

EASTERN HIMALAYA

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Valuing nature: Voices from the Singalila-Senchel Conservation Corridor, Darjeeling



Participants at the FGD at Plungdong Khasmal, Sukhiapokhari

8 Conservation Corridors were identified in the Khangchendzonga Landscape which includes parts of Nepal, India and Bhutan (ICIMOD 2021). As part of the project "Assessing and stabilizing unprotected biodiversity-rich areas of the Kanchendzonga landscape (Indian Eastern Himalaya)" supported by Weeden Foundation, we engaged with communities in villages in the socio-ecological landscape between Singalila National Park and Senchal Wildlife Sanctuary, Darjeeling West Bengal (Singalila-Senchel Conservation Corridor). We conducted 16 Focus Group Discussions in 34 villages where 427 participants representing different Self-Help Groups, (women), NGOs and individuals from villages participated.

The discourse focused on a) understanding how people value nature around them b) understanding their perceptions about threats to nature and c) understanding their aspiration about managing nature and its resources for sustainable development.

Valuing nature: The communities valued nature because it was a source of clean water, clean air to breathe, food (wild edibles), income

(tourism), good health and resources for homes and fields.

We are directly related to the surrounding environment and cannot survive without it. We value nature and natural resources around our homes and fields very much

–Kayabhir Plungdong FV

Threats related to nature: Some of the nature related threats perceived by communities were: Crop depredation by wildlife, mounting solid waste, sinking of land due to infrastructure development, reduced productivity of agriculture land, monoculture plantation (erstwhile), forest fire, exploitation of natural resources, pests and diseases of trees, landslide and water pollution. Because of these communities were concerned it would negatively impact their lives and livelihoods by: Decline in water sources and water, access to everyday natural resources, negative effects on agriculture practices, negative impacts on livelihoods, negative health impacts, no clean water and fresh air and increase in natural disasters.

If any component of nature is destroyed then it will have very bad impact on our lives and livelihoods. It will impact our health as we won't get a healthy environment with fresh air and clean water to sustain our lives

–Mim TE

Aspirations on landscape management: The communities felt that the management should be guided by local administration and NGOs through participatory management. Some key actions that would help this were: minimizing plastic waste and better solid waste management, restoring habitats by planting trees of ecological value, removing weeds and invasive species, empowering local institutions, conserving key wildlife species, mitigating crop depredation

Local communities are integral part of the corridor and should be involved in the management.

-Chota Hatta

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International Day of Forest 2023: Healthy Forests For Healthy People



Students at the event

ATREE celebrated International Day of Forests, 2023 with the theme "Healthy Forests For Healthy People" by organizing an outreach and sensitisation programme for future environment leaders from Dzongu, Sikkim. This was part of the project on wild edibles supported by The Rufford Foundation. The event was organized: to engage with local students to raise awareness about wild edibles, their value as food and the nutrition sources to local communities. 52 participants were present at this event including representatives from government line agencies, community institutions, teachers and students. Students represented 6 local rural schools. The main activities were 1) Inter Schools Quiz Competition for class VII and class VIII students and 2) Creating nature collage for other students.

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Training Course in Documentation of Traditional Knowledge (TK)

Pema Yangden Lepcha participated in a 5-days training programme organized under GIZ's NERAQ (Protection and Sustainable management of Aquatic Resources in the North-eastern Himalayan Region of India) project held in Poilwa, Peren District Nagaland. The training was led by Dr. Rajindra Puri, School of Anthropology and Conservation, University of Kent.



Participants at the event in Poilwa, Nagaland

The training included traditional knowledge documentation methods like Community Mapping, free listing, Coding, Ethnobotany Research and Application, Pile Sort method, observation, trend analysis and many more. The community fishing practices were also demonstrated by the community as a part of practical traditional knowledge documentation.

