

Mid-term Project Report

Project:- Establishing community-based conflict mitigation strategies and socio-ecological research to promote elephant-human coexistence in northeastern India

Rufford Small Grant awardee- Sayan Banerjee (year 2023)

Project ID- 41057-2

Institution- National Institute of Advanced Studies, Bengaluru

Date- May 15, 2024



Contents

Content	Page no.
Work Status	3-4
Status of Objectives	4-5
Status of Activities	5-7
Challenges Faced	7-8
Accounting	8-9
Way Forward	9

Work Status

Work commenced as planned in November, 2023 at the Dhansiri Forest Division at Udalguri district, Assam. During the one-month reconnaissance period, I set up the field station and streamlined field logistics. I visited the office of the divisional forest officer to discuss this new project and seek support from the department. Next, I along with my old field assistants visited the villages which I had been acquainted with since the previous project to discuss the activities in this new project. We conducted some unstructured interviews to get updated about the latest status of human-elephant interactions in the area. We understood the findings from the previous project related to nature of elephants' visitation to the area and people's perception towards elephants remain similar. However, due to various kinds of barriers that have come up recently in the landscape, such as large solar fences, new factories and tea gardens, the damage by elephants are now concentrated around a smaller space.

During December, 2023- April, 2024, several anti-depredation squads were strengthened by providing them high-powered flash lights (total 50 numbers). Also, material for crop guarding shelters have been procured and these structures will be erected after August, 2024, when the farmers start to keep vigil for elephants at their farmlands. Community-based surveillance of reducing unsafe, risky behaviours by people towards elephants were piloted where people would report such activities and counsel the other villagers who showed such behaviours. This proved to be a difficult task as it tended to create a difference among people in the same village. However, we would continue this activity and we hope that if this activity reduces certain risky behaviours and probable unwanted incidents of death and injury, then the goal will be fulfilled. Along with the forest department and villagers, we started joint monitoring of lethal electric fences. However, this activity will be more frequent during the farming season (August-December) as currently, during the non-farming season, lethal direct fences generally are not installed.

We carried out semi-structured interviews to understand people' perspective of installing non-lethal solar electric fence to reduce damages of elephants. We found that usage of lethal fencing has decreased to great extent, which is positive sign and instead people, either individually or in small groups are buying solar electric fence kits to reduce damage to mainly to their homestead and cash crop fields. Few larger fences were also surveyed which were put up surrounding the village encompassing paddy farms, homesteads and cash crop fields. The knowledge and motivation for such installations were mostly received from the positive results observed from certain villages in the landscape which were helped by the external NGOs to install solar electric fences. However, the fence materials bought by villagers seemed to be of inferior quality and so, it is difficult to say if these fences will continue to operate properly or not. Their knowledge of upkeep of these fences were also less. For the time being, these fences have been working well and were able to restrict elephants to move into people's properties. Other social research activities to understand people's risky behaviour towards elephants are going on and producing interesting insights.

We are developing various outreach materials for promoting locally appropriate ways to live alongside elephants. We installed metal signages at critical areas where elephants regularly cross roads and often pedestrians or cars come in close contact with them. One multi-page booklet is being prepared for distribution which would contain information on solar electric fence

installation and maintenance, procedure to file compensation claims and do's and don'ts around elephants. One street play is also being developed.

Research work on elephants' foraging ecology has also been started. During the dry season and unusual heatwave situation during January- April, elephants stayed away from the landscape as there were limited water available. They preferred to stay within forested areas and mostly ventured across the international boundary of Bhutan. They have started to come more frequently in early May, after few days of rainfall. We will continue our planned activity for the next coming months.

Status of Objectives

The project aimed to combine research and action to promote human-elephant coexistence in the non-protected, mixed-use, human-dominated landscape of Udalguri district, Assam. In this context, the study has four broad objectives which are to:

1. Establish community-centric, conflict mitigation strategies to reduce crop- and asset losses, as well as human and elephant deaths in Udalguri district;
2. Develop textual and audio-visual storytelling materials to promote locally appropriate ways of human-elephant coexistence in the region;
3. Document elephant behavioural ecology, including their ranging, movement and foraging behaviour, and spatial and temporal patterns of their food preferences; and
4. Understand people's capabilities to be tolerant, as well as develop and adopt appropriate conservation behaviour towards the elephants.

