

Eastern Himalaya

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Food Futures – Promoting Local Food



Local Food prepared in Rampuria Forest Village, Darjeeling
- Poonam Rai

Food is an essential part of any culture. It embodies our history, values, lifestyles and beliefs. Indigenous wild edibles and fermented foods are an integral part of the diet of the people in the biodiversity rich Himalayan region of Darjeeling and Sikkim. Wild edibles particularly form an important part of the seasonal diet of communities here. Wild edibles contribute to the household economy of rural communities through sale in urban and peri-urban markets. Food and dietary habits have evolved over time. There has been a major shift in the local food systems and diets with an external influence. These have led to loss of traditional crops/food and thus loss of agro-biodiversity impacting the health and nutrition status of communities. In order to address ATREE is working on a pilot initiative to promote local, endemic and seasonal food using tourism as a tool in Darjeeling .

Lack of human resources, labour and resource intensive practices, various government schemes and policies including the public distribution system as well as the need for better economic returns are key drivers of change in the agricultural practices further leading to changes in

the food systems. Focus now is more on cash crops than food crops as they yield better economic outputs. Changing aspirations and lifestyles have further led to loss in traditional knowledge about local food. Rich and diverse food systems of local communities are undervalued and local food is underrated and not promoted.

We have conducted surveys and planned pilot initiatives of establishing and promoting local food destinations in the Darjeeling hills. Consultations on feasibility for promoting local food tourism with clients staying in hotels as well as capacity assessments of local kitchens in urban and rural areas were conducted in the past months. Food tourism although a new and unexplored avenue in the region has the potential to provide economic benefits to communities. Tourism is one of the principal components of economic development and welfare in the Darjeeling and Sikkim Himalayas. There is already a well-established tourism network across the region and over the past few years the government's emphasis has been on rural tourism hence there is an opportunity to promote local food.

Further consultations with various stakeholders including government agencies and social entrepreneurs in the urban and rural areas will be conducted to strengthen and build a vibrant local food system. Documentation of wild edibles and local cuisines has been initiated to further establish knowledge on local food systems. A vibrant local food economy would mean economic benefits to the local communities which in time I hope will lead towards restoring traditional crops and agro biodiversity. The current work would also enhance the opportunity of building a Food Future Academy for promoting local food based entrepreneurship.

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Agroecosystems an essential component of conservation in Sikkim-Darjeeling Himalaya



Participants at the Policy Consultation with Department of Agriculture at the Samiti Bhawan, Gangtok Sikkim

The findings of ongoing research projects show that the agroecosystems of Darjeeling-Sikkim Himalaya hold significant biodiversity. This supports the paradigm that agroecosystems should be an essential component of any conservation strategy. However, in absence of any targeted policy on biodiversity conservation in agroecosystems, our work also seeks to derive recommendations, for appropriate policies to incorporate biodiversity conservation in the agroecosystems.

To this end, ATREE-Eastern Himalaya in collaboration with Sikkim University, has so far held three policy consultations. Participants of these events consisted of representatives from various government and non-government institutions, stakeholders, experts and academicians and most importantly the local community members.

Some of the insights and recommendations that came from these consultations highlighted i.) the need to broaden the functional scopes of the custodians engaged in the socioecological landscape to accommodate biodiversity conservation, ii.) a need to synergize or renegotiate the pathways that agricultural and horticultural departments take with chemicals and fertilizers to increase yield and productivity, which grossly violated agro-ecological principles, iii.) a need to push the boundaries of custodians of biodiversity, other than the Forest Department and challenge or change the current narrative to enable synergy with other departments for conservation along with production iv) a need for strengthening local community involvement, using traditional concepts and practices which has benefited conservation in these socio-ecological landscapes, along with appropriate platforms for transfer of traditional agricultural knowledge.

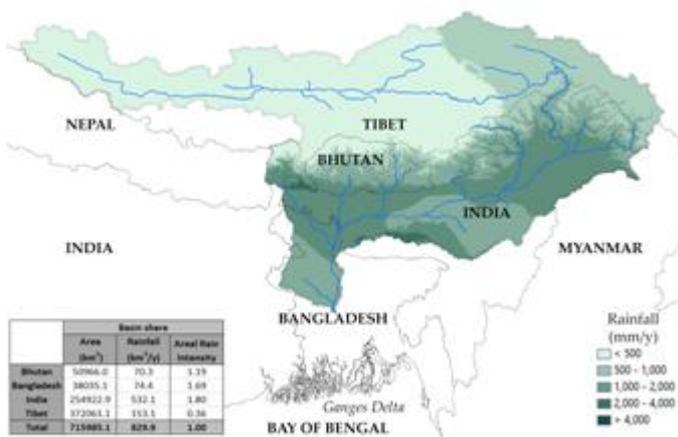
v.) address human-wildlife conflict, along with other challenges within the agriculture and production systems, impacting livelihood of people. Some of the challenges of agriculture have been retention of youth in the sector, for which identifying and developing alternative livelihood opportunities in agroecosystems in order to retain them was suggested. Linking tourism and traditional agroecosystem practices to develop agro-tourism and policies for benefit sharing amongst the community was recommended. Developing and promoting agroecosystems based livelihood options at local and community level with small industries, processing units, marketing and exploring viable marketing opportunities for remote areas came up in the discussions. Further studies and documentation of agroecosystems and their dynamic interlinkages, to better understand processes for application of agro-ecological concepts was needed. These studies and understandings would also allow, identification and declaration of areas with significant agroecosystems and biodiversity as heritage sites.

