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COMMUNITY-BASED INSTITUTIONAL ARRANGEMENTS FOR HUMAN-WILDLIFE CONFLICT MITIGATION

Action-Learning Pilot Program in Sikkim Landscape



CHETNA NAHATA

OCTOBER 2017

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LANDSCAPE

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DISCLAIMER

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ACRONYMS AND ABBREVIATIONS

ALPP	Action-Learning Pilot Program
EDC	Eco-development Committee
FEWMD	Forests, Environment and Wildlife Management Department
Forest-PLUS	Partnership for Land Use Science
GPU	Gram Panchayat Unit
HWC	Human-Wildlife Conflict
JFMC	Joint Forest Management Committee
KVEDC	Kitam Village Ecotourism Development Committee
MOEFCC	Ministry of Environment, Forest and Climate Change
PA	Protected Area
REDD	Reducing Emissions from Deforestation and Forest Degradation
USAID	United States Agency for International Development

UNITS

ha	hectare
km ²	square kilometer

1.0 INTRODUCTION

The Partnership for Land Use Science (Forest-PLUS) Program is a five-year initiative jointly designed by USAID/India and the Government of India's Ministry of Environment, Forest and Climate Change (MOEFCC). The Program is focused on US-India collaborative scientific and technical research, and exchanges that explore methods and approaches to reduce emissions from deforestation and forest degradation, and enhance sequestration through conservation and sustainable management of forests (REDD+). Forest-PLUS contributes to USAID/India's Development Objective of accelerating India's transition to a low emissions economy by providing technical assistance to develop, demonstrate, and institutionalize forest management practices that reduce greenhouse gas emissions from forested landscapes, increase sequestration of atmospheric carbon in forests, protect forest biodiversity health, and protect and/or enhance forest-based livelihoods, forest ecosystem services, and other social contributions of forests in India. Through these objectives, Forest-PLUS is helping position India to participate in any internationally-agreed REDD+ mechanism.

The Program is achieving these objectives through the development of tools, techniques and methods: (1) for an ecosystem-based approach to forest management and increasing carbon sequestration; (2) for measurement, reporting and verification of carbon stocks; (3) for building institutional structures for effective forest resource governance; and (4) by deploying these tools, techniques, and methods in selected pilot clusters in the four demonstration landscapes, representing forest types widespread in India; and is supported by training programs and communication campaigns targeting a variety of audiences. The Program commenced in August 2012. The four demonstration landscapes are Shivamogga Forest Circle, Karnataka; Hoshangabad Forest Circle, Madhya Pradesh; Rampur Forest Circle, Himachal Pradesh; and the state of Sikkim.

In each of these four landscapes, Forest-PLUS has initiated an Action-Learning Pilot Program (ALPP) to work with the local communities and State Forest Department officials on issues relevant to sustainable forest management and sustainable forest-based livelihoods. Forest-PLUS has also piloted some tools, techniques, and methods developed or adapted under the program at the ALPP sites.

In the Sikkim landscape, Forest-PLUS developed ALPP to mitigate human-wildlife conflict (HWC) through community-based institutional arrangements. This report presents details of the activities undertaken, outcomes, and learning from ALPP in the Sikkim landscape.

2.0 CONTEXT

India has a large network of Protected Areas (PAs) covering 16.09 million hectares, which includes 103 National Parks, 537 Wildlife Sanctuaries, 67 Conservation Reserves, and 26 Community Reserves (ENVIS, 2017). These PAs constitute the core of the biodiversity conservation strategy in India. However, for the success of this strategy, support and active participation of communities residing in and around PAs is vital.

The majority of PAs have been formed in forest ecosystems. In most of these areas, local communities are dependent on these forest ecosystems for their day-to-day requirements. The dependence of the poor is often the greatest. It has been reported that more than 40 per cent of the poor population of the country is living in forest-fringe areas (MoEF, 2006). Thus, one of the key elements of any successful conservation strategy in the Indian context has to be ensuring sustainable livelihoods of PA-dependent communities.

Another key element that needs to be an integral part of the strategy is addressing the challenges faced by the PA-fringe communities. One of the major challenges is HWC. The increasing population and ensuing greater requirement of natural resources results in shrinking of wildlife habitats, which, in turn, leads to greater HWC in the PA-fringe areas. The adverse impacts on the people's livelihoods affects their attitude towards conservation. This also creates a conflict between the PA-fringe communities and the government agencies involved in PA management. The National Wildlife Action Plan (2017-2031) has also included HWC as one of its key focus areas.