The status of the objectives and related remarks are given in the following table:

Sl no.	Objective	Status	Remarks
1	Establish community-centric, conflict mitigation strategies to reduce crop- and asset losses, as well as human and elephant deaths in Udalguri district	Ongoing	High powered torchlights were distributed to anti-depredation squads. Materials have been procured for crop guarding shelters. Surveillance by community members for reducing risky behaviours towards elephants are going on.
2	Develop textual and audio-visual storytelling materials to promote locally appropriate ways of human-elephant coexistence in the region	Ongoing	Metal signages at critical locations where elephants regularly cross and come in contact with motorists or pedestrians were put up. Other outreach material, both textual and audio-visual are being developed.
3	Document elephant behavioural ecology, including their ranging, movement and foraging behaviour, and spatial and temporal patterns of their food preferences	Ongoing	Due to elephant absence, this was not started till April end. The elephant herds have started coming in May and the work will be continued.

4	Understand people's capabilities to be tolerant, as well as develop and adopt appropriate conservation behaviour towards the elephants	Ongoing	Survey on people's motivation towards installing non-lethal/ lethal electric fencing has been done. Other social research on understanding people's risky behaviour is going on.
---	--	---------	--

Status of Activities

Different activities were planned with specific time schedules. The time schedules are strictly not followed due to multiple interruptions in the field which result in difficulty in planning proactively. The status of the activities and their probable timelines are as follows:

Task Description	Initial timeline	Status	Probable final timeline	Output	Remarks
Reconnaissance visit	November, 2023- December, 2023	Finished	NA	1. Streamlining logistics 2. Establishing contacts with authorities 3. Recce to villages	1. Field has been set up and field logistics has been taken care of. 2. Recce done to more than 20 villages 3. Data from forest dept collected
Observations of elephant behavioural ecology	December, 2023- September, 2024	Ongoing	September. 2024	1. Understand what elephants are foraging on, seasonality of foraging and the quality of foraging	1. Prepared checklist from people's knowledge about what elephants are foraging on outside forest areas
providing high-powered torchlights and building low-cost crop guarding shelters	December, 2023- September, 2024	Ongoing	August, 2024	1. Distribution of high-powered torchlights done 2. Materials for crop guarding shelter procured	1. The torchlights are working effectively. 2. The shelters will be installed in August, 2024
Community-based surveillance and reduction of unsafe and risky behaviours,	December, 2023- September, 2024	Ongoing	September, 2024	1. Identification of risky behaviours by community members of other villagers.	

directed by people towards elephants				2. Community-based counselling of those showing risky behaviours	
Regular joint-monitoring by community members and forest department personnel to detect elephant-lethal, direct-current fencing	December, 2023-September, 2024	Ongoing	September, 2024	1. Identification of lethal electric fencing 2. Uninstallation of lethal fences and counselling of villagers	Almost no such fence was detected during dry season. More patrolling will be done during the farming season
Producing leaflets and flex posters, designed to inform people about procedures to access crop and asset damage compensation, installation of low-cost solar fencing, and adoption of safe behaviours towards elephants	December, 2023-September, 2024	Ongoing	September, 2024	1. Leaflets are being designed	Dissemination will be done closer to the farming season
Metal signages, depicting elephant movement zones and crossing paths, will be designed and installed at selected critical locations	December, 2023-February, 2024	Finished	NA	Metal signages installed at critical locations	
Audio-visual awareness materials to promote human-elephant coexistence will be designed	December, 2023-September, 2024	Ongoing	September, 2024	One street play is being developed	The play will be performed closer to the farming season and festivals

