INTERNATIONAL ELEPHANT FOUNDATION.ORG



FINAL REPORT

Living with Elephants

Supporting Human-Elephant Coexistence along Jharkhand-Bengal-Orissa migratory corridor

Project Period: 1st January 2018 to 31st December 2018 Date of report: 1st March 2019

Coordinator & Principle Investigator

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2. List the overall and specific conservation needs this project addressed.

Asian Elephant, 'National Heritage Animal' of India, is listed as Endangered in IUCN RDB and Schedule I species under Wildlife Protection Act, India (1972). Mayurjharna Elephant Reserve is the only elephant reserve in West Bengal for the Eastern India population of Asian Elephant. In last 5 years elephant population here increased by more than 69% (i.e. 118+ in 2012 to 198+ in 2018) and extended their home range in human dominated landscape and other non-forest areas.

These elephants are subdivided into 155+ migratory populations, 20-25+ Mayurjharna population and 23+ residential populations with several subgroups which make Human-Elephant 'Conflict' (HEC)

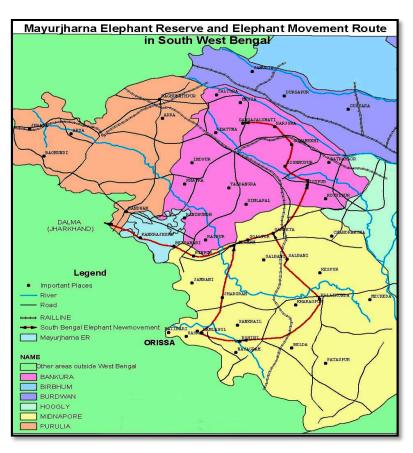
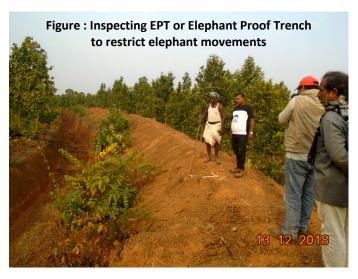


Figure : Map of Mayurjharna ER and elephant movement routes



mitigation more challenging. These elephants enter South-West Bengal (SWB) from neighbouring state of Jharkhand (JHK) through Mahilong (JHK)-Kalimati (WB); Chandil (JHK)-Matha (WB); Jhunjhaka (JHK)-Banduan (WB); Dalapani (JHK)-Kankrajhore (WB) corridors.

This population is <20% of the state elephant population, but claims more than 50-55% damages. We are trying to find out the ways to 'Conflict' mitigation and '0' retaliatory killing.

The project site includes above mentioned ecologically important inter-state elephant migration corridors which links Singbhum Elephant Reserve, Jharkhand and Mayurjharna Elephant Reserve, West Bengal (414.06sq.km.) and its extended 'Zone of influence' (1436sq.km).

Since July 2016 the West Bengal forest department blocked the elephant migration passage EPT and human-barrier with fire torches to delay the entry of elephant in West Bengal from Jharkhand for 'conflict' management. The decision caused limited resource availability to this long-ranging animal and also increased the depredation in the corridor-dependent villages. Our

primary objectives were to study the vulnerability of these inter-state migratory corridors and secure a safe and free passage for the migratory elephant herds and minimising the anthropogenic activities like timberpoaching, conversion of forest lands to domestic lands, installation of illegal energized fences or any sort of obstruction on the route of elephants.

This IEF project is an 'Emergency Initiative' to secure the safe and free



passage to the migratory elephant herds through existing Jharkhand-West Bengal-Orissa Inter-State Elephant Corridors. We studied the status of Orissa-West Bengal elephant corridor near Nayagram (West Bengal) and group composition of specific elephant herd using he route. We realised, apart from conservation research, there is a need of awareness, capacity building programme to reduce HEC and also implement alternate method to minimise the depredation in these migratory corridors dependent villages.



Figure: Two adult male elephants electrocuted during crop raiding

The project is important to save and restore corridor forests of elephants and mitigate Human-Elephant Interaction. We understand the need to develop updated 'Elephant Distribution Map and 'Conflict' Intensity Zone Map for better HEI management and upscale existing community sensitization programme for corridor dependent villages to adopt 'conflict' mitigation techniques and strengthen 'Anti-depredation Squad' (*called CRU: Conservation Response Unit*) to secure the safe passage of elephants.

3. Summarize the goals and objectives and describe any changes in goals and objectives from the original proposal.

Project Goals	Objectives	Changes
Find out the ways to secure the safe passage to migratory elephant herds through the existing inter-state corridors. Suggest suitable alternatives of traditional techniques for HEC mitigation to the stakeholders. We will also suggest alternative to secure alternative of inserting physical barrier on state border to restrict elephant migration.	Ecological restoration of elephant corridor forest, develop knowledge of 'Elephant Distribution Map' and 'Conflict Intensity Zone Map' and effectiveness of Community capacity building, resource management and human- elephant coexistence.	No Change. The project goals were achieved successfully in the project sites.
Develop a better elephant habitat management plan for ecological restoration of degraded corridor forests to ensure fodder, shelter and other resource availability for the elephant herds.	Re-assessment of ecological condition of elephant corridor forest & habitat management /restoration: Study of the Asian Elephant fodder status, availability of water & saltlicks, anthropogenic pressure on elephant corridor forests which will be documented for mapping. We will also initiate ecological restoration of the elephant habitat including reintroduction of elephant fodders which were identified during previous years study.	Presently, restoration of elephant habitat and reintroduction of elephant fodders has been done in some strategic locations where elephant herds stay for a longer time period. It is difficult to restore or monitor entire corridor forest with small team or limited funds. We are working with support from West Bengal Forests Department in some sample sites and expecting that the positive outcome will encourage them to replicate the same new areas.
Estimation of local and migratory	Migratory herds & residential	No Change.

Project Goals	Objectives	Changes
elephant population.	elephant population estimation	The objective was
The area specific depredation	& group composition study:	achieved completely.
management plan development	We intend to develop updated	Only the 'Elephan
and implementation in sample	'Elephant Distribution Map' and	Distribution Map' and
sites.	'Conflict Intensity Zone Map' to	'Conflict Intensity Zone
	help forest managers and policy	Map' review is needed
	makers to develop need based	as elