Final Evaluation Report

Your Details	
Full Name	Sayan Banerjee
Project Title	Understanding elephant-human interaction patterns in a human-wildlife conflict landscape in north-eastern India
Application ID	31668-1
Date of this Report	15/07/2022

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
General behavioural activities of elephants in a mixed-use, human-dominated landscape			■	Ethogram was constructed. Analysis of time activity budget is ongoing.
Behavioural responses of elephants to human presence and activities		■		One seasons behavioural observation was done. For holistic understanding and standardisation of behavioural responses, another season is needed. This is ongoing and will be finished by this year.
Patterns of livelihoods and lifestyles of the local human communities in the landscape			■	
Spatial and temporal patterns of human-elephant conflict across the landscape			■	
People's perceptions, attitudes and behavioural actions towards elephants			■	Further data analysis will be done

2. Describe the three most important outcomes of your project.

The three most important outcomes of the project are as follows:

a). Identification of movement pattern of elephants in the landscape: I could show that elephants do not move randomly in the landscape; instead, they have specific entry/exit points and pathways to traverse the landscape. This is important for conflict mitigation and elephant conservation from a social engineering perspective. Such pathways and points which are very close to human habitation needs to be closed or vigilance need to be increased at those areas. On the other hand, pathways which are connecting conduits between the forest, river and tea estates need to be ecologically enhanced to facilitate elephant movement.

b). Root cause analysis of people's perspective of conflict: People were found to be tolerant of elephants due to cultural underpinnings. However, the sense of conflict was heightened due to perceived notion that authorities who are responsible for managing conflict were inefficient and insensitive to the plight of the people. This needs to be addressed through proper communication between people and

authorities, timely disbursement of compensation and quick response during elephant related damages.

c). Baseline documentation for future elephant conservation strategy: Elephant conservation strategies cannot be haphazard and needs to be backed by evidence. I documented land use changes, people's preferred livelihoods which are not conducive to elephants. The future strategy has to multiple-stakeholder based, which will look into stoppage of large-scale change of forest areas, legal backing of forest areas, development of high-value elephant friendly livelihoods, etc.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

The biggest difficulty experienced was multiple waves of COVID-19 across 2020-2022. During the onset of COVID-19 in 2020, the project had to be postponed till 2021. During the delta and omicron wave of COVID-19, again the project activities were postponed. Since the work depended upon patterns of elephant visitation to the landscape, the project activities were redesigned accordingly, and the project lasted for months more than anticipated. However, due to Rufford Foundation's approval, I could manage to cover almost all the objectives. The other difficulty was also a natural one. Unprecedented rainfall took place in the study landscape from March-June 2022 which produced a flood-like situation. Work hampered at that time as well. However, significant data was collected by that time and only the dissemination of findings among the villages was hampered. This I plan to continue now, after the heavy monsoon ends.

4. Describe the involvement of local communities and how they have benefitted from the project.

The local communities were involved at every stage. To track elephant movement and conflict incidences in the landscape, a network of more than 60 community volunteers were created across 32 villages. They were the bedrock of this project. I often consulted community members individually or in groups to discuss locally effective conflict mitigation strategies and livelihoods. I also worked with the women self-help groups to check feasibility of livelihoods and to understand differential impacts on women due to conflict. Local community members were positive about the project since this is the first time a project of such kind happened at that place focussing on the problem of human-elephant conflict. The involvement of communities also resulted in building capabilities for negotiation with external agents for erecting solar fences around villages.

5. Are there any plans to continue this work?

This is a long-term project that I have envisioned, and the next stage will involve continuation of some basic research and initiation of conflict mitigation strategies. The work will also essentially target teenagers and early adults for awareness generation activities as they have been found to be the age group who regularly irritate elephants through various means at the tea estates.

6. How do you plan to share the results of your work with others?

The findings will be shared through village meetings and erection of flexes and distribution of leaflets. The elephant movement maps will be shared with forest department, district administration and tea estate management. For academic audiences, peer-reviewed research articles will be developed. To reach larger audiences, popular articles will be developed for print and web-media based platforms.

7. Looking ahead, what do you feel are the important next steps?

The important next steps are as follows:

1. Securing high-conflict villages either through solar fencing or increased vigilance.
2. Vegetation development at pathways and patches used by elephant outside the forest area.
3. Diet and vegetation analysis of elephants to understand food intake patterns vis-à-vis food availability.
4. Engagement with teenagers and early adults to reduce leisure-based elephant chasing activities.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

The Rufford Foundation logo has been used all kind of reports and presentations that happened at my institute and elsewhere. The reports which will be submitted soon to the various stakeholders will have the logo. During the upcoming village meetings for disseminating project findings, the logo will be used for different banners and leaflets. Since, this project was unique at this landscape, people were very pleased to know that an international foundation such as Rufford Foundation was interested to alleviate the problem they are facing.

9. Provide a full list of all the members of your team and their role in the project.

Sayan Banerjee: Primary investigator of the project

Dibakar Nayak: Local Community consultant and field coordination

Ruby Karmakar, Deepali Sawra, Uma Chetry, Rita Basumatary, MAnab Deka, Ranjan Kumar, Jyotish Kalita, Banajeet Behera: Data collection and survey

Anindya Sinha: PhD Supervisor

A network of more than sixty individuals as volunteers for providing elephant related information

10. Any other comments?

This is a long-term project. It will be great to again funded by Rufford Foundation for continuation of this work.