BALIPARA FOUNDATION

Assam • India

13TH EASTERN HIMALAYAN NATURENOMICS™ FORUM 2025

10th & 11th December
Guwahati, Assam

अप्रमत्तेन वेद्धव्यम्

COTTON UNIVERSITY

Recommendations Report

FORESTS & BIODIVERSITY


COTTON UNIVERSITY
BALIPARA FOUNDATION
Assam • India


10th & 11th December
Guwahati, Assam


2025
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KEY INSIGHTS

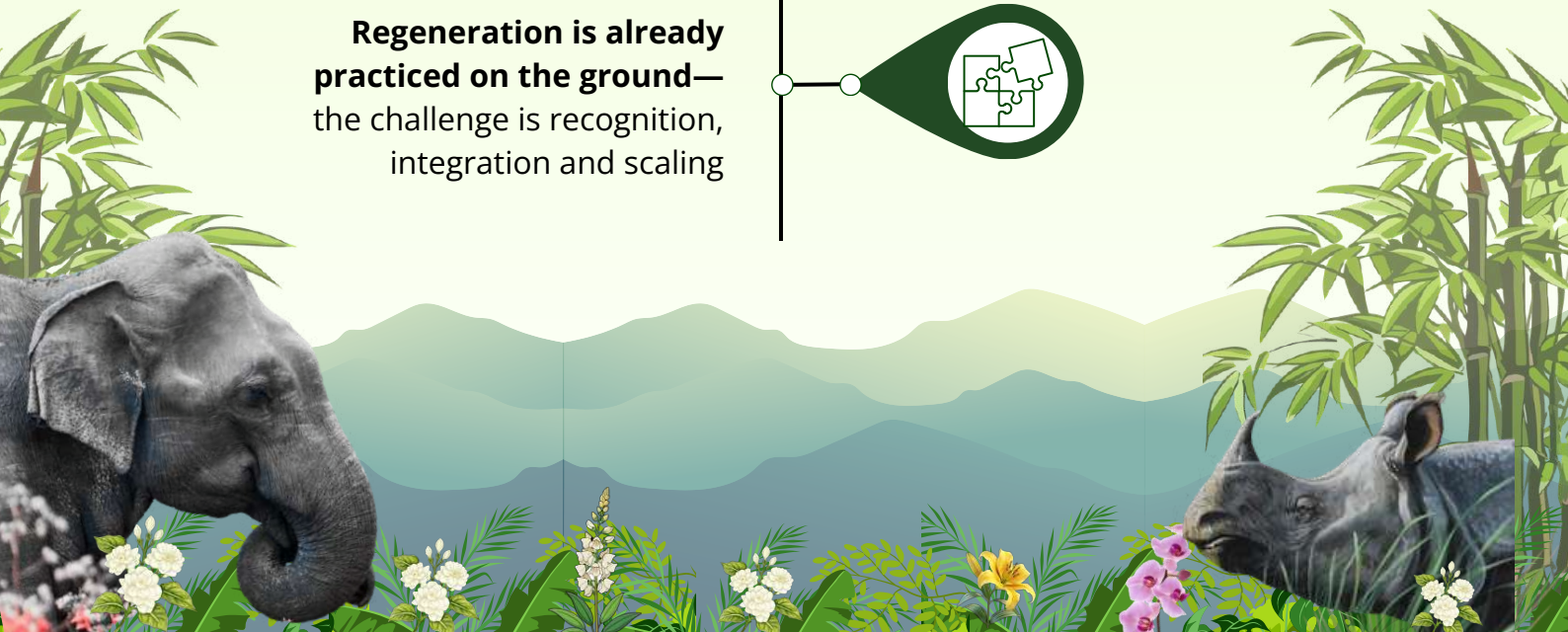
The Eastern Himalaya is a living socio-ecological system, not a deficit landscape requiring external fixes

Biodiversity, culture, language, livelihoods and governance are inseparable and must be addressed together

Indigenous and community knowledge systems are central to ecological resilience, not supplementary

Science and technology are most effective when embedded in cultural legitimacy and community stewardship

Regeneration is already practiced on the ground— the challenge is recognition, integration and scaling



A healthy nature is the world's smartest economy. Use bio-resources wisely, they are wealth that grows itself.
-HProf. Ramesh Chandra Deka
Hon'ble Vice Chancellor, Cotton University