and distributed through street plays, performed in the study villages					
Semi-structured interviews to examine drivers of adoption of lethal direct-current fencing or non-lethal solar fencing by people	February, 2024- March, 2024	Finished	NA	1. Understanding of knowledge, motivation and governance of non-lethal/lethal electric fences	
Semi-structured interviews to examine drivers of safe or risky behaviours, displayed by people towards elephants	March, 2024- June, 2024	Ongoing	July, 2024	1. Questionnaire preparation going on.	Delayed due to general elections
Semi-structured interviews to examine drivers of unnecessary disturbance behaviour, often directed by young human adults towards elephants	April, 2024- May, 2024	Ongoing	July, 2024	1. Questionnaire preparation going on.	Delayed due to general elections
Data analysis, dissemination of key findings and strategising future course of action	August, 2024- October, 2024	Not started	October, 2024		

Challenges Faced

Two major challenges were faced during the first half of this project. First, due to long dry spell and absence of surface water, the elephants were absent from the landscape and therefore, the study on foraging ecology could not be started on time. Therefore, this objective will take longer than expected. Second, general elections are going on several phases in India encompassing months of April and May and so, the model code of conduct is in place since first week of April. This will continue till the first week of June. Apolitical external agents such as NGOs or researchers are not supposed to actively work with the communities as the

work can be rendered political. Therefore, significant time was lost and several objectives, especially social research-based objectives had to be delayed.

In this regard, it seems the project would be benefitted with an extension, by 3-4 months. This will majorly cover the research on elephants' foraging ecology which will encompass the complete farming season and some part of the dry season.

Accounting

A total of GBP 6,000 was received and GBP 3,840.4 has been spent.

Head	Quantity	Unit	Rate (GBP)	Total (GBP)	Budgeted amount (GBP)	Budget difference (GBP)	Remarks
Renting field station	6	/month	30	180	150	(+30)	Rent increased due to inflation
Food and ration	6	/month	37	222	120	(+102)	Increased due to joining of a field researcher
Renting two wheeler	6	/month	50	300	300	0	
Fuel cost for two-wheeler	6	/month	28	168	150	(+18)	Increased due to joining of a field researcher
High powered torchlight	50	/piece	12.8	644	450	(+194)	Cost increased +better quality torchlight selected
Materials for crop guarding shelter	18	/shelter	33	594	500	(+94)	No. of shelter increased due to demand from communities
Hiring project assistant	2	/month	100	200	200	0	
Equipment-Projector	1	/piece		225	200	(+25)	Opted for better quality
Printing metal signange	20	/piece	34.2	684.4	600	(+84.4)	Opted for better quality
Payment for survey enumerator	300	/survey	0.5	150	150	0	More survey will be conducted
Stationary				8	50	(-42)	This will be used for planned research activities in the next three months
Community meeting cost	5	/no.	25	125	50	(+75)	Large group meetings were

							conducted, so food cost increased
Per diem for PI	6	/month	50	300	300	0	
Contingency				40	30	(+10)	Used for buying camera battery, tools for dung study of elephants
Total				3840.4	3250	(+340.4)	

Way Forward

The objectives of the work remain unchanged and work will be carried out as planned. The next few months will be utilised for remaining social researches and understanding elephants' foraging ecologies. Closer to the farming months, we will carry out the remaining action-oriented work. As mentioned earlier, significant time was lost, one due to absence of elephants and the other due to general elections. While we can adapt to the second cause, we will need more time for the research on elephants' foraging ecology which will encompass the entire farming season and a part of dry season. For this, 3-4 months extension will be necessary over the initial deadline of October, 2024.

Field photographs



Fig. 1 Meeting with local community members and local forest department personnels



Fig. 2 One member from the local community teaching others on how to maintain solar electric fences better



Fig. 3 Metal signages being put up at critical locations



Fig. 4 Close up of the signage



Fig. 5 Metal signage at a busy juncture of elephant crossing point and main road



Fig. 6 High powered torchlight for anti-depredation squads



Fig. 7 Distribution of torchlights to anti-depredation squads