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6th SpiderIndia Meet, Jaisalmer Rajasthan

From March 1 to 4, 2023, Jaisalmer in Rajasthan played host to the SpiderIndia Meet 2023, a gathering of spider enthusiasts from all over India. The event was organized in Sam Village near Desert National Park. This is the 6th Spider Meet organized by SpiderIndia with the previous events held in West Bengal, Assam, Maharashtra, Karnataka and Pondicherry. Rohit George was one of the 20 participants from various parts of India, (Maharashtra, Karnataka, Tamil Nadu, West Bengal, Assam, Goa, Odisha, Sikkim, Kerala, and Rajasthan). The event was a unique opportunity for citizen scientists to come together, share knowledge and experience, and learn from each other.

During the event, we recorded over 40 species of arachnids, including spiders and scorpions, along with over 60 species of other taxa including reptiles, birds and other invertebrates. The fieldwork was particularly exciting, as we explored the surrounding areas and discovered many interesting specimens. Many of the species we recorded can be viewed here (inaturalist.org/observations?project_id=spiderindia-meet-2023-rajasthan)



Participants at the 6th Spider meet

Apart from the fieldwork, we also attended scientific talks by researchers, covering a range of topics such as arachnid taxonomy, evolution, citizen science and photography.

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Celebrating the Annual World Pangolin Day 2023

The 12th Annual World Pangolin Day, 2023 was celebrated worldwide on the 18th of February with the theme highlighted as: "Communities Leading Pangolin Conservation". Keeping in mind that the youth and children are the major stakeholders in species conservation, the annual world pangolin day was organized by ATREE, supported by Ocean Park Conservation Foundation, Hong Kong (OPCFHK), on two different locations (Mim T.E and Pokhriabong, Darjeeling) We engaged with 117 children from eight different rural schools, teachers and the Pangolin guardians from Rangbhang Valley. The programs included two components namely, a "Sit and Draw" competition: 'Pangolin through the eyes of children' for the children of junior sections and a 3-minute talk on: 'How I would protect and conserve the Pangolin in the tea landscapes of Darjeeling' for the senior students.



Participants at the Pangolin Day Event

The performance of each student was evaluated meticulously and were awarded with prizes and certificates.

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"Eat Right Millet Mela" in Darjeeling



Some of the products at the Millet Mela

The United Nations declared 2023 as the International Year of Millet. Food Safety and Standards Authority of India (FSSAI) under the Ministry of Health and Family Welfare, Government of India, organized a one-day "Eat Right Millet Mela" in Darjeeling on February 27, 2023. ATREE was invited by FSSAI to participate in the event. Our partner organisations- two women's groups from Sittong Village and organised stalls to promote and demonstrate their items.

On this occasion, the women's group effectively demonstrated many millet products. Over 15 different millet products were exhibited and sold. These included millet based cooked food, beverage and flour.

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Stakeholder consultation for potential pumped storage hydropower development in Sikkim



River Rungyoung ong in Dzongu

An online stakeholder consultation was organised as part of the research project "Pumped storage hydropower (PSH) in the Himalayas (Sikkim State, India; Nepal; Bhutan)" led by Australian National University (ANU) and supported by Australian Water Partnership. This session was held on 9th and 10th March 2023. 14 participants attended this consultation representing various government departments, NGOs, hydropower development agencies, and independent researchers. Experts from the Australian team presented on PSH development, and environmental and social considerations, including Gender Equality Disability and Social Inclusion (GEDSI), in the energy planning process and PSH prioritization in the Himalayas. In a nutshell the idea proposed was that albeit sustainable hydropower is an oxymoron but the task at hand is about choosing the best available option i.e., PSH with considerations for the local environment and communities.

This was followed by discussions where the participants expressed their views and opinions regarding the hydropower and solar based electricity generation in Sikkim. They also posed a number of questions regarding the workings of PSH and its feasibility in the state. Inclusion of strong policy recommendations were also proposed.