2.1 SIKKIM LANDSCAPE

Sikkim, part of the Eastern Himalayan range, is situated in the northeastern region of India. The state has a geographical area of about 7,096 km², 82 percent of which is classified as forest land (FSI, 2015). The state is rich in flora and fauna, and is part of the Himalaya Biodiversity Hotspot. Nearly a third of the state (31 percent) is under the PA network.

HWC in the fringe villages of PAs is on the rise and farmers face recurrent challenges in the form of crop loss by wildlife (Bhutia, 2016-17). Crop loss is widespread despite farmers taking measures such as scarecrows, fencing, and sleeping in the fields to protect their crops. The existing compensation mechanism of the government is considered by the PA-fringe communities to be inefficient and the compensation paid to be inadequate.

2.2 PROBLEM ANALYSIS

HWC in and around forests is a serious issue in Sikkim. The state has witnessed several conflicts, which occur mostly near human habitations situated on the fringes of PAs. The most common manifestations of HWC are crop raiding and livestock predation by wild animals. There has also been an increase in direct encounters and human casualties, especially by Himalayan black bears.

Due to their socio-economic status, the PA-fringe communities cannot undertake costly adaptive measures to manage HWC. Although the farmers do expect and demand compensation from the government, they also realize that the existing compensation mechanism is inefficient and inadequate. The compensation paid is usually not based on the estimate of the damage caused. Further, the compensation amount is generally received after a gap of several years after filing the claim. The lack of clarity about various compensation rules and procedures among the community members compounds the problem. Therefore, farmers have to spend a lot of their resources in following up with the authorities for compensation. The members of Eco-Development Committees (EDCs)¹ also do not have clarity about their roles regarding HWC issues in their areas.

¹ In and around PAs, the committees formed under Joint Forest Management are called Eco-development Committees.

There is a need to recognize the severity of the problem and the economic loss that farmers bear due to HWC. It is equally important that community institutions such as EDCs are actively involved in the process of HWC mitigation and management.

3.0 ACTION-LEARNING PILOT PROGRAM

3.1 OBJECTIVES

The Forest-PLUS ALPP in Sikkim was implemented with the following specific objectives:

- Piloting HWC mitigation measures – institutional and technical
- Promoting dialog among key stakeholder groups
- Providing inputs for policy-makers

3.2 PILOT AREA

The ALPP was undertaken in the fringe areas of Pangolakha Wildlife Sanctuary and Kitam Bird Sanctuary. Pangolakha Wildlife Sanctuary is located in East Sikkim district and extends over an area of 128 km². The Kitam Bird Sanctuary is located in South Sikkim district and covers an area of 6 km².

In each PA, the ALPP focused on one Gram Panchayat Unit (GPU) and worked closely with the EDC to mitigate HWC issues. The GPU selected near Pangolakha Wildlife Sanctuary was Dolepchen, while the Kitam-Manpur GPU was selected near the Kitam Bird Sanctuary.

3.3 DESIGNING THE ACTION-LEARNING PILOT PROGRAM

A number of activities were undertaken for designing the ALPP; these were stakeholder consultations, exploratory studies, and baseline surveys.

3.3.1 PRELIMINARY STAKEHOLDER CONSULTATION

A stakeholder consultation was organized jointly by the Forest-PLUS Program and Sikkim Forests, Environment and Wildlife Management Department (FEWMD) at Lampokhari in December 2014. The main objective of the consultation was to understand the current ecosystem management practices in the region and analyze the various challenges that the forest ecosystems were facing. The consultation was attended by around 60 participants, including frontline staff members and officers of FEWMD, Joint Forest Management Committee (JFMC) and Eco-development Committee (EDC) members, representatives of non-governmental organizations, and Forest-PLUS staff members. This consultation highlighted the importance of HWC issues for forest conservation as well as local communities' livelihoods.



Forest-PLUS

Plate I: Participants of the stakeholder consultation held at Lampokhari

3.3.2 EXPLORATORY STUDIES

Two exploratory studies were undertaken during 2014-15. The main objective of these studies was to gain a better understanding of the forest-people linkages and key policy bottlenecks. These are briefly discussed in this section.

