



Communities Take the Lead, and Businesses Safeguard Ecology

Exploring sustainable development by communities and enterprises

Abstract: Currently, numerous countries and regions, particularly developing nations, are confronting the challenge of biodiversity loss. Protected areas, biodiversity hotspots, and representative natural systems of significant ecological value universally face conflicts between conservation and development. There is an urgent need to establish sustainable business models that balance ecological protection with economic growth to resolve the dual predicament of ecological endangerment hindering development. Based on community-centred sustainable business model explorations in biodiversity hotspots across developing nations, this study systematically examines four case studies: India's organic farming enterprises, Mexico's lobster collective branding, Brazil's oyster farming, and Peru's ecotourism. These examples provide valuable insights for developing community-led approaches to biodiversity conservation and sustainable development.

Keywords: Developing Countries; Community-Led; Sustainable Enterprises; Sustainable use of Biodiversity Conservation

1. Background

Currently, numerous countries and regions, particularly developing nations, are confronting the dual challenges of biodiversity loss and economic green transformation. Protected areas, biodiversity hotspots, and representative natural systems of significant ecological value commonly grapple with conflicts between conservation and development. Due to human disturbances and unsustainable traditional livelihoods, ecosystems continue to degrade, shrinking habitats for wildlife while constraining community development. There is an urgent need to establish sustainable business models that balance ecological conservation with economic growth, thereby breaking the vicious cycle of ecological crisis hindering development.

2. Main Practices

(1) Balancing Ecology and Livelihoods With Community-Led Sustainable Production Models

The Nilgiri Biosphere Reserve in India, as a quintessential example of tropical forest ecosystems, faces challenges, including human-wildlife conflicts, economic hardship, and cultural decline. To address these issues, local communities progressively established the Aadhimalai Farmers' Producer Cooperative in 2013.

- The cooperative promotes environmentally sustainable farming practices and organic agriculture to prevent damage to the natural resources upon which Indigenous Peoples depend for their livelihoods.
- Through centralized procurement and sales of agricultural products, the initiative has effectively improved the livelihoods of over 1,600 community members.

The Mandira Extractive Reserve in São Paulo State, Brazil, is recognized by the IUCN as one of the world's important natural protected areas. Oyster harvesting, the traditional livelihood of local villagers, has led to a sharp decline in oyster populations due to overfishing. To promote the sustainable development of the oyster industry, the Cooperostra Cooperative was established in 1997. The organization has achieved the following:

- Established standardized oyster farms to reduce the harvesting of wild oysters.
- Applied scientific aquaculture techniques to control the oyster growth cycle, improving both yield and product quality while also replenishing oyster populations within the mangrove ecosystem.
- Built connections with local consumers and restaurants, expanding stable sales channels and increasing community income.



Figure 1. Agricultural producers in Aadhimalai fields
(Credit: Aadhimalai Producer Company Limited)



Figure 2. Oysters of the Cooperostra Cooperative
(Credit: United Nations Development Programme)

(2) Enhancing the Market Competitiveness of Products With Collective Brands and Certification Systems

In the Sian Ka'an and Banco Chinchorro Biosphere Reserves on Mexico's Yucatan Peninsula, traditional individual fishing practices have damaged Caribbean spiny lobster populations and marine ecosystems, and fishers' incomes remain highly vulnerable to market fluctuations. To address this, six fishing cooperatives have united to form a social cooperative organization. They established the Chakay lobster brand and implemented an eco-label certification program.

- Protected waters are divided into exclusive fishing plots allocated to individual fishers, with artificial shelters established as lobster habitats and harvesting zones.
- Through eco-label certification, sustainable fishing and traceability standards are clearly defined, ensuring full production chain traceability. This approach also prevents destructive competition among fishers while increasing product prices and market recognition.
- This initiative has driven a significant increase in lobster populations within the two protected areas.



Figure 3. Caribbean spiny lobster
(Credit: Biodiversity Slow Food Foundation)

(3) Integrating Traditional Knowledge With Emerging Industries to Expand Sustainable Income Channels

For over 2 decades, the Peruvian Rainforest Adventure Company has jointly operated the Posada Amazonas lodge with the Ese Eja Indigenous community in the Amazon rainforest region. Centred on providing immersive rainforest experiences, this long-term partnership has enabled sustainable ecotourism development while expanding revenue streams.

- Leveraging indigenous land resources and Traditional Knowledge of the rainforest, the partners have developed cultural tourism experiences to attract global visitors and researchers.
- Lodges are constructed using local materials and are equipped with eco-friendly water and energy systems.
- Thirty community members are directly employed in hotel operations, management, and training, enabling them to acquire professional skills and increase income.
- Ownership has gradually transitioned to the community, granting greater control over eco-tourism development and revenue distribution.



Figure 4. Posada Amazonas lodge
(Credit: landedtravel.com)

3. Insights

To advance sustainable business models in communities, efforts should focus on three key areas. First, empower community stakeholders by integrating community participation into the entire production-to-sales process through enterprise-style operations. Additionally, leverage local resource knowledge to enhance production efficiency and connect sales channels, while strengthening member interest alignment through community leadership to achieve synergies between income growth and ecological conservation. Second, promote market recognition and brand building for community ecological products by standardizing production and sales processes, ensuring sales premiums and stable distribution channels. Third, refine community business mechanisms by establishing stable funding safeguards through integrated government subsidies, financial instruments, and market channels. This approach enables risk sharing and mitigates operational risks for enterprises.

Case provided by CCICED Special Policy Study on Governance System for a Harmonious Coexistence between Humans and Nature