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Promoting bird tourism in Rangeet-Mazuwa, Darjeeling



Participants identifying birds during field session

Darjeeling is one of the leading tourist destinations in India. In recent years, numerous villages have emerged as popular tourist destinations in Darjeeling and thus bird tourism has flourished albeit in a few sites. Bird tourism still remains unexplored but can be key in conserving birds. As part of the Oriental Bird Club funded project "Survey and conservation of woodpeckers in differently-managed forests outside protected areas of Darjeeling Himalaya, India", ATREE in collaboration with Rangeet Mazuwa Tourism and Homestay Association organized a two-day Birding Guide Training on 25th and 26th March, 2023. The main objectives were to promote bird tourism and create awareness on biodiversity of Darjeeling among school students and local communities. 17 young and aspiring guides from the local community were trained in bird identification, guiding skills, and were also introduced to different important flora and fauna of the region through classroom and field sessions. Additionally 20 school students were also made aware of the importance of local biodiversity. During the training, 39 species of birds were sighted and identified by the participants. Some notable and uncommon species recorded were Golden-naped Finch *Pyrrhoplectes epaulette* and Red-throated Thrush *Turdus ruficollis*.

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International Bioresource Conclave and Ethnopharmacology Congress – ISE SFEC 2023

On February 24-26, 2023, Imphal, Manipur, India hosted the International Bioresource Conclave, which was jointly organized by the Institute of Bioresources and Sustainable Development (IBSD), Imphal, and the Society for Ethnopharmacology, Kolkata. A presentation on "Monitoring Invasive Alien Plant Species and Exploring Value-Added Products for Community-Based Entrepreneurship in the Darjeeling and Kalimpong Districts of West Bengal" was made by Norden Lepcha at the conference. This was part of the project "Products from Invasive Plant Species for Improving Livelihood of Marginalized Communities in Indian Himalayas" supported by Department of Biotechnology. The three-day event featured 350 scientific presentations (220 poster presentations, 130 oral discussions, 9 keynote lectures and 100 plenary lectures).



Participants at the field visit

The key objective of the workshop was to train the staff of the Silviculture Division to document invasive plant species using the ODK application. This Android application, which can be used on smartphones and tablets, makes data collection and recording easier than using paper forms. A short field session was conducted to demonstrate data collection and documentation. The participants were introduced to the basics of identification of invasive plant species using ODK technique, guided by the resource persons. During the training, the participants were able to identify and document 10 invasive plant species using the ODK application.

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Norden Lepcha
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Workshop on Identification and Documenting of IAPS in Darjeeling Foothills

As part of the project Value-Added Products from Invasive Plant Species for Improving Livelihoods of Marginalized Communities in Indian Himalaya supported by Department of Biotechnology under Himalayan Bioresource Mission. ATREE-Darjeeling recently presented a one-day hands-on training workshop for 21 officials of Forest Department on Identification and Documentation of Invasive Alien Plant Species in Darjeeling foothills hosted by the Forest Department Silviculture-Division Darjeeling, Government of West Bengal.

Farmers Exposure Visits to Fikkal, Nepal

As a part of the program Climate Smart Agriculture Practices under "Strengthening resilience and reducing vulnerabilities of rural communities of Africa and Asia" supported by Norwegian Cooperation Exchange Program (NOREC), ATREE organized 4 days "Farmers Exposure Visit" and took 17 farmers from six different villages of Sittong III GPU to Fikkal, Ilam District, Nepal. Through this event - ATREE created a platform for the farmers to learn about the various aspects of climate change & its impacts, local adaptation and mitigation practices through observation and interaction with the local farmers to build their capacity and motivate them to opt for climate resilient practices.

We coordinated with the Suryoday Nagarpalika, Fikkal, Nepal. Ms. Asmita Gaddal - Plant protection officer and Dr. Benoy Kumar Singh-Veterinary officer also joined the events and assisted us during the entire period of exposure visit. Livestock farming, mustard farming, permaculture farming, tunnel farming and dairy farming were the major interventions that our farmers observed. Farm Visits, local enterprise visits and technical sessions were the main focused area of this exposure trip. Apart from the learning from the field observations



Participants at a farm in Fikkal



Participants at the Resource Recovery Center in Yuksom

technical sessions were also conducted with the local farmers which has encouraged our farmers to interact, share and learn about local innovations for climate adaptation.