- *Analysis of Policy Constraints for Promoting Forestry-based Livelihoods in Sikkim*

A sample of 30 GPUs was selected for the study. All the GPUs were visited and interviews and focus group discussions were held with the JFMC/EDC office-bearers as well as community members. This study helped in understanding community perspectives and current practices related to forestry-based livelihoods on both forest and non-forest lands. In this study HWC was identified as a challenge for forest-dependent people.

- *Access, Benefit-Sharing and Safeguards in the JFM Program*

The *de facto* situation of access and benefit-sharing mechanism was analyzed and the challenges faced by the JFMCs were documented in the second study. Seven Forest Ranges and 21 villages were covered during this field study. The senior officials and frontline staff of FEWMD, JFMC/EDC members, PRI representatives and community members were interviewed. This study also identified HWC as a major forest management issue for the forest-fringe communities.

3.3.3 STAKEHOLDER CONSULTATION ON INSTITUTIONS, GOVERNANCE AND POLICY

Based on the findings of the exploratory studies, another stakeholder consultation was held in Gangtok during September 2015. This consultation aimed at eliciting the views and suggestions of key stakeholder groups on institutional, governance and policy areas that could lead to improved sustainable forest ecosystem management and restoration at the landscape level and also contribute to improved local livelihoods.

The consultation provided a platform for the members of JFMCs, EDCs and PRIs to deliberate on priority issues in their respective areas and present them to other important stakeholders. The deliberations during this consultation helped in deciding the scope and focus of the ALPP.

3.3.4 BASELINE SURVEY

In order to better understand the context, Forest-PLUS conducted a baseline survey covering six GPUs situated on the fringes of Pangolakha Wildlife Sanctuary and one GPU around the Kitam Bird Sanctuary in Sikkim during 2016. Primary data was collected from 475 sample households that constituted 17 percent of the total households of these seven GPUs. The findings of the survey are discussed in the subsequent paragraphs.

The survey revealed that 98.50 percent of the respondents were engaged in agriculture as their primary occupation, followed by livestock rearing. Table 1 provides an overview of the livelihood profile of the respondents.

Table 1: Livelihood profile of the sample households

PROTECTED AREAS	SAMPLE GPU	SAMPLE HOUSEHOLDS	PERCENTAGE OF SAMPLE HOUSEHOLDS ENGAGED IN				
			AGRICULTURE	BUSINESS AND SERVICES	CATTLE REARING	POULTRY	OTHERS
Pangolakha Wildlife Sanctuary	Aritar	28	100%	11%	29%	36%	0%
	Dolepchen	50	100%	8%	26%	20%	6%
	Lingtam-Phadamchen	68	100%	4%	21%	21%	0%
	Premlakha-Subanedara	61	100%	20%	39%	61%	3%
	Rhegoh	137	100%	1%	29%	39%	0%
	Changeylakha	49	100%	8%	14%	14%	0%
Kitam Bird Sanctuary	Kitam-Manpur	82	91%	54%	71%	70%	6%

The average agricultural land-holding of the respondent households was 1.55 ha per household. The average farmland under cultivation was 1.12 ha per household. In the GPUs near the Pangolakha Wildlife Sanctuary, about half of the cultivated area per household (0.55 ha) was under large cardamom, an important cash crop of Sikkim. On average, around 28% of the agricultural land was reported to be fallow. The respondents informed that the area under fallow land had increased over the years, primarily due to wildlife attack on crops. These attacks cause significant economic losses for the farmers. They also communicated that due to an increase in fallow land, the attacks by wild animals and birds had increased further in the cropped area, resulting in higher losses for those who cultivated their agriculture land.

The extent of loss caused by wildlife was also assessed through the survey. The main loss reported was of the standing crops. The GPU-wise analysis of the crop loss is presented in Table 2.

Table 2: Crop loss due to damage by wildlife

PROTECTED AREAS	SAMPLE GPU	ESTIMATED QUANTITY OF CROP LOST
Pangolakha Wildlife Sanctuary	Aritar	26%
	Dolepchen	21.3%
	Lingtam-Phadamchen	Not reported
	Premlakha-Subanedara	23.6%
	Rhegoh	31.6%
	Changeylakha	34.6%
Kitam Bird Sanctuary	Kitam-Manpur	52.6%

The maximum crop loss was reported from Kitam-Manpur GPU, followed by Changeylakha and Rhegoh GPUs.