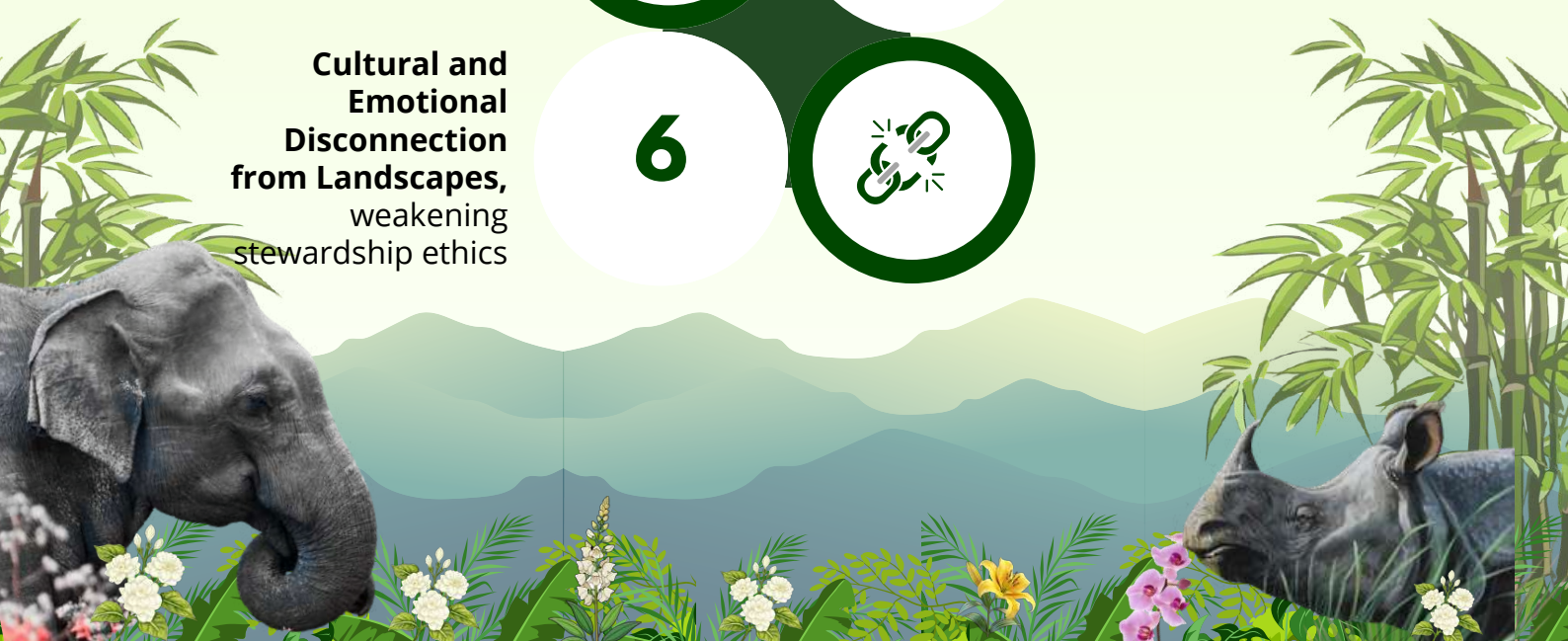
For the climate stability, we must begin early because sustainability grows from small, conscious steps taken in the right direction.
Chanakya Chaudhury,
Former Vice President Corporate Services, Tata Steel

The future of our climate depends on how gently we treat the Himalayas and how wisely we guard the rivers that flow through Assam.
-Honourable Minister Keshab Mahanta,
Minister of Revenue and Disaster Management, Information Technology, Science, Technology & Climate Change

Water should be a free resource, yet today even a small bottle comes at a high price. This reflects how carelessly we treat water, the very source of all life, forgetting that its abundance depends on how responsibly we manage it.
-Usha Lachungpa,
Retd. Prin. Chief Research Officer, Dept. of Forest & Env., Govt. of Sikkim

CHALLENGES IDENTIFIED

1. **Declining Forest Quality and Ecological Function** despite stable forest cover
2. **Loss of Keystone and Culturally Significant Species** disrupting ecosystem processes
3. **Marginalisation of Indigenous Knowledge and Language Systems** in policy and research
4. **Fragmented Technology Adoption and Data Silos** disconnected from ground action
5. **Fragile Agrarian Economies and Weak Local Value Retention,** especially for women-led enterprises
6. **Cultural and Emotional Disconnection from Landscapes,** weakening stewardship ethics



CHALLENGES IDENTIFIED

1. **Declining Forest Quality and Ecological Function despite Stable Forest Cover**

Rising satellite-based forest cover in the Eastern Himalayas masks declining forest quality, reducing carbon storage, water regulation, biodiversity, and livelihoods and showing the need to measure forest health beyond area metrics.

