

## Final Evaluation Report

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Your Details	
Full Name	Samya Basu
Project Title	'Living with Elephants': Conservation of Endangered Asian Elephants & threatened corridors through Human-Elephant Interaction mitigation in West Bengal, India.
Application ID	23039-C
Grant Amount	£14,985
Email Address	samyabasu@hotmail.com
Date of this Report	25 <sup>th</sup> February 2020

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
<p><b>1.1 Networking and Collaboration:</b>            We will set up network with IUCN-Asian Elephant Specialist Group, Govt agencies, Project Elephant, and NGOs, Institutions, media and stakeholder groups.            A special collaboration with academic institutions will be set up to encourage students to take part in elephant conservation project.</p> <p><b>1.2 Inception meeting and press meet:</b> An inception meeting will be organized in collaboration with <b>Indian Museum, Kolkata (Ministry of Culture, Government of India)</b>.            The representative from policy makers, government departments, stakeholders, media will be invited there to identify their roles.</p>				<p>We have approached all the listed institutions for networking, but we have not received responses as yet.</p>
<p><b>2.1 The enumeration of elephant population and develop an 'Elephant Population Distribution Map' of the entire home range and review the existing 'Conflict' intensity map:</b> Elephant population in project site increased by 90% during last 10 years and has divided into several sub-groups. To develop an effective management plan we need to enumerate these sub-groups and establish their home ranges.            As suggested by Indian Government, Total Count by 2km transects or fixed point/ waterhole count will be done. We will also do 50% Block-Sampling and Dung-Decay Rate survey for enumeration of the elephant population in</p>				

<p>sample areas focussing on the corridors.</p> <p><b>2.2 Elephant habitat and corridor forest survey and restoration programme:</b> We will study the fodder status, water and saltlicks availability, anthropogenic pressure on elephant corridor forests which will be documented for mapping. The fodder study will be done by QUADRAT method. We will also initiate the ecological restoration of the habitat through fodder plantation etc.</p>				
<p><b>3.1 Stakeholders' attitudinal survey, village volunteer's orientation &amp; capacity building:</b> Sample villages from the interaction zone will be chosen to do capacity building programme to mitigate human-elephant hostility. We will extend the project area in all interaction prone districts of Southern West Bengal. In village education programme AV (movie and PPT) show for idea sharing will be conducted for villagers. We will also arrange participatory awareness programme through seminar/workshop and photography /painting/ literature competition as part of education programme and develop education pack and documentary for distribution along with communication and publicity materials. We will also encourage young conservationist through institutional participants to enhance research capacity by volunteering.</p> <p>We intend to implement new ideas developed during previous years study by alteration or modification of traditional mitigation policies (crackers, fire torches etc) by modern technologies like alternate livelihood, crop alteration, save period of cultivation, unpalatable long-awned (bristles) paddy, chilly</p>				

<p>etc. through training and field verification.</p> <p><b>3.2 Anti-depredation Squad (2<sup>nd</sup> in the area by RSGF support) formation in high intensity HEC zone:</b> We will also form 'Anti-depredation Squad' by local villagers in strategic locations and one mobile unit with vehicle support to monitor and secure safe passage of elephants during migration. The training will be conducted by former Forest Ranger of Elephant Squad, West Bengal Forest Department.</p>				
<p><b>4.1 Dissemination Workshop, press meet and project report publication:</b> We will do pre-mid-post project attitudinal survey and analyse the Human-Elephant 'Conflict' database to understand the project success. The findings and outcomes with recommendations in a form of report will be circulated to concerned authorities and shared in project website. A dissemination workshop and interactive session will be organised for sharing the ideas derived from the project with stakeholders and policy makers.</p>				

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

As stated in the proposal, the elephant migration corridor forests in project site are a mosaic of human settlements, crop fields and forests, which threaten the life of endangered species. In 2019, six elephants died due to electrocution. Five elephants died when they met sagging high-tension electrical wires and one died in a snare in the form of a high voltage electric fence. There were unnatural deaths of two elephants recorded in 2020. We are trying to find out a solution to save elephants from electrocution by sagging high-tension electric wires.

**3. Briefly describe the three most important outcomes of your project.**

- A. Due to continuous monitoring and a community awareness programme, we achieved zero retaliatory killing of elephants in 2018.

- B. Successful test of effectiveness of alternate ways to mitigate human elephant 'conflict' like trip alarm, early warning system through SMS, installation of underground elephant proof granaries, effectiveness of bee sound and chilli fumes, etc. as deterrents.
  
- C. We have already reached more than 54,000 stakeholders with elephant conservation messages.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project.**

Ninety-three villages were covered so far and our voice on elephant conservation has reached approximately 37000 people. These people/villages are enjoying the benefit of early information sharing system (alert SMS) through SMS system and through capacity building programme on HEC mitigation.

We have offered different technical knowledge support and learning opportunities on human-elephant interaction for new and existing anti-depredation squad members. They learned to make and install an early-alarm system, trip-alarm, etc. The villagers were also offered knowledge on alternate livelihoods, crop alteration, safe periods of cultivation, unpalatable long-awned (bristles) paddy, chilly etc., and elephant deterrents like chilli fumes, chilli bomb, etc. through training and field verification.