During the survey it was found that out of seven GPUs, farmers from three GPUs filed the compensation claim in the year 2011. It was not until 2015 that they received compensation. Moreover, the compensation provided to the farmers was distributed equally without any consideration of the actual damage. The compensation received by the sample households is presented in Table 3.

Table 3: Most recent compensation received by sample households

PROTECTED AREAS	SAMPLE GPU	PERCENTAGE OF SAMPLE HOUSEHOLDS THAT HAVE RECEIVED COMPENSATION	AMOUNT OF COMPENSATION (INR)	YEAR OF FILING THE CLAIM FOR COMPENSATION	YEAR OF RECEIPT OF COMPENSATION
Pangolakha Wildlife Sanctuary	Aritar	4%	700	2011	2015
	Dolepchen	56%	700	2011	2015
	Lingtam-Phadamchen	4%	1800	2011	2015
Kitam Bird Sanctuary	Kitam-Manpur	46%	2281	2015	2016

It was also observed that the respondents were not fully aware about the compensation guidelines and the procedures for filing compensation claims.

3.4 FIELD IMPLEMENTATION OF THE ACTION-LEARNING PILOT PROGRAM

The ALPP was implemented with the support of FEWMD, EDCs, GPUs, and local communities. Apart from understanding the local context through the baseline survey, the existing schemes, policies and rules pertaining to compensation schemes in the state of Sikkim were also analyzed for effective implementation of the mitigation options. The following sections (sections 3.5 and 3.6) describe the various activities undertaken as part of ALPP.

3.5 HUMAN-WILDLIFE CONFLICT MITIGATION THROUGH INSTITUTIONAL MEASURES

3.5.1 SPREADING THE RISK OF CROP LOSS

Large cardamom is an important cash crop of Sikkim, and every year farmers face huge losses in their yield due to damage by wildlife such as palm civet, wild boar, deer, and monkey. In Dolepchen GPU, Forest-PLUS worked with the EDC and other important stakeholders to formulate a community-based insurance scheme in order to spread the risk of crop loss amongst the farmers. The idea was to help the community become more self-reliant in dealing with HWC issues such as crop loss.



KOMAL PREET KAUR



CHETNA NAHATA

Plate 2 (a): Cardamom crop in Dolepchen GPU, East Sikkim
Plate 2 (b): Harvesting of Cardamom crop in Dolepchen GPU, East Sikkim

In order to operationalize the community-based crop insurance scheme, a working committee was formed that included members from the EDC and GPU, as well as representatives from the farming community. Various responsibilities related to implementation of the insurance scheme (e.g. premium collection, damage monitoring and recording, decisions on compensation, and disbursement of compensation to the affected farmers) were entrusted to sub-committees of the working committee.



BASANT SHARMA

Plate 3: Premium collection facilitated by Forest-PLUS in Dolepchen GPU, East Sikkim

Forest-PLUS supported the working committee to develop the operational rules for the crop insurance scheme. The premium was collected from participating members, either in cash or in kind. The loss of large cardamom saplings as well as the crop due to wildlife damage were covered under the scheme. Forest-PLUS provided support to the community in the form of an in-kind contribution of a matching premium.

The working committee developed a detailed set of rules regarding premium collection and payouts. They decided that the scheme would be initially in operation for two years. During the first year, up to 1.5 times the premium paid could be claimed towards crop loss. In the second year, only 0.75 of the premium paid could be claimed towards crop loss. Thus, a farmer could claim up to 2.25 times the premium paid, subject to certain conditions regarding actual crop loss².

Although the scheme developed by the local community did not strictly follow the actuarial principles, it initiated a dialog among the community members to take proactive measures to spread the risk of crop loss through community-level measures for which they didn't have to depend on the outsiders. The matching premium provided by Forest-PLUS acted as a catalyst that helped the community to take initial steps towards self-reliance in dealing with a major issue – crop loss due to wildlife damage – affecting their lives and livelihoods.



KOMAL PREET KAUR

Plate 4: A consultation in progress at Dolepchen GPU to deliberate on formulation of the Cardamom Insurance Scheme

² It was decided that the payout should not exceed 1.5 times the crop damage in the first year, and half the damage incurred in the second year.