2. **Loss of Keystone and Culturally Significant Species Disrupting Ecosystem Processes**

The loss of keystone and culturally significant species disrupts food webs, pollination, and habitat stability, weakening ecosystem resilience and eroding traditional knowledge, cultural values, and nature-based livelihoods.

3. **Marginalisation of Indigenous Knowledge and Language Systems in Policy and Research**

The exclusion of Indigenous knowledge and language systems from policy and research weakens context-specific decisions, erodes biocultural heritage, and reduces the effectiveness of local conservation and climate adaptation.

4. **Fragmented Technology Adoption and Data Silos Disconnected from Ground Action**

Uneven technology adoption and isolated data systems limit real-time decision-making and weaken the link between science, policy, and community-led landscape action.

5. **Fragile Agrarian Economies and Weak Local Value Retention, Especially for Women-Led Enterprises**

Limited market access, low value addition, and external value capture keep agrarian economies vulnerable, with women-led enterprises facing greater barriers to finance, infrastructure, and decision-making, reducing local income and livelihood resilience.

6. **Cultural and Emotional Disconnection from Landscapes, Weakening Stewardship Ethics**

The growing disconnect between communities and their landscapes is eroding cultural values, traditional practices, and a sense of ecological responsibility, weakening long-term stewardship and collective care for natural systems.

STRATEGIC RECOMMENDATIONS

1. Adopt Biocultural Conservation Frameworks

Why it Matters

01 Biodiversity is governed through cultural norms, rituals and customary institutions

02 Sacred groves, heritage trees and ritual landscapes function as living conservation infrastructure

03 Excluding these systems weakens legitimacy, compliance and long-term stewardship

04 Conservation imposed externally often erodes trust and participation

Recommendations

Biocultural Conservation

01 Formal Recognition

Recognise sacred groves, heritage trees, ritual landscapes and customary governance institutions in conservation policy

02 Integrated Planning

Include cultural indicators (seasonal taboos, ritual protection norms, community enforcement) alongside ecological metrics

03 Hybrid Governance Models

Combine scientific management with traditional institutions through shared authority and accountability

Results

01 Stronger legitimacy and compliance

02 Long-term ecological stewardship

03 Conservation aligned with lived values

04 Socially durable conservation systems

STRATEGIC RECOMMENDATIONS

2. Prioritise Forest Quality, Keystone Species and Functional Diversity

Why it Matters

01 Species counts alone do not reflect ecosystem resilience

02 Functional relationships (pollination, seed dispersal, regeneration) sustain forests

03 Loss of figs, orchids, hornbills and bamboo triggers cascading ecological and cultural impacts

Recommendations

Ecosystem Resilience

01

Keystone Species Monitoring

Identify and track ecologically and culturally significant species as bio-indicators

02

Functional Diversity Metrics

Integrate functional indicators into biodiversity assessments, restoration and impact evaluations

