Barooah, 2013). For remote villages, weekly markets or 'haats'

provide access to external customers. Some families also directly sell smaller items to tourists visiting the region. Customized production and bulk orders from hotels, tour operators or urban boutiques offer higher margins (Luikham, 2013). Bamboo shoots, wild edible plants, mushrooms and traditional foods are also sold locally or supplied to town markets (Jamir, 2018).

Realizing the market potential of indigenous goods has led many Zeme villages to form artisan cooperatives and enterprises. For instance, the Lakriew Handicraft Cooperative Society undertakes bamboo crafts production and coordinates access to urban markets (Luikham, 2013). Some entrepreneurial youth have established small start-ups that work with artisan groups to upgrade product designs, packaging and advertising for better sales. Partnerships with government departments, NGOs and private companies also enable training programs on commercialization, accounting, branding and e-commerce (Toshi & Gupta, 2015).

Thus, the Zeme are capitalizing on traditional skills to earn cash incomes from indigenous products. Adopting semi-commercial and commercial approaches sustains their cultural livelihoods and generates profits. Government schemes like credit access, subsidies, skill development, patents, etc. further enable scaling these enterprises.

3.2 Enterprise Development

Structured enterprise development has been crucial for scaling up the production and marketing of Zeme products on a commercial basis. This requires institution-building, infrastructure, working capital, market links, and capacity enhancement.

At the village level, artisan cooperatives formalize and systematize indigenous manufacturing (Shimray 2005). They coordinate raw material supply, product planning, artisan engagement, quality control and inventory management required for large orders (Luikham 2013). Shared

workspaces improve efficiency. Aggregating production also makes it easier to invest in common facilities for pulverizing, boiling, dyeing, etc. which individual weavers cannot afford.

For exports, ensuring international quality standards and timely delivery is critical. Cooperatives and youth entrepreneurs serve as bridges, handholding artisans on designs, quality specifications, and timelines of corporate sourcing (Toshi & Gupta 2015). Design clinics, exposure visits, and partnerships are arranged to upgrade indigenous crafts. Grants, soft loans and subsidies enable access to finance for fixed assets, working capital and transport required to scale up production.

At the policy level, Geographical Indication tagging, intellectual property rights, and development programs like the National Handicraft Development Program help position indigenous products as premium goods for global markets while preventing exploitative competition (Sharma 2019). Overall, enterprise development makes Zeme handicrafts commercially viable livelihoods.

3.3 Fair Trade Partnerships

Fair trade partnerships and associations have been instrumental in connecting Zeme products to national and global markets in an ethical manner ensuring fair prices and better lives for artisans.

The absence of exploitative middlemen is a key tenet of fair trade (Raynolds & Bennett 2015). Producer companies help minimize intermediaries between Zeme artisans and markets. Partnerships with fair trade organizations in India and overseas enable direct access to retailers committed to ethical sourcing and fair pricing. This may lower margins compared to middlemen, but guarantees artisans fair earnings (Luikham 2013).

Fair trade buyers also provide technical, design and capacity building support to continuously improve product quality, variety and appeal for global consumers (Sharma 2019). Workshops,

exposure visits and collaborations with designers introduce new materials, tools, and techniques while retaining cultural authenticity. Training in areas like costing, inventory, quality assurance and order management helps artisans become better entrepreneurs (Toshi & Gupta 2015). Minimum price guarantees, prompt payment and stable order volumes enable sustainable livelihoods despite market fluctuations.

Thus, ethical trade relationships align commercial success with social justice for vulnerable indigenous artisans by ensuring dignified livelihoods.

3.4 Community Benefits

Sustainable commercialization of Zeme handicrafts and indigenous products has manifold benefits for their marginalized community.

Economically, it generates direct supplemental employment and incomes for thousands of artisan families, raising living standards (Shimray 2005). Money circulates wider in the local economy. Youth get better livelihood opportunities, curbing out-migration.

Socially, sustaining these cultural occupations reinforces Zeme identity and prevents loss of heritage knowledge, skills and customs associated with indigenous products (Barooah 2013). Community ties strengthen as artisans organize collectively in their tradition-based livelihood. Esteem rises when their crafts earn global appreciation.

Environmentally, the eco-friendly nature of production preserves local ecology. Economic incentives give communities a stake in sustainable natural resource management. Promoting indigenous goods also propagates the Zeme philosophy of living in harmony with nature (Choudhury 2006).

Thus, indigenous enterprises create holistic benefits encompassing income, culture, community, and ecology - the essence of sustainable livelihoods.

4. Case Study: Bamboo Handicrafts

4.1 Production Process and Skills

The Zeme region in Northeast India falls within the Indo-Burma biodiversity hotspot and is endowed with rich bamboo diversity. Over 50 bamboo species are found here, including important craft varieties like Muli, Mautak, Makal (Ohrnberger, 1999; Sharma & Nirmala, 2015). Bamboos are integral to Zeme ecology, culture and economy.

Bamboo harvesting follows indigenous systems tuned to species properties and regeneration patterns. For example, Muli bamboo culms become suitable for weaving only after 4-5 years of growth, so are harvested from managed groves at that maturity stage (Sharma & Nirmala, 2015). Post-harvest care of the rhizome system ensures regeneration. Traditional wisdom also guides which bamboo species and parts are selected for different handicraft items depending on factors like wall density, flexibility, and lifespan (Yuming et al., 2004).

Processing involves manually splitting bamboo trunks into strips using a machete and then drying and treating these. Weaving techniques manifest generations of specialized skills like interlacing split strips smoothly to form intricate symmetrical patterns. The weaving tools are simple - blades, small hammers and bamboo pegs. But creating functional, aesthetic handicrafts from hard, cylindrical bamboo demands great expertise (Yuming et al., 2004). Knowledge of natural dyes from plants provides finishing touches.