3.5.2 COMPENSATING THE COSTS WITH BENEFITS OF CONSERVATION

During the baseline survey, respondents residing near the Kitam Bird Sanctuary reported highest crop loss (over half the crop). The sanctuary also has a high revenue generation potential through nature-based tourism. Keeping the above two points in mind, Forest-PLUS worked with the local stakeholders to develop an institutional mechanism to partly compensate the costs of conservation (crop loss) with its benefits (revenue from nature-based tourism).

Some members of the local community were aware of the potential benefits of nature-based tourism, and had initiated some steps to realize that potential. With the help of the Panchayat, EDC and the community members of Kitam-Manpur GPU, Forest-PLUS helped in strengthening the local Kitam Village and Ecotourism Development Committee (KVEDC). KVEDC, in association with community members, works to explore the possibilities of various nature-based activities like bird watching, butterfly watching, and trekking. The KVEDC and the Kitam EDC collectively established the operational rules for management of nature-based tourism in the area. Forest-PLUS provided camping tents (sleeping tents, a kitchen tent and a washroom tent) to KVEDC to promote and incentivize development of an institutional mechanism to help mitigate HWC through revenue generated from nature-based tourism.

Forest-PLUS facilitated signing of a memorandum of understanding between the Kitam EDC, KVEDC and Kitam-Manpur GPU to utilize 50 percent of the revenue generated from the camping equipment for mitigating the local people's loss due to crop raiding by wildlife (see Annexure).

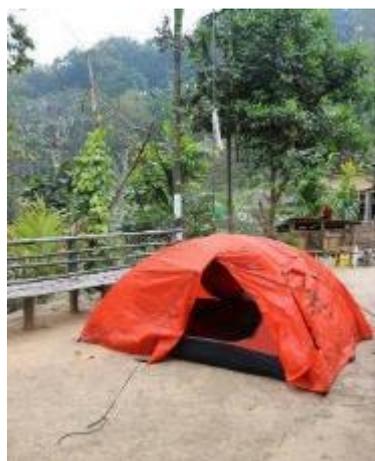


Plate 5: Sleeping tent provided by Forest-PLUS to KVEDC, Kitam, South Sikkim

3.5.3 SUPPORTING ACTIVITIES

Although the primary focus of the ALPP was on piloting institutional mechanisms to reduce HWC, a number of other supporting activities were undertaken to mitigate HWC in both the pilot sites. As habitat loss and degradation is one of the major reasons for HWC, the first set of activities focused on habitat improvement for wildlife. The second set of activities focused on trying some innovative measures to prevent wild animals from venturing into human habitations and agriculture/horticulture fields.

3.6 HUMAN-WILDLIFE CONFLICT MITIGATION THROUGH HABITAT IMPROVEMENT

3.6.1 CONSTRUCTION OF WATER HOLES

In order to improve the habitat in the selected PAs, Forest-PLUS, in consultation with the community, EDC, Panchayat and the FEWMD, constructed water holes to benefit the wildlife. In Kitam-Manpur GPU total of five water holes were constructed with help of EDC and FEWMD frontline officials.



ROSHAN KAUSHIK



ROSHAN KAUSHIK

Plate 6(a) and 6(b): Water hole constructed with the support of Forest-PLUS in Aellykhet, Kitam, South Sikkim

In Dolepchen GPU, Forest-PLUS provided support for construction of nine dry wall structures to protect water sources. Further, additional supportive biotic measures were also undertaken to enhance water conservation.



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Plate 7: Forest-PLUS is providing assistance to strengthen water sources in Dolepchen GPU, East Sikkim

3.6.2 CONSTRUCTION OF SALT LICKS

One of the measures to improve the habitat within the PAs is to construct salt licks. Salt licks provide certain essential nutrients to wild animals, especially during the harsh winters. Forest-PLUS, in association with communities, EDC and FEWMD frontline officials, constructed two salt licks in Kitam-Manpur GPU and ten in Dolepchen GPU.



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Plate 8: Salt lick constructed with the support of Forest-PLUS in Kitam, South Sikkim

3.6.3 IMPROVED DRYER FOR LARGE CARDAMOM

To reduce the HWC, it is important to minimize the direct encounter of humans and wildlife by decreasing the dependency of humans on PAs. Further, activities that contribute towards ecosystem degradation, such as unsustainable fuelwood extraction from forests, need to be limited.