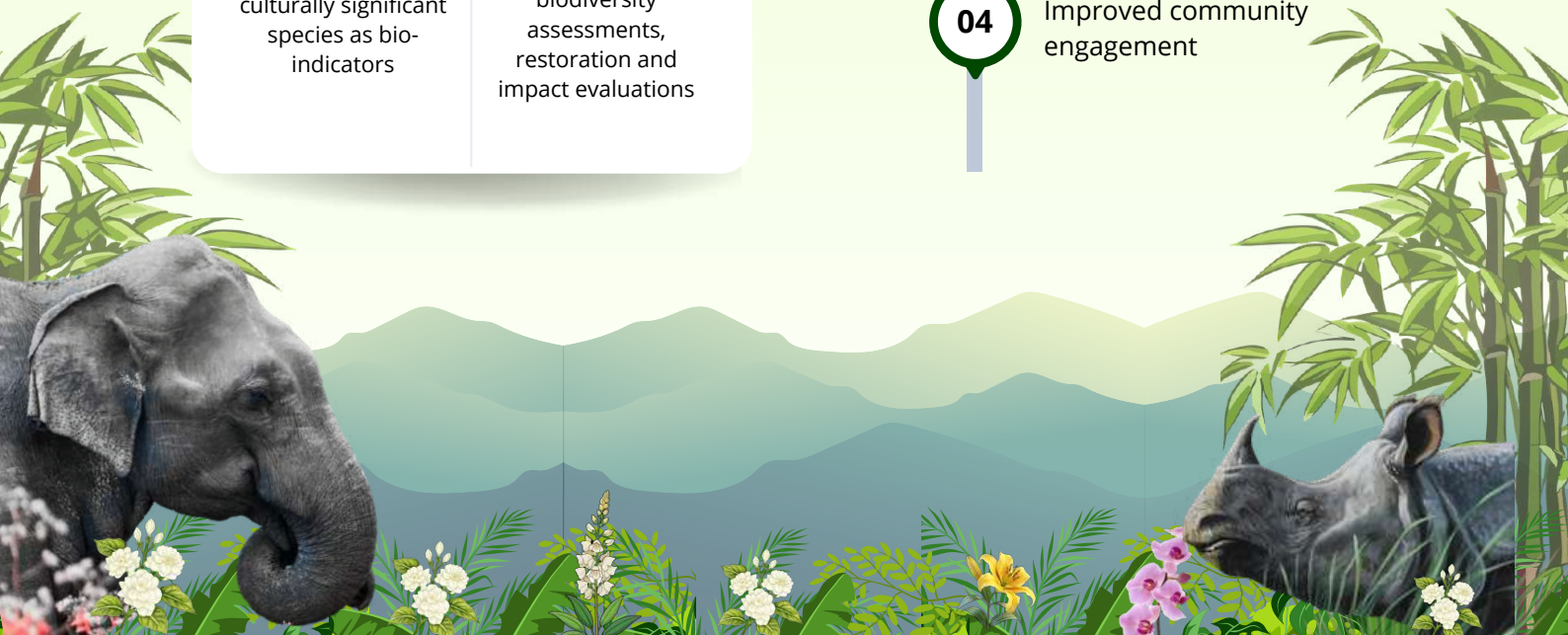
Results

01 Early detection of ecological stress

02 More targeted restoration strategies

03 Stronger climate resilience

04 Improved community engagement



STRATEGIC RECOMMENDATIONS

3. Democratise Conservation Technology and Data

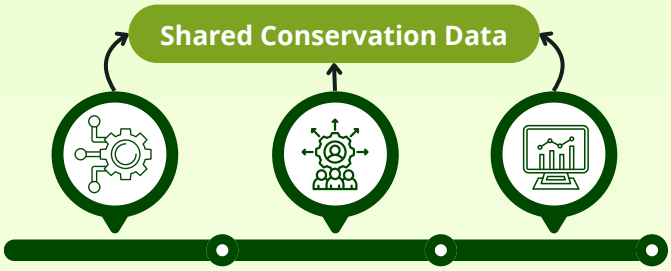
Why it Matters

01 Advanced data exists, but access and literacy are uneven

02 Technology often reinforces hierarchies rather than collaboration

03 High-resolution insights fail to translate into on-ground action

Recommendations



01

Conservation Technology Hubs

Anchor hubs in universities and research institutions for training and applied research