4.2 Markets and Channels

Local tribal markets have long hosted barter trade of Zeme bamboo wares like baskets, shawls, and tools with other forest produce (Biswas, 1988). Today, these handicrafts supply domestic retailers and global export markets. Cooperatives facilitate bulk orders from urban vendors, corporations and overseas buyers seeking green products (Holttum, 1958). Online platforms and design collaborations add new marketing avenues while retaining cultural roots.

4.3 Income Generation

Both part-time weavers and specialists earn supplemental income from bamboo crafts, uplifting indigenous livelihoods. Mats, tableware, jewelry and everyday items provide bread-and-butter earnings from local sales. Luxury bags, decor objects and commissioned pieces bring higher prices in niche urban outlets (Jansen et al., 1995).

By aggregating village-level production, cooperatives are able to service large corporate orders and export contracts. The cooperative model thus generates continuous employment and income for member artisan households during peak seasons.

4.4 Preserving Traditions

Entrepreneurship based on bamboo weaving has actually helped safeguard Zeme ecological and artisanal heritage. The bamboo handicrafts economy incentivizes protecting bamboo forests using traditional management practices centered on sustainable harvesting and regeneration (Rai & Chauhan, 1998). Endogenous bamboo resources enable self-reliance.

Practicing specialized ancestral weaving skills for livelihood keeps them alive within communities instead of fading away. Linking bamboo craft lineage to modern income opportunities using a collective model retains the culture while enhancing prosperity.

Table 1: Key Bamboo Species Used in Zeme Handicrafts

Species	Local Name	Parts Used	Products
Dendrocalamus hamiltonii	Kepai	Culm, shoots	Mats, baskets, containrs
Bambusa tulda	Heking	Culm	Containers, furniture
Melocanna baccifera	Nria	Culm, shoots	Household items, food
Oxytenanthera abyssinica	Gareu	Culm, shoots	Decorative handicrafts

This table summarizes some of the important bamboo species used in Zeme handicraft production, indicating the local name, plant parts used, and resulting products.

Table 2: Market Channels for Zeme Bamboo Products

Sales Channel	Customer Segments	Products
Local village shops, haats	Local tribal customers	Daily use mats, baskets, utilities
Roadside stalls, town shops	Regional customers	Food items, smaller handicrafts
Handicraft emporiums	Domestic urban customers	Decorative handicrafts, showpieces

Fair trade networks	Ethical national retailers	Home decor, fashion accessories
Online commerce	Urban online shoppers	Innovative designs, bespoke pieces

5. Challenges and Limitations

While indigenous products provide sustainable livelihood opportunities, some key challenges constrain scaling up of these enterprises. Targeted strategies are imperative to tackle these barriers.

5.1 Threats to Sustainability

Resource sustainability is vital for continuity of indigenous enterprises. Unregulated overharvesting for short-term gains can destroy bamboo groves nurtured by Zeme wisdom (Ramanayake, 2006). Deforestation, climate change impacts, and habitat loss also pose risks. Closer community monitoring and forest rights devolution could safeguard resources.

Competition from cheap plastic wares and machine-made products threatens indigenous handicrafts markets. For eco-conscious luxury segments, imitation products copied from Zeme designs are emerging (Thakur & Firake, 2014). Preventing IP misuse through GI tagging and upgrading product appeal for contemporary users is vital.

5.2 Market Barriers

Indigenous producers face several hurdles accessing mainstream markets, constraining business growth. Geographical remoteness and poor transport connectivity to cities handicap market

linkages (Kiruba et al., 2007). Lacking scale, cooperatives struggle to meet large bulk orders regularly. High coordination costs hinder connecting thousands of scattered producers to modern value chains.

Upgrading quality, branding and packaging to align with urban retail requirements is imperative but challenging. Capacity building across the tiers on inventory management, order financing, logistics and business accounting can tackle supply-market mismatches (Thakur & Firake, 2014). Digital tools offer transparency potential.

5.3 Capacity Building Needs

Although artisanal skills are strong, capacity building is required to foster successful indigenous entrepreneurs capable of steering community enterprises professionally. Instruction in product development, design innovation, small business management, financing, marketing and e-commerce are beneficial. Access to working capital, credit and insurance remains weak.

Formal cooperatives and youth groups can drive growth with targeted leadership training (Ramanayake, 2006). Government schemes for financial assistance, skill building and market linkages must be better utilized through local coordinating bodies assisting indigenous groups. Knowledge sharing platforms on best practices in product innovation, brand building and ethical trade will also catalyze indigenous enterprise expansion.

4. Conclusions

This paper examined how the Zeme Naga have developed sustainable livelihood strategies centered on their indigenous products, particularly bamboo handicrafts. The case study reveals that building enterprises around indigenous knowledge systems, resources, and skills generates

incomes and employment for marginalized communities in an ecologically sound and culturally sensitive manner.

Bamboo handicrafts entrepreneurship enables the Zeme to earn vital supplemental livelihoods from a traditional activity that sustains their cultural identity and forest ecosystems. Commercialization is achieved without diluting indigenous roots. Challenges like resource sustainability, market access barriers, and building enterprise capacity remain, but can be tackled through fair trade networks, government support programs, and community-led solutions.

The Zeme model holds valuable lessons for indigenous communities globally seeking to balance economic development with heritage conservation. It shows how ancestral products can provide sustainable livelihoods when supported by enterprise upgrading, skill development, and market linkages. The government must play a proactive role in providing financial, institutional and technical assistance for scaling while respecting community autonomy. Platforms for sharing best practices across indigenous groups will facilitate this process. With holistic support frameworks, indigenous product-based enterprises can deliver prosperity without compromising on sustainability.

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