

Crop diversity and food security

Regional assessment to build capacities for resilience and sustainability

The Far Eastern Himalayan Landscape is spread across the ecologically diverse and geologically fragile hill and mountain tracts of northwest Yunnan of China, northeast India, and northern Myanmar. It is home to more than 20 ethnic communities and their diverse traditions, languages, and cultures. The interactions between the rich biodiversity and diverse ethnic cultures have resulted in a rich body of indigenous knowledge on the utilization and conservation of a great variety of cultivated crops and wild edible plants. Such traditional uses and related indigenous local knowledge are important for social-ecological resilience and sustainability.

Opportunities, threats, and knowledge gaps in the landscape

- **Livelihoods:** Over 200,000 local people across the landscape are dependent on agrobiodiversity for food, medicine, livelihoods, and cultural practice. The landscape's rich biodiversity, ecosystem services, and related traditional knowledge are of global importance.
- **Eroding diversity and traditional knowledge:** The diversity and related traditional knowledge of crops and wild edibles are eroding gradually due to different drivers of change such as climate change, changing market dynamics, cultural assimilation, and uncondusive policies. This impacts food and nutrition

security and human health, limits livelihood options, and weakens adaptive capacities.

- **Research gap:** There is a dearth of regional research and assessments on the current status and potential of crop diversity.
- **Inventories:** Agro-biodiversity inventories help monitor the status of crop diversity – a basis for sustainable food and nutritional security.

The assessment

Study focus

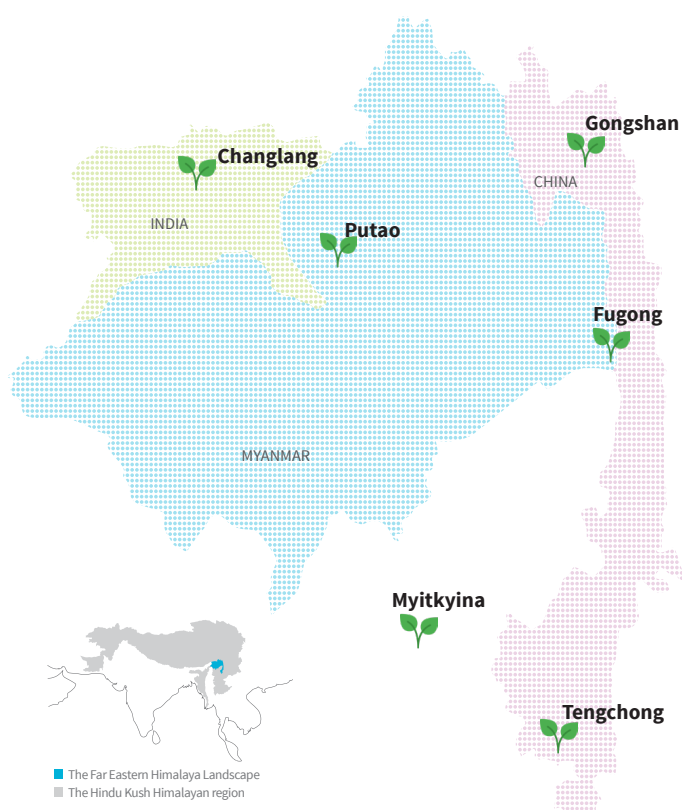
Given the landscape's agro-biodiversity wealth and burgeoning food and livelihood security issues and threats, ICIMOD's Landscape Initiative for the Far Eastern Himalaya (HI-LIFE) and its partners are conducting a regional assessment to collect baseline information on the diversity, management practices, and changing trends of locally used or collected cultivated wild non-cultivated crops in the landscape. The assessment will analyse the future scenarios of such changes and their consequences on local food security, nutrition, and mountain sustainability in the context of climate change. It will also identify areas of future project interventions.

Research sites

China: Tengchong, Gongshan, and Fugong counties

India: Changlang District

Myanmar: Putao and Myitkyina districts



Partners

China: Kunming Institute of Botany

India: GB Pant National Institute of Himalayan Environment

Myanmar: Southeast Asia Biodiversity Research Institute, Forestry Research Institute of Myanmar, Myitkyina University, and Myanmar Environmental Rehabilitation Network

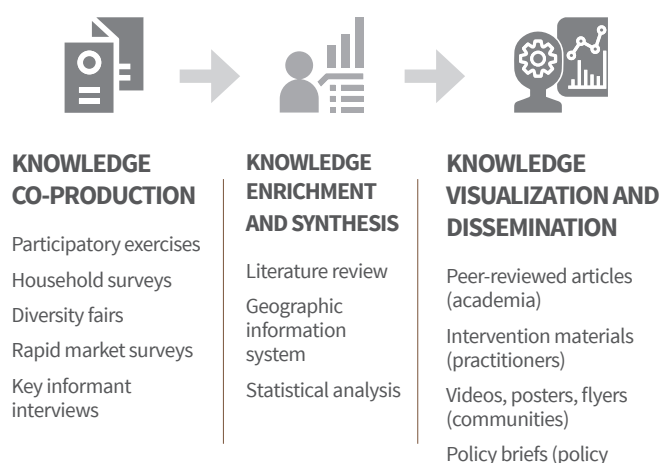
Timeline

- December 2019–May 2020: Research protocol development with partners
- June 2020–December 2021: Field studies
- January–June 2022: Knowledge synthesis
- August–December 2022: Outreach and dissemination

Research questions

- What are the cultivated crops and wild plants used and managed by local communities?
- How do they contribute to the food and nutritional security and health of the people?
- What are the local practices and knowledge related to the conservation and management of crop diversity?
- What are the drivers of change (climatic, socioeconomic, and cultural), their impacts, and future scenarios?
- What are the key areas of intervention (i.e. value chain development and cross-border trade)?

Research approach and methodology



Expected knowledge outputs

Inventory of crop diversity and wild edibles across the landscape: Will shed light on farming traditions and practices and the extent of biodiversity in farmlands

Extent of crop use for food and nutrition security and health: Will highlight the diversity of food and dietary systems and the nutrition-rich foods used by communities

Traditional management practices: Will highlight traditional knowledge and practices employed for conservation and maintenance of crop diversity and wild edible plants

Trends in conservation and management practices: Will show how practices are changing and evolving over the years, given the impact of different drivers of change

For further information

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