02

Capacity Building

Train forest staff, students, youth and community monitors in open-source tools

03

Open & Ethical Data Platforms

Create accessible biodiversity platforms with safeguards for sensitive data

Results

01 Science–practice alignment

02 Transparency and accountability

03 Cross-scale collaboration

04 Trust between institutions and communities

STRATEGIC RECOMMENDATIONS

4. Institutionalise Indigenous Knowledge and Language Preservation

Why it Matters

01 Indigenous languages encode generations of ecological intelligence

02 Language erosion = loss of adaptive knowledge

03 Current systems rarely treat language as a conservation priority

Recommendations

Living Knowledge Systems

01
Community-Led Documentation
Ecological lexicons, seasonal calendars, oral histories

02
Policy Integration
Embed traditional knowledge into EIAs, climate adaptation and disaster planning

03
Ethical Knowledge Governance
Clear protocols for attribution, benefit-sharing and co-authorship

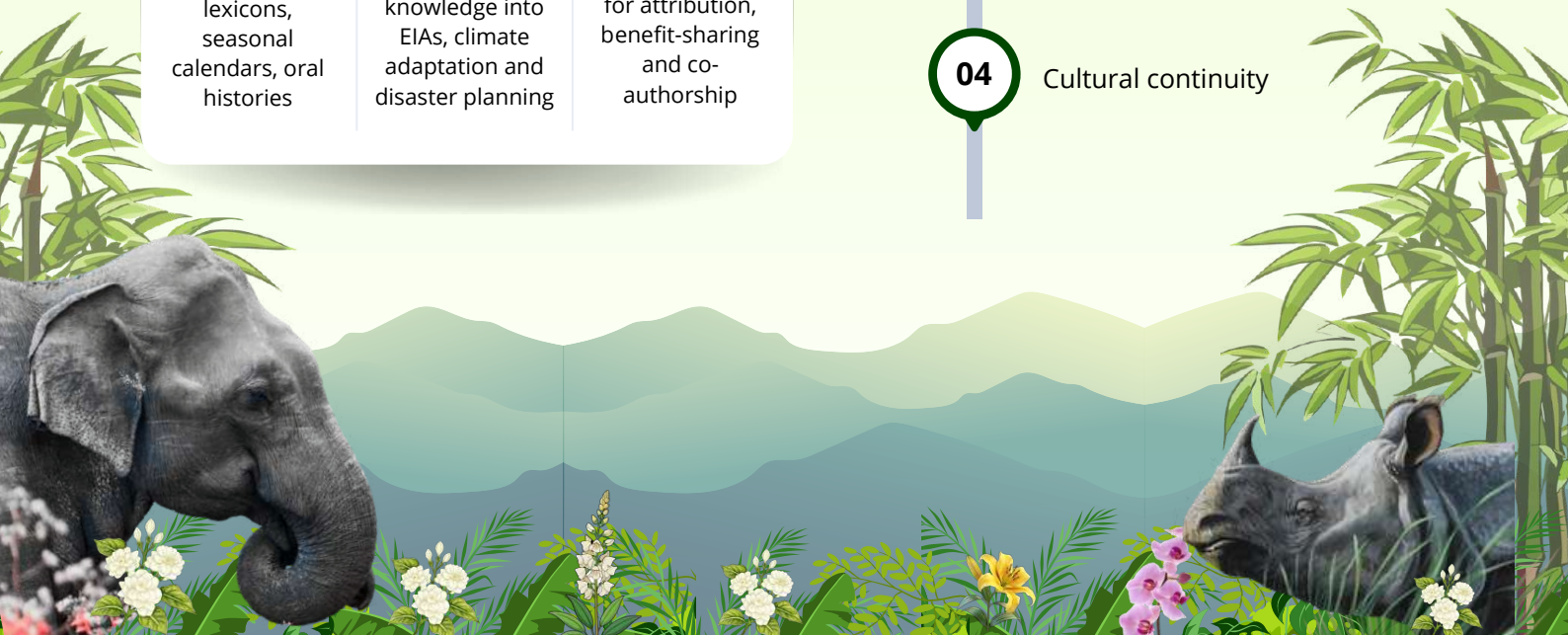
Results

01 Stronger conservation intelligence

02 Equity and intellectual justice

03 Bottom-up conservation planning

04 Cultural continuity



STRATEGIC RECOMMENDATIONS

5. Strengthen Community-Led and Women-Led Regenerative Livelihoods

Why it Matters