In Dolepchen GPU, most of the farmers are involved in cultivation of large cardamom. The drying of large cardamom requires a huge amount of fuelwood, a significant proportion of which is extracted from nearby forests. This not only degrades the forests but also makes the collectors vulnerable to direct encounter with wild animals. To overcome this problem, Forest-PLUS provided an improved dryer for large cardamom in Dolepchen GPU for demonstration purpose. It is expected that this would result in considerable reduction in fuelwood consumption for processing large cardamom.



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Plate 8: Forest-PLUS provided an improved dryer for large cardamom in Dolepchen GPU, East Sikkim

3.6.4 HABITAT IMPROVEMENT THROUGH PLANTATION

Through an innovative private sector financing mechanism, funds have been leveraged for planting 50,000 saplings of native species in Dolepchen, for improving the habitat around Pangolakha Wildlife Sanctuary. Forest-PLUS acted as a facilitator between a private sector donor and a local civil society group (Youth Development Society of Sikkim) in Dolepchen. Overall, INR 2.25 million were leveraged through the private sector for supporting the plantations of native species at Dolepchen and two other sites in Sikkim.

3.7 HUMAN-WILDLIFE CONFLICT MITIGATION THROUGH INNOVATIVE BARRIERS

To prevent the movement of wild animals towards human habitations and agriculture fields, a few innovative barriers were also tried under the ALPP.

3.7.1 INSTALLATION OF ACOUSTIC DEVICES

Forest-PLUS installed acoustic devices in farmlands around Pangolakha Wildlife Sanctuary to reduce crop raiding by wild animals.

In Chandaney area of Dolepchen, two acoustic devices, a 'Pest Out TM-315 Monkey Repeller' and a 'Grus Q3' were successfully installed to ensure the crop protection by deterring wild animals from entering into the nearby crop fields. The EDC, with the help of field volunteers, conducts periodic surveys to check the effectiveness of the devices.



BASANT SHARMA

Plate 9: Forest-PLUS provided acoustic devices to minimize HWC in Dolepchen GPU, East Sikkim

3.7.2 REPAIRING OF SOLAR ELECTRIC FENCE

Forest-PLUS provided assistance in repairing the existing solar electric fence installed by the villagers with the help of FEWMD along the boundary of Middle Kitam and Lower Kitam along the ridge up to Manpur stream. The repairing of solar fence included clearance of brushwood along the existing solar fence, pruning of trees and shrubs that were damaging the fence, and replacement of missing and damaged fence posts.



ROSHAN KAUSHIK

Plate 10: Forest-PLUS is providing assistance for repairing of solar fence in Kitam, South Sikkim

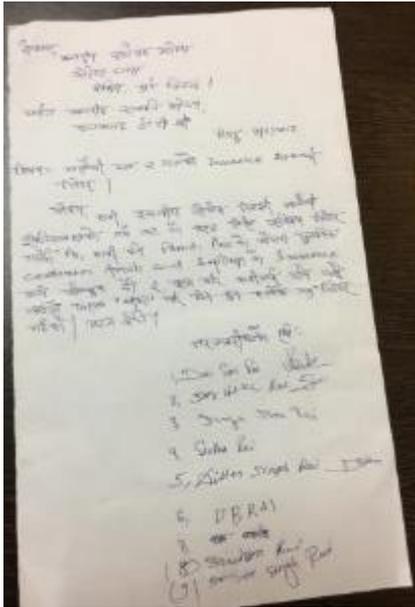
4.0 LEARNING

The increase in the spread and the frequency of human-wildlife conflict has resulted in more frequent crop damage, which is negatively impacting the livelihoods of the forest-fringe communities near Pangolakha Wildlife Sanctuary and Kitam Bird Sanctuary.

The ALPP demonstrated that these issues can be tackled through innovative community-based institutional mechanisms along with other measures such as habitat improvement and installation of innovative barriers near the human habitations and fields.