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Exposure visits to ecotourism sites in Yuksom, Sikkim

ATREE took nine newly established homestay tourist business owners from five villages of Sittong III of Kurseong Sub-division to Yuksom, Sikkim, from February 11th to 14th, 2023, to improve their capacity for sustainable tourism. Through observation and interactive sessions, this exposure visit provided a platform to discuss and learn about sustainable eco-tourism. The exposure was carried out as part of the Norwegian Agency for Exchange Cooperation (NOREC) - funded initiative "Strengthening resilience and reducing vulnerabilities of rural communities in Africa and Asia (2022-2023)," in collaboration with Kanchenjunga Conservation Committee (KCC), Yuksom .

The primary interventions that were observed and learnt throughout this exposure were the integration of nature and culture in the homestay practices, waste management, and community-based tourism practices, which encouraged our participants to undertake tourism business in a sustainable manner in the future.

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Installation of Improved Cook stoves as an energy efficient technology



ICS Unit being installed

As part of the project "Transforming lives through Efficient Energy Technologies and restoration of degraded lands in the Tea landscape of Rangbang valley Darjeeling", ATREE trained 31 people (23 female and 8 Male) in ICS bricks making from Magarjung, Chamong, Turzum, Sungma and Avon grove TGs and 15 people (11 female and 4 male) in ICS installation and construction as master trainers from Magarjung and Avon grove TGs. The training was conducted to develop the capacity of local women and youth as ICS promoters and technicians. 195 units of two pothole ICS were installed by the master trainers. 421 ICS units have been installed in the project villages, and 155 people (86 female and 69 male) trained for ICS bricks making and 90 (56 female and 34 male) trained for ICS construction and Installation.

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Women based-enterprise formed



Briquettes being dried in the sun

ATREE, through the NOREC supported project, conducted training for 16 women members of a Self-Help Group in Sittong, Kurseong, to create briquettes from agricultural biomass waste. After the training the group made 845 briquettes and sold 365 briquettes (INR 30 per piece). As part of the programme, on February 23, the ATREE Darjeeling project office conducted a one-day workshop at Sittong Hitkari Bhawan on bio-briquette entrepreneurship for these briquette-making groups for entrepreneurship.

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New Publications:

1. Pradhan, A., & Khaling, S. (2023). Community priorities, values, and perceptions associated with ecosystem services provided by the socio-ecological landscapes of Darjeeling-Sikkim Himalaya. *Regional Environmental Change*, 1-17.
2. Pradhan, A. & Tamang, S. (2023). RHABDOPHIS SUBMINIATUS (Red-necked Keelback). DIET. *Herpetological Review*, 54(1), xx-xx.
3. Yumlan Benjamin Bida, (2023) Notes on Feeding Behaviour of Asian Small-Clawed Otters in Namdapha Tiger Reserve, Arunachal Pradesh, India. *IUCN SSC Otter Specialist Group Bulletin*, Pages 39 - 41 (Short Note)
4. Pradhan, A., George, R., & Dewan, S. (2023). Documenting butterflies with the help of citizen science in Darjeeling-Sikkim Himalaya, India. *Journal of Threatened Taxa*, 15(3), 22771-22790.
5. Thapa A, Pradhan A, Chatterjee P, Singh A (2023). A note on Indian hare *Lepus nigricollis*: presence beyond the IUCN distribution in the Himalayas. *Academia Biology* 2023;1.

New Grants:

1. Developing a Field level Manual/Handbook for implementation of Oak Forest Restoration/Regeneration activities in Sikkim. The Nature Conservancy Centre

ATREE's mission is to promote socially just environmental conservation and sustainable development by generating rigorous interdisciplinary knowledge that engages actively with academia, policy makers, practitioners, activists, students and wider public audiences. ATREE's Northeast / Eastern Himalayas Programme has a direct presence in the Darjeeling and Sikkim Himalaya with a range of local partners in the other states of North East India.

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