01 Ecological degradation and livelihood insecurity reinforce each other

02 Women play central roles but remain underrepresented

03 Value often leaks out of local economies

Recommendations

Regenerative Local Economies

01
Women-Led Enterprises
Support FPOs, cooperatives and SMEs

02
Local Value Addition
Invest in processing, branding and market access

03
Livelihood-Restoration Linkages
Nurseries, NTFPs, agroforestry, eco-cultural tourism

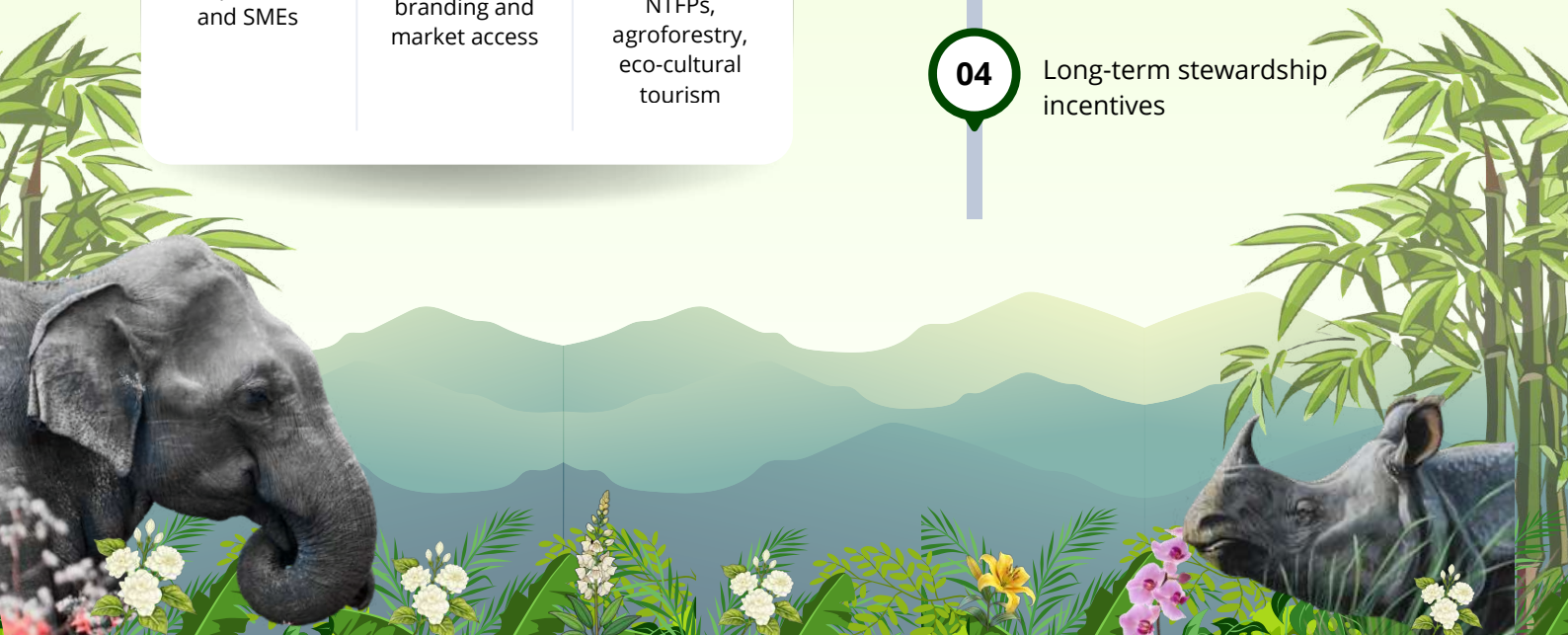
Results

01 Economic security aligned with ecology

02 Gender equity

03 Stronger social resilience

04 Long-term stewardship incentives



STRATEGIC RECOMMENDATIONS

6. Promote Landscape-Scale and Transboundary Conservation

Why it Matters

01 Species migration, rivers and climate impacts cross borders

02 Administrative boundaries fragment conservation

03 Climate change demands landscape-level responses

Recommendations

Connected Landscapes

01
Ecological Corridors

Strengthen corridors across Eastern Himalaya and Indo-Burmese regions

02
Landscape-Based Planning

Align conservation with watersheds, migration routes and climatic shifts

03
Transboundary Collaboration

Share data, research and governance strategies

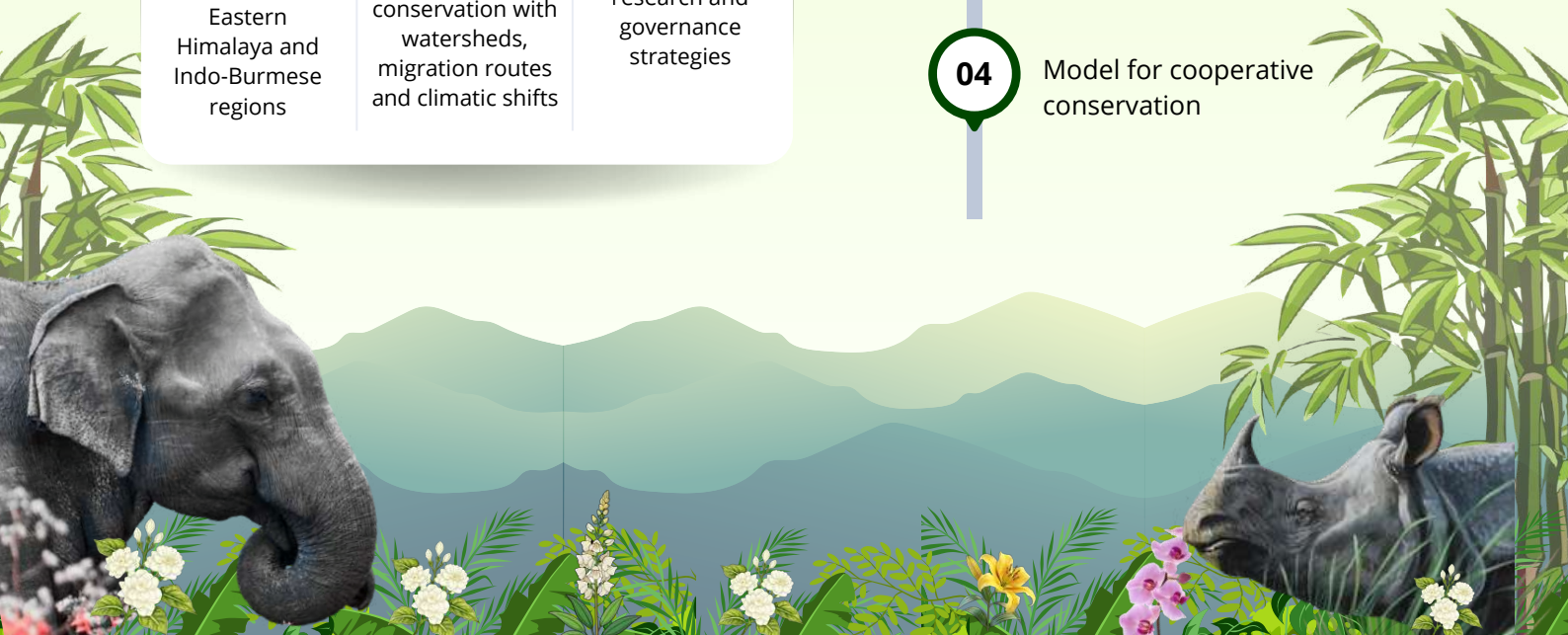
Results

01 Enhanced species survival

02 Climate adaptability

03 Regional ecological coherence

