Bearing the risk, coexisting around protected areas? Human wildlife conflict in the Sikkim Himalaya

In the darkness, Aitahang pulls on a rope and his bamboo contraption makes a loud noise breaking the silence of the night. “I lose over 70% of the maize I grow and at least one goat every year to bear attacks” says Aitahang as he tries to stay up all night guarding his crops.

Sikkim, with its bounty of natural landscapes and rich biological diversity has over one third of its area under the protected area network. While the residents obtain numerous ecosystem services from their natural surroundings, crop raids, livestock depredation, and human fatalities by wild animals is a significant ecosystem disservice in the region. In fact, human wildlife conflict (HWC) is the most often cited reason for abandoning agriculture in the region with many farmers in West Sikkim moving from edible crops like maize to cash crops like cardamom due to bear attacks. Maize, the crop most cultivated in Sikkim, plays a pivotal role in the culture and livelihood of the people. Our data shows that of all the maize damage caused by HWC the Asiatic Black Bear is responsible for an estimated 70%, followed by monkeys, porcupines and various birds around the Kangchendzonga National Park. Bears have also been responsible for attacks on livestock (goats) usually after the maize harvesting season. In villages near Barsay Rhododendron Sanctuary a majority of the crops are lost to wild-boar raids. Around 330 families have either abandoned agriculture or relocated due to wild-boar attacks. Further North, around the cold desert region feral dogs have run havoc and are responsible for an estimated 40% of yak calves lost every year, while also attacking wild ungulates, marmots and other rodents. Attacks on yaks by Snow Leopards and Tibetan Wolves were also reported by the locals. More recently attacks on cows by Tigers in Lachen and Lachung valleys have also been described.

An integrated approach is being used targeting 3 areas -

i) Local communities: Mitigation approaches traditionally used by the local communities were first studied and the more successful ones were identified. A site-specific mixed approach is being implemented. First, the use of different deterrents (chilly bombs, crater-gitter-a device that makes a loud noise on detecting heat and motion, chemical deterrents like ecodon for wild-boar, lemon grass boundaries to name a few), Second, physical barriers like live fences, stone walls, agro-net fences, and mixed cropping methods, third, exploring more efficient community run compensation schemes and government run ex-gratia payment schemes and fourth generating awareness on animal behavior, ways to reduce conflict, and compensatory schemes available are integral to the management plan. The use of Open Data Kit for compensation schemes were also explored with the aim to cut costs and improve data quality and collection time.

ii) Habitat: Studying the habitat around which conflicts occur is essential. Correlations between bear raids and fruiting of wild species such as Machilus edulis, Symplios cuthbertsoniana and Yushania microphylla have been reported.

iii) The animal involved in conflict: Standard Operating Procedures to handle and manage the animal and training needs assessments are being prepared to better equip the state.

Tenzing Ingty, Rewash Rai
tenzingingty@gmail.com, rewash.khaling@gmail.com
Experts consultations on High Value Conservation Areas in North and West Districts of Sikkim

Participants at the Expert Consultation meeting in Gangtok

A n assignment has been given to ATREE as part of the UNDP SECURE project, "Identifying, assessing, delineating and mapping areas with High Conservation Values (HCVs) and developing management recommendations/plans for them" in districts of Sikkim. As part of this assignment we identified sub-categories in the 6 globally accepted HCVs appropriate for Sikkim. An expert consultation meeting was organised i) To share the HCV Categories and Sub-categories identified for West and North Districts of Sikkim ii) To seek validation of the sub-categorisation of the High Conservation Value Categories appropriate for Sikkim and iii) To seek inputs for data sources especially location data so that these can be integrated into a GIS platform.

15 participants representing academic and research institutions and well as officials from the Forest Environment and Wildlife Management Department participated in the meeting and provided inputs on the HCV categories and sub-categories and helped us finalise these for Sikkim.

Dr. Sarala Khaling, sarala.khaling@atree.org

High Conservation Value Area delineation internal workshop with WWF India & Wildlife Institute of India

A n internal workshop on developing a common framework for delineating High Conservation Value Areas for the Himalayas was held to discuss on the methodologies of data collection, analysis and other protocols of the HCV assignment in order to ensure that there is a broad framework and uniform approach with all the agencies working on the same assignment in different parts of the Himalayas on UNDP supported SECURE Himalaya project. The workshop was attended by WWF India, led by their Head of GIS, Junior Project Biologists of WII and ATREE staff at ATREE Eastern Himalaya-Northeast India Regional Office, Gangtok. A common working matrix was developed for the assignment so that the approach of delineating HCV areas all across the Himalayas has a uniform framework.

Dr. Sarala Khaling, sarala.khaling@atree.org

Stakeholder Consultation on Human Wildlife Conflict

A stakeholder consultation meeting was held to discuss Human Wildlife Conflict (HWC) Mitigation Strategy for Sikkim on 13th August 2019. The meeting was attended by participants representing 17 agencies. The major discussions and suggestions made on the consultation were, i) feasibility of using different plants for bio-fence, ii) insurance for pack animals used for trekking as these are regularly predated by wildlife, iii) necessity of funds for immediate compensation, iv) co-ordination with the animal husbandry, agriculture and forest department required for compensation and insurance systems. A major part of the discussions included the current system of ex-gratia payment about which the affected farmers and livestock owners are not aware and the need for more clear communication. On this there were further discussions about the challenges posed by the overlap of jurisdiction (Wildlife area and Territorial area) which further complicates the ex-gratia payment to those who have lost livestock.