Apart from that the following units also benefitted from the project:

Unit	Activities
Educational Institutions: 29 units	Support to underprivileged children by giving school stationary, awareness programme, sit and draw, etc. Interaction/discussion and film screening on elephant conservation.
Local clubs/community offices /village /NGOS: 30 units	Discussion on village specific HEC problems and mitigation ideas.
Anti-depredation Squad: 137 members	Discussion on their area specific problems and distribution of equipment.
Forest Rangers and Deputy Forest Rangers: 23	One-to-one discussion on area-specific problems, joint field visits, village protection and managing anti-depredation squad in the field.

Kids and public sensitisation programme (according to age group):

Age Group (both gender)	Unit	Number	Activities
Up to 6 years	Primary School	2239	Support to underprivileged children by giving school stationary, awareness

			programme, sit and draw, etc. Film screening, awareness programme, sit and draw, etc.
14 to 18 years	Senior School	14983	Support to underprivileged children by giving school stationary, awareness programme, sit and draw, etc. Interaction and film screening on elephant conservation.
Above 18 years	Colleges Local club NGOs	37000 (approx)	Discussion on village specific HEC problems and mitigation ideas.
Above 50 years	Village		Discussion on elephant migration calendar and crop alteration ideas.

**5. Are there any plans to continue this work?**

We are continuing the work with some long-term and some short-term objectives and applying for support from different grant-giving organisations. Apart from that we have raised some funds through different fundraising activities like camps, consultancy etc and continuing the same for self-sustainability of the conservation project on elephants.

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

To understand the project impacts on community we are analysing the human-elephant conflict database to understand the project success. The findings and outcomes with recommendations in a form of report will be circulated to concerned authorities and shared in project website. A dissemination workshop and interactive session will be organised for sharing the findings with stakeholders and policy makers and a comprehensive management plan to secure inter-state elephant migration corridor mentioning the conflict management methods will be published.

Three media houses have already agreed to do a talk show and story on the project findings and recommendations.

**7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?**

Proposed start date: 15<sup>th</sup> September 2017  
 Proposed end date: 15<sup>th</sup> November 2018  
 Proposed length: 1 year 2 months

Actual start date: 15<sup>th</sup> September 2017  
 Actual end date: 31<sup>st</sup> December 2019

Actual length: 2 years 3 months 25 days

We have continued the project for extra period with proper acknowledgement due to extension of some high priority works on human-elephant conflict mitigation. The extra period of the project was self-financed (fund raised by camps, consultancy etc).

**8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Project personnel	£3580	£3580		
Inception meeting, Dissemination & Press meet	£550	£490	-£60	
Accommodation and meal	£650	£680	+£30	
Transport	£2800	£2890	+£90	
Equipment	£980	£926	+£54	
Habitat restoration programme	£500	£470	-£30	
Community sensitization and Anti-depredation Squad (ADS) formation:	£3000	£3137	+£137	
Publication of Resource materials, publicity and communication materials	£2100	£2156	+£12	
Miscellaneous & consumables	£825	£592	-£233	We have balanced the excess cost under other heads from this budget head
<b>TOTAL</b>	<b>14985</b>	<b>14921</b>	<b>+65</b>	

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

This project is an initiative to secure and restore degraded elephant corridor habitat in southern West Bengal. These corridors link the state of Jharkhand with West Bengal as home range of eastern Indian population of elephants. The corridors are less explored and need to be studied to make a proper habitat management plan. The findings and recommendation of the project will help the forest managers and stakeholders for better management of elephant habitat. Apart from these inter-state corridors, there are mosaic landscape of forest patches and human settlement in several miles of elephant migration passage which are highly fragmented due to

anthropogenic activities and development works. We will also study those routes where railway tracks are passing through elephants' routes/habitats and set up a monitoring team with village people.

The dimensions and magnitude of the human-elephant conflict is changing rapidly in the area. We have plan to raise funds and apply for funds from funding agencies to implement all recommendations properly in the field.

We are also finding solutions to minimise accidental death of elephants due to railway tracks and electrocution by sagging high-tension uncovered electric wires.

**10. 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?**

Yes, we have used Rufford Foundation logo in every material we have published for communication or awareness generation. He has reached in 97 villages of urban to rural West Bengal, government departments, media, and more that 1,00,000 people.

Times of India\_17th Dec 2018



## Expert visits S Bengal to take stock of man-jumbo conflict

**Sujay Khanra**

**West Midnapore:** With 15 human deaths in Jhargram and eight in West Midnapore so far this year due to elephant attacks, foresters have a tough job at hand to check man-elephant conflict. More so, because the Supreme Court recently banned the use of 'hulla parties' to drive away elephants.

A forest department official said that this year, too, 125 elephants from Jharkhand's Dalma have come to West Midnapore. Of them, 90 have been located in Odisha, while 35 are in Nayagram.