04 Model for cooperative conservation



WAY FORWARD

REGENERATIVE BIODIVERSITY FUTURES

Overarching Principle

Integrated Biocultural Systems Approach

Forests, biodiversity, culture, livelihoods and governance operate as one system.

SHORT-TERM PRIORITIES (1–3 YEARS)

BUILDING KNOWLEDGE, CAPACITY, AND LEGITIMACY

TEK documentation linked to conservation planning

University-anchored conservation technology training

Pilot women-led regenerative enterprises

MEDIUM-TERM PRIORITIES (5–10 YEARS)

INSTITUTIONALISING INTEGRATION AND SCALING

Embed biocultural frameworks in policy

Expand community reserves and ecological corridors

Establish interoperable, ethical data-sharing platforms

LONG-TERM VISION (2035 AND BEYOND)

SECURING BIOCULTURAL FUTURES

Eastern Himalaya as a global exemplar of biocultural conservation

Biodiversity protection aligned with livelihoods and cultural continuity

Development operating within ecological limits

OUTCOMES FROM PARTNERSHIP WITH COTTON UNIVERSITY

1. Launch of the Book Wild Orchids of Dima Hasao

A significant contribution to documenting the region's rich floral diversity. The publication strengthens scientific knowledge, conservation awareness, and academic discourse around orchid diversity in Northeast India, while highlighting the importance of habitat protection in biodiversity-rich landscapes.