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Perspectives on strategic deliberations for dam building: the Brahmaputra in NE India.

The Brahmaputra, a transboundary river system is shared among 4 countries: China (Tibet), India, Bhutan and Bangladesh. Its hydrological management is intimately tied with the fate of people of North East India and northern Bangladesh. A recent news item in the Chinese tabloid Global Times, reports the planning and political go-ahead being given for a mega-dam on the Upper Brahmaputra River in Medog County, Tibet. The proposed dam will reportedly generate three times the electricity of the Three Gorges Dam on the Yangtze River. The latter is reported to have displaced 1.4 million people, enhanced seismicity in Central China, and has had multiple reports of structural instability.

Considering the hydrological importance of the Brahmaputra, the prevailing monsoonal rainfall regime, and the potential for dam failure due to design flaws, or Himalayan seismic activities – India needs to plan for any eventuality.



Brahmaputra river basin with annual rainfall (geospatial data from gadm.org, worldclim.org and surveyofindia.gov.in)

Big dams in tectonically active regions have major ecological, cultural, economic and engineering issues since they cause inundation, population displacement and involve hidden economic and ecological costs – prioritizing massive dam building is best taken with a lot of deliberation.

Basin analysis (see figure) reveals that the trans-Himalayan Brahmaputra basin contributes 19% (153 km³) of the total annual basin-scale water budget. The downstream countries (India, Bhutan and Bangladesh) need to plan for the eventuality in case of unannounced water release. Given that seven of Asia's largest and most populous river basins have sources on the Tibetan plateau, India along with the SAARC and ASEAN countries will also need to cooperate to plan mitigation measures for impacts on the biodiversity, ecosystems and people

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Capacity building and trainings on Livelihood Enhancement

We conducted various capacity building and sensitizing events in different parts of Sikkim-Darjeeling Himalaya. These trainings were conducted with a broader objective of enhancing capacity and strengthening the livelihoods of the local communities, which ultimately enhances the opportunity of sustainability and resilient communities. This also addresses issues like outward migration of human resources to urban areas (especially the youth), disinterest in practicing agriculture and monocropping of cash crops.

Consequently, three different capacity building and awareness generation events were organized during the last quarter of 2020, at three

different locations of Sikkim, Kalimpong and Darjeeling region. These programmes were focused at enhancing the skills and capacity of the local communities in Agriculture and Tourism which are considered as the backbone of economy and livelihood in the region. The necessity of these training was highlighted and emphasized by the local community members and stakeholders during our interactions with them. These different training programs included (i) Introductory Training on Apiary Management (ii) Orientation on Homestay operation and Community Based Tourism (iii) Training on Environment Friendly Agriculture practices and observation of World Soil Day. These certificate training events were 4 to 5 days each, where various experts and resource persons oriented and trained 84 individuals, through a series of interactive theoretical and hands-on practical and demonstration sessions.



Apiary Management Training in Lingmoo, South Sikkim

As an immediate result of these training events, community members have formed committees/groups in their villages, which will spearhead and implement the knowledge and skills gained through these training events.

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Potential for Value Addition of Products from Gorkhey-Samanden villages, Darjeeling district: Community Perspectives

Gorkhey and Samanden villages with 62 households are two of the remotest forest villages in Darjeeling District. Here people have to walk around 5 hours to reach the nearest market (Rimbick). Farming, rearing livestock and tourism are the main livelihoods of the people in these villages.



Maize stored in Samanden village - Tshering Bhutia

As part of the Khangchendzonga Landscape Conservation and Development Initiative supported by ICIMOD through G.B. Pant National Institute of Himalayan Environment Sikkim Regional Centre, ATREE conducted consultations on value chain analysis of products from these villages that would help enhance the livelihoods of local communities. Some of the potential value addition products identified were-i) Maize as it is abundantly grown and can be converted into flour for targeting the health conscious urban markets; the residues can be used for making craft items as well as bio-briquettes. Both the villages are also well known for two traditional foods *Sinki* (fermented radish) and *Gundruk* (fermented mustard leaves). Market access and linkage, getting food safety certification, improving production and organising people into an enterprise group are the next steps which are not impossible but challenging.

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New product launched by Singalila Mustard Oil & Agro Industrial Cooperative Society, Rajabhir, Darjeeling

Singalila Mustard Oil and Agro Industrial Cooperative Society" (SMOAICS) is the local enterprise established for agro-enterprises by ATREE to enhance the livelihoods of fringe communities buffering the Singalila National Park. Enhancing local livelihoods through cultivation of mustard oil seeds and oil production is the first of the initiative funded by National Bank for Agriculture and Rural Development (NABARD) under Farm Sector Promotional Funds which aims to promote mustard as an alternative climate resilient crop and further enhance local livelihoods through cultivation of oilseeds, oil extraction and value addition by improved bottling and labelling. The pilot project aims to establish convergence and linkages with various agriculture development agencies for



Agri-enterprise group product - Poonam Rao

sustainability of this project. At the initial stage of the project 125 households from 3 villages were registered as members of this project which has now grown up to 259 members from 10 different villages. The next steps are to register the group as a Farmer Producer Organisation and install facilities for value addition of more agriculture products.

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Stakeholder Consultations for the High Conservation Value Areas in Sikkim



Stakeholder consultation meeting in Yuksam, West Sikkim

High Conservation Value Areas (HCVAs) are of outstanding significance or critical importance due to their high biological, ecological, social, or cultural values. Presently HCV has found widespread application in certification standards (forestry, agriculture, and aquatic systems) and more commonly for conservation and natural resource use planning and advocacy, landscape mapping and in the purchasing policies of major companies. The concept of HCVA will be important for a Himalayan State like Sikkim which is rich in biodiversity, with unique ecosystems, traditional agriculture systems, and cultural diversity besides being vulnerable to climate change as well as the repercussions of development. The stakeholder

consultation process is an integral part of the HCV assessment which encompasses informing, consulting, and involving the stakeholders. We consulted stakeholders who are the local or indigenous communities and who will be directly affected by the operations within these HCVAs. 10 such interactions were organised in the West district and 3 in the North district. Some of the recommendations common to all the sites were based on livelihoods, restoration and rehabilitation of agro-ecosystems, biodiversity assessment, reduction of human wildlife conflict, digitisation of decision making data, strengthening of local organisations, assessment of religious & cultural sites.

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Known Unknowns: Saibal Sengupta



Mr. Saibal Sengupta has been teaching English and Environmental Studies at St. Robert's Higher Secondary School, Darjeeling since 2003. He has been interested in environmental education since his school days. He was the founding

president of North Point Environment Club in 1993. He founded the Nature Club at St. Robert's School in 2003 and registered with the Nature Clubs of India movement initiated by WWF India. He guided the National Children's Science Congress projects on i) Avian diversity in Darjeeling; ii) Study of Himalayan Orchids; iii) Study of Himalayan Newt; iii) Promoting bio-briquettes as an alternate fuel in Darjeeling; iv) Study on the decline of 'Saipatri' (Marigold) in Darjeeling. With his nature club he has involved his students in bird watching, butterfly identification, nature treks to Singalila National Park (since 2003), painting/ sketching local species, nature/ biodiversity fairs and participating in environment related activities. During these years

he has nurtured more than 300+ students on conservation & environmental consciousness through the nature club. Besides being an environmentalist he is also a keen philatelist and numismatist.

"I have always been passionate about spending time outdoors in the wilderness and learning more about our local flora and fauna and sharing this knowledge and experience with my students. I'm encouraging nature philately in school. This was a useful engagement for the students during lockdown." says Saibal.

Publications

1. [Devithans of Sikkim Himalaya: A Cultural Embodiment](#) - Abriti Muktan
2. [Not just COVID-19: Many zoonotic diseases cause concern in Darjeeling-Sikkim region](#) - Dr. Sunita Pradhan
3. [How does the Chinese Pangolin behave in the wild - observations on activities of Chinese Pangolin, Manis pentadactyla in the agroecosystems of Darjeeling, Eastern Himalaya, India.](#) - Sunita Pradhan & Roshan Pradhan
4. Pradhan, S., Limboo, A.H., Naulak, L (2020). Bats in Sikkim-Darjeeling Himalaya: research and Conservation. PANDA Envis Sikkim Newsletter on forests, environment and wildlife 12(4): 20-22.
5. [Notes on Asian Glass Lizards, Dopasia gracilis \(Gray 1845\), in Darjeeling-Sikkim Himalaya, India.](#) - Aditya Pradhan & Rujas Yonle
6. [A fight between two MacClelland's Coralsnakes, Sinomicrurus macclellandi \(Reinhardt 1844\), in Darjeeling, India.](#) - Aditya Pradhan

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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