The key learnings that emerged from the ALPP implementation experience are listed below:

- With the help of a facilitator (Forest-PLUS in this case), different stakeholder groups can come together to collectively analyze problems associated with HWC and come up with innovative solutions, which often build on local traditions and institutions. For example, the detailed operational rules of the community-based insurance scheme in Dolepchen were developed by the local people themselves.
- HWC is a complex issue. A range of interventions – community-based and government; institutional and physical – will be needed to address it. The community-based institutional measures could supplement and complement existing official mechanisms, such as compensation. The pilot also highlighted the need to strengthen and streamline the existing compensation mechanism in terms of its efficiency and efficacy.
- The experience of Kitam demonstrated the potential of mitigating the costs of conservation through its benefits, especially from nature-based tourism. The key to success is to ensure that there is a link between the two, i.e. that the entire costs are not borne by one set of persons (for example, forest-fringe dwellers) and the entire benefits accrue to another set of persons (for example, tour operators). The formal agreements such as the memorandum of understanding signed by the key stakeholders in Kitam can help in resolving this issue.
- The mitigation measure of installing acoustic devices to repel the wildlife was found to be very effective. Among the two acoustic devices, 'Grus Q-3' was reported to be effective as it covers large area while the 'Pest Out TM-315 Monkey Repeller' that requires electricity to operate is best suited for individual household or farm-level use.
- The involvement of the private sector for habitat improvement measures in Pangolakha Wildlife Sanctuary demonstrated the potential for leveraging private sector finance for supporting plantation by community institutions.
- The replicability and scalability of the interventions demonstrated in the pilot sites is evident in the interest being shown by neighboring communities. For example, many more EDCs near the Pangolakha Wildlife Sanctuary Area have shown an interest in adopting measures such as the community-based crop insurance scheme (see Plate II). There have also been requests for installation of more acoustic devices.



SUSHIL SAIGAL

Plate 11: Letter from a neighboring village of Dolepchen requesting Forest-PLUS to initiate a community-based crop insurance scheme in their village as well

- The involvement of local institutions such as EDCs is the key to long-term success of the interventions. The active involvement of GPUs is also a must. The initiative of involving community institutions such as EDCs to undertake the mitigation measures for habitat improvement created a sense of belongingness among them. This has also strengthened the relationship between communities and FEWMD, which is a positive development for both conservation and sustainable livelihoods.

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ANNEXURE

Memorandum of Understanding between EDC, KVEDC and GPU of Kitam

Memorandum of Understanding

We [Kitam Eco-Development Committee, Kitam Village and Ecotourism Development Committee and Kitam-Manpur Gram Panchayat] acknowledge that both sustainable natural resource management and sustainable livelihoods are essential for the long-term well-being of the local communities as well as the wider society.

Protected Areas (PAs) provide a range of positive benefits for stakeholders at different levels and scales – from local to global. However, they also have some costs (negative impacts) such as crop raiding by wild animals, which are mostly borne by the PA-fringe communities. The negative impact on the people's livelihood adversely affects their attitude towards conservation. Human-Wildlife conflict thus undermines the well-being of the communities as well as the conservation goals.

Nature-based tourism is one way by which local communities can benefit from the PAs. The revenue generated from nature-based tourism could be used to offset a part of the costs borne by the local people. It is one of the most cost-effective and sustainable ways to compensate the negative impacts of the PAs through their positive impacts.

The Kitam Bird Sanctuary has a high potential for nature-based tourism, which could help in compensating the loss suffered by the local people due to crop raiding. The Forest-PLUS program has provided camping tents to help the local community in realizing the nature-based tourism potential.

As a first step towards initiating the process of mitigating negative impacts of PAs with their positive impacts, we agree to utilize 50% of the revenue generated from the camping equipment provided by Forest-PLUS for mitigating the local people's loss due to crop raiding by wild animals. A detailed plan to share revenue among the affected families will be worked out through consensus among the three parties to this Memorandum of Understanding.

If successful, we plan to take this further by extending the revenue sharing to other nature-based activities like homestays, bird and butterfly watching, trekking, and rafting.

Agreed on (date)..... 18/09/2017

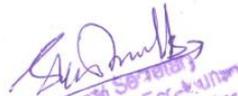


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B. B. Pradhan
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Name.....
(On behalf of the Kitam Eco-Development Committee)



Anil Kumar
Secretary
Kitam Village & Ecotourism
Development Committee
South Sikkim

Name.....
(On behalf of the Kitam Village and Ecotourism
Development Committee)



Name.....
(On behalf of the Kitam Bird Sanctuary,
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