2. Avenues of exploring areas of work with Bano Haralo and the Weavers of Nagaland

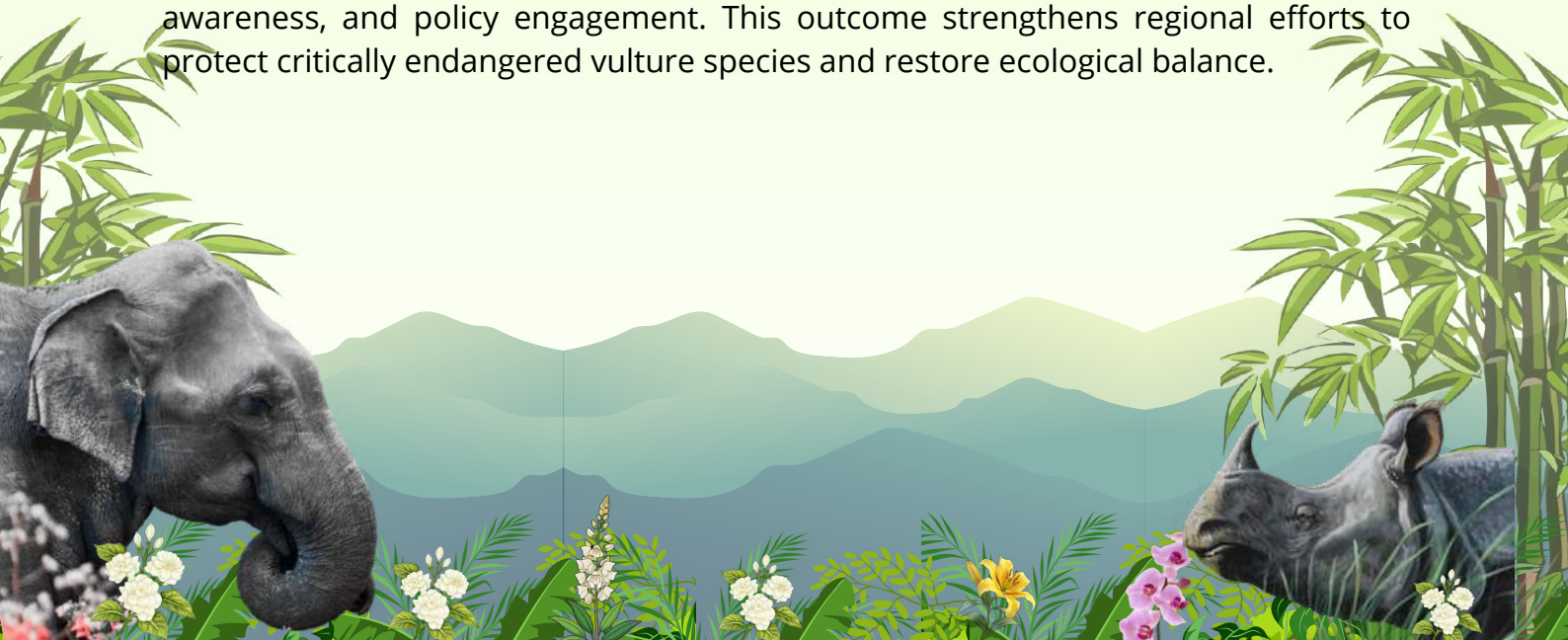
The partnership facilitated collaboration with Bano Haralo and traditional weavers of Nagaland, promoting the integration of cultural heritage, indigenous knowledge, and sustainable livelihoods. This outcome reinforces the role of craft-based economies in conservation-linked development and community resilience.

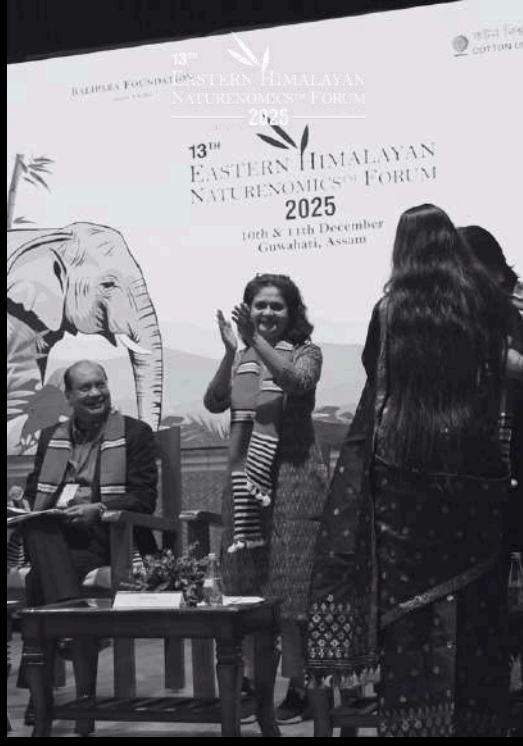
3. Capacity Building for Forest Frontline Staff in Nagaland

Exploring avenues for joint knowledge-sharing and resource exchange to support forest frontline staff in Nagaland, in collaboration with the Nagaland Forest Department. This includes opportunities for training, exposure to best practices, and access to scientific and technological tools to strengthen on-ground conservation and forest management.

4. Exploring Partnership with Bombay Natural History Society (BNHS) on Vulture Conservation

The partnership also created avenues for collaboration with the Bombay Natural History Society (BNHS) on vulture conservation, focusing on research, monitoring, awareness, and policy engagement. This outcome strengthens regional efforts to protect critically endangered vulture species and restore ecological balance.





CONCLUDING INSIGHT

Regeneration in the Eastern Himalaya is not an external prescription, but an already embedded element in the landscape. The task ahead is to recognise, legitimise and institutionalise these interdependencies so that forests, biodiversity and communities can thrive together.


13TH
EASTERN HIMALAYAN
2025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