Following recommendations were made by the participants on the strategy:
1. Studies on key topics related to HWC should be part of the strategy
2. The strategy should include research on mixed approaches for fencing and bio-fencing.

Celebrating Van Mahotsav in Makaibari Tea Estate, Kurseong, Darjeeling

A two day programme was organised on 18th and 19th July 2019 at Makaibari Tea Estate, Kurseong, to celebrate the annual ‘Van Mahotsav’ initiated by the West Bengal Forest Department. This was part of a National Mission on Himalayan Studies (NMHS), supported project to conserve biodiversity in agro-ecosystems. 110 participants primarily employees from the Makaibari Tea Estate, ranging from the Assistant Manager to labourers participated in the event. 800 saplings of tree species like Exbucklandia populnea, Prunus avium, Quercus spp. Ficus bengalensis, Ficus carica were planted during the event.

Vikram Pradhan
vikram.pradhan@atree.org
Training on developing People’s biodiversity Register (PBR)

A TREE in collaboration with Sikkim University, organized a People’s Biodiversity Register (PBR) training of Darjeeling – Pulbazar Biodiversity Management Committee (BMC) on 10th September 2019. This was part of the joint project of ATREE and Sikkim University titled ‘Key ecosystem services and biodiversity components in socio-ecological landscapes of Darjeeling – Sikkim Himalaya: Deriving management and policy inputs and developing biodiversity information system’, funded by Ministry of Environment, Forests and Climate Change (MoEF & CC) under National Mission on Himalayan Studies.

The participants were made aware about biodiversity, traditional knowledge associated with biodiversity, need of BMC constitution, the roles and responsibilities of BMCs such as preparation of PBR, conservation of biodiversity and the authority of BMC. BMC is the custodian of local biodiversity and is a legal body constituted as per the Indian Biological Diversity Act, 2002. A short field session was conducted to demonstrate data collection for the PBR. In the coming months as part of the project ATREE will be supporting at least 2 BMCs in developing their PBR.

Apiary Management Training at Chisang village, Kalimpong, West Bengal

A three day training on Apiary Management was organised by ATREE, at Chisang village in Kalimpong district, West Bengal from 26th August to 28th August 2019. The training was supported by the National Mission on Himalayan Studies (NMHS), funded project entitled ‘Key ecosystem services and biodiversity components in socio-ecological landscapes of Darjeeling – Sikkim Himalaya: Deriving management & policy inputs and developing mountain biodiversity information system’.

Chisang once famous for large Cardamom cultivation in terms of quality and quality, has witnessed a significant decrease in production due to pest infestations and diseases. This has severely affected the livelihoods of the communities. Communities in this remote village are subsistence farmers and large cardamom was the important source of income for them. With the decline in cardamom communities are reaching out for support for options that could augment their household income. Apiary was considered a feasible activity as they have been keeping bees and producing honey will little external assistance. Community members were trained on systematic approaches of bee management using frame hives and focusing on production of quality honey and colonies, which can be another source of income, especially for the individuals with limited opportunities. 23 participants from Chisang and its neighbouring villages participated in the training.

Vikram Pradhan
vikram.pradhan@atree.org

Rewash Rai
rewash.khaling@gmail.com
Training on environment friendly farming at Lamagaon, Kainjaley, Darjeeling

A three days training on environment friendly farming was organised in a village near the Singalila National Park in Darjeeling. This was part of the National Mission on Himalayan Studies (NMHS) funded project.

69 farmers participated in the training. The training included soil moisture preservation, management of pests and diseases through locally available materials, making soil microorganisms for enhancing soil nutrient and proper land utilisation. Participants were trained through a series of classroom lectures, hands on activities and discussion sessions.

Preparation of organic bio-pesticides

Asmina Dhakal
asminadhakal@gmail.com

Nature Guide Training, Makaibari Tea Estate

A TREE organized a two-day Nature Guide Training workshop involving the young people of different villages in Makaibari Tea Estate on 16th and 17th September 2019. The objective of the workshop was to orient and train potential nature guides from Makaibari Tea Estate and enhance their capacity to be involved in Nature Tourism.

The first day of the workshop involved theory sessions, where the 30 participants learnt identification of birds, butterflies, and mammals commonly found in their locality. The second day of the workshop included field visits where the participants were able to identify 7 species of birds and 11 species of butterflies. These trainings are part of a National Mission on Himalayan Studies funded project in Sikkim-Darjeeling Himalaya.

Aditya Pradhan
aditya.pradhan@atre.org

New Interns

The following interns joined the ATREE EH-NE office for a period of 3 months
1. Ms. Rabina Mothey, MSc Zoology Sikkim University
2. Ms. Sonam Palgay, MSc Botany, Sikkim University
3. Mr. Bijoy Gurung, MSc Horticulture, Sikkim University
4. Mr. Aita Hang Subba, MSc Zoology, Sikkim University
5. Mr. Yougesh Tamang, MA Anthropology, North Bengal University

New Staff

Ms. Pema Yangden Lepcha, from Dzongu North Sikkim joined the Sustainable and Healthy Food Systems project. Pema did her M.A. in Lepcha from Sikkim University and will be working with communities in Dzongu on mapping food systems and analysing the change in the agriculture systems and their drivers. Besides a researcher Pema is a keen sports person.

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 Office has a direct presence in the Darjeeling and Sikkim Himalayas and Assam, and works with a range of local partners in the other states of north east India.

For more information contact

Dr. Sarala Khaling
Regional Director
sarala.khaling@atre.org

Rohit George
rohit.george@atre.org