Recently, Samya Basu, a biologist with Asian Elephant Conservation Foundation, visited the area to interact with villagers and make them aware about the need to protect elephants' corridors and the apex court order.

Basu and his team members visited the forest of Araberi and collected footprints of elephants from there. Besides, they also took stock of the damages being done by the jumbos in the local villages. "We made the villagers understand that the forest department is just following Supreme Court order as far as use of hulla parties is concerned," said Basu.

Basu's efforts were supported by Rufford Foundation, International Elephant Foundation and People's Trust For Endangered Species among others.

Divisional forest officer, Rabindranath Saha, said that many villagers in the region have shifted to potato cultivation from paddy. "Still, the jumbos raid villagers' homes in search of paddy," he added.

Recently, CM Mamata Banerjee had instructed the foresters to take all steps to check human casualties due to man-elephant conflict.



This year, 125 elephants from Jharkhand have come to West Midnapore

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

**Ans. Samya Basu (Coordinator & Principal Investigator):** Along with 10 years experience in field of ELEPHANT CONSERVATION, in Mayurjharna Elephant Reserve, I have knowledge of elephant home range, survey techniques and community capacity building. I have worked as Principal Researcher and Coordinator of the project.

**Mr. Narendra Narayan Chatterjea (Co-Researcher, Full time):** Mr. Chatterjea is an eminent person in floral identification, survey and silviculture with 50 years of experience. He has participated in 43+ projects & field surveys. He is the author of more than 68 articles on floral diversity of India and co-author of the book 'Common Forest Trees'. He is the team member of this project since 2008.

**Pintu Mahato (Field Assistant: Full time):** Pintu Mahato is a tribal person living in project area and leads the Anti-depredation Squad in the area and he has a good knowledge of wildlife surveys, community interaction, and computer application will be preferred. He helped us in all local networking and other field works in the project.

#### **Consultants:**

**Dr. Atanu Kumar Raha (Consultant - Networking, conflict management, GIS mapping):** Dr. Raha is retired Principal Chief Conservator of Forests and done his Postgraduate in Forestry from Indira Gandhi National Forest Academy, Dehradun and M. Phil on Remote Sensing and GIS.

He looked after the planning and implementation of CSS-Elephant Project in West Bengal from 1994 to 2012. He has more than 15 years of experience in planning and management of endangered wild animals and the wildlife habitats, including preparation of Management Plans.

**Mr. Rabindranath Saha, IFS (Consultant- Human-Elephant Interaction, Stakeholders sensitization, Elephant habitat management)** Mr. Saha is an Indian Forest Service officer and presently working as Deputy Conservator of Forests. He was posted in proposed study area for more than 16 years and was the nodal officer for elephant management activities.

**Mr. Aditya Rajak, WBFS (Consultant: Anti-depredation Squad Training):** Mr. Rajak has retired as Forest Ranger of Directorate of Forests, Government of West Bengal in early 2018 and has more than 40 years of experience on Human-Elephant Interaction and managing the 'conflict'. He has managed the target elephant population for more than 30 years as a forest ranger and knows the corridors very well. He had trained several forest guards and villagers to set up Anti-depredation Squad in 'Mayurjharna Elephant Reserve'. He also helped in RSGF supported project since last 5 years.

**Mr. Kanchan Banerjee, WBFS (Consultant– Training of Anti-depredation Squad, low-cost crop guarding techniques):** Mr. Banerjee is retired Forest Ranger of Sukna Elephant Squad, Wildlife Wing, Directorate of Forests, Government of West Bengal and has more than 35 years of experience on Human-Elephant Interaction and managing the 'conflict'. He had trained several forest guards and villagers to set up Anti-depredation Squad in 'Eastern Dooars Elephant Reserve'.

**Volunteers/Interns:** volunteers were engaged from different collaborative institutions or NGOs at three months interval who got an opportunity to get field-based wildlife conservation experience and training.

## **12. Any other comments?**

Mayurjharna Elephant Reserve is the only elephant reserve in West Bengal for the eastern Indian population of Asian elephant. In last 7 years, the elephant population here increased by 64.41% (i.e. 118+ in 2012 to 194+ in 2017) and extended its home range in human-dominated landscape. These elephants are facing high level of conflict in human-dominated landscape. In last few years, more than seven elephants were killed by the railways tracks passing through the corridor forests and in 2019 (January to August) six elephants died when they came in contact with sagging high tension electrical wires and one died in a snare in the form of high voltage electric fence. We will do a regular monitoring to avoid the accidental death of elephants by electrocution. This will hopefully minimise the death by electrocution. But, to mitigate human-elephant conflict, there need to develop a proper management plan of HEC and habitat management, ecological restoration of degraded habitats, community attitude development for coexistence with elephants, etc. which need long term implementation period and also minimum 5 years to evaluate the impacts.

The sustainability of the project can manage the HEC more efficiently as the problem is ever changing and solutions need to be innovative. This project can be a significant one in Indian scenario to restore the existing elephant corridors in human dominated landscapes. Apart from that the project can be a good model for inter-state collaboration to give safe passage to the elephants.