

National Seminar
on
Ecology, Sustainability and Community Practices in North East India
(Young Scholars' Conference)
November 27-28, 2025

Concept Note

North East India in the recent decades has been under focus with multiple policies and initiatives towards integrating with the vision of *Viksit Bharat*. The region is marked with many exceptional features including ecological and cultural diversity. As part of the Eastern Himalayan and Indo-Burma biodiversity hotspots, it hosts approximately 8,000 species of flowering plants, 800 bird species, and numerous endemic mammals, including the clouded leopard, hoolock gibbon, and one-horned rhinoceros (India State of Forest Report, 2015; Ramakrishnan, 2014). With a reported 65 percent of its geographical area under forest cover, North East India supports diverse ecosystems, ranging from the subtropical rainforests of Manipur to the alpine meadows of Sikkim and the vast Brahmaputra floodplains of Assam. Globally recognised sites like Kaziranga and Khangchendzonga National Parks, both UNESCO World Heritage Sites, highlight its ecological importance (WWF-India, 2002). The region's ecosystems provide critical services, such as carbon sequestration, water regulation, and livelihoods for millions dependent on agriculture, fisheries, and forest resources with the region as well as in its immediate surrounding.

However, North East India faces significantly critical environmental challenges in recent times. Deforestation, driven by agricultural expansion, infrastructure development (like hydropower dams and roads), and illegal logging, has led to habitat fragmentation and biodiversity loss (Tisdell & Roy, 1995). Moreover, climate change compounds these issues, with rising temperatures, erratic monsoons, and frequent extreme weather events, such as floods in Assam, landslides in Arunachal Pradesh and GLOF in Sikkim. The retreat of Himalayan glaciers threatens water security for major rivers like the Brahmaputra, impacting food security and rural livelihoods (IPCC, 2014). Rapid urbanization and economic aspirations further pressurise the traditional land-use systems often leading to resource conflicts and environmental vulnerability. The latest World Air Quality Report of 2024 has identified a small town in the Assam and Meghalaya border, Byrnihat as the highest polluted place in the world. Byrnihat is strategically located between two most growing cities of the Northeast, Guwahati and Shillong, and has been developed into a 'regional industrial hub' and as Export Promotion Industrial Park. Growing economic and developmental projects tend to marginalise many of the indigenous communities and their time tested unique and sustainable life-worlds.

The region is home to more than 200 ethnic groups. Each group boasts of unique cultural practices and a deep connection to its environment. Community practices in North East India are rooted in traditional ecological knowledge and therefore foster sustainable resource management. For example, the Khasi and Jaintia communities in Meghalaya maintain sacred groves—protected forest patches dedicated to deities—that serve as biodiversity sanctuaries and carbon sinks (Ramakrishnan, 2014). In Nagaland, village councils manage Community Conserved Areas (CCAs), such as the Khonoma Nature Conservation and Tragopan Sanctuary,

which protect endangered species like the Blyth's tragopan while supporting local economies through eco-tourism (Chatterjee et al., 2006). Shifting cultivation (jhum), practiced across the region, is a sustainable agroforestry system when cycles are long and promote soil fertility and crop diversity (Lossau & Li, 2011). In Mizoram, the bamboo-based economy, that encompasses handicrafts, construction, and bioenergy, illustrates circular resource use. Women are central to these practices, leading seed conservation, agro-biodiversity management, and community forestry, as seen in Manipur's women-led afforestation initiatives. Youth groups in Sikkim have also driven the state's organic farming revolution, making it India's first 100% organic state since 2016 (FAO, 2018).

In spite of their resilience, the community practices of North East India face threats from modernization, land privatization, technological intervention and policy gaps. The Forest Rights Act (2006) and Biological Diversity Act (2002), designed to empower indigenous groups, are inconsistently implemented, limiting community access to land and resources (Kothari et al., 2011). Further, monoculture plantations and extractive industries, such as mining, threaten agrobiodiversity and cultural heritage. While community-led conservation has drawn inspiration from broader environmental movements, the region's unique socio-ecological context requires smart and well thought-out solutions that integrate traditional knowledge with modern sustainability frameworks (Gupta, 2022).

Objective

This conference aims to bridge these gaps by facilitating dialogue among our young scholars on issues around ecology, sustainability, and community practices in North East India, contributing to the Viksit Bharat vision. It will also highlight successful models, such as Sikkim's organic farming and Assam's community-based flood adaptation strategies, while addressing challenges like climate vulnerabilities and policy implementation. The conference seeks to co-create strategies for ecological resilience, sustainable development, and community empowerment in the region and its surrounding milieu. It has the following broad objectives:

- i. Examine the interplay of ecological diversity and social systems in North East India, focusing on biodiversity, climate impacts, and community livelihoods.
- ii. Review, showcase and study community-driven sustainability models, including agroforestry, eco-tourism, and circular economies, with an emphasis on social inclusion.
- iii. Document and promote indigenous knowledge and community-led initiatives, prioritising marginalized groups like women and youth.
- iv. Create a platform for young researchers, policymakers, civil society organisations, and local communities to co-develop inclusive strategies for sustainable socio-ecological resilience.

Seminar Themes and Subthemes

Day 1: Socio-Ecological Systems and Sustainable Livelihoods

- Cultural Narratives of Biodiversity Conservation and connected ecologies
- Climate Change and Community Resilience
- Sustainable Livelihoods through Agro-biodiversity, indigenous practices and Eco-tourism
- Social and ecological dimensions of Green Economies

Day 2: Community Governance, Grass root Innovation and Inclusive Development

- Indigenous Knowledge and Cultural Heritage in Resource Management
- Gender and Youth in Community-Led Conservation
- Community-Based Governance and Resource Rights
- Policy and Socio-ecological Justice for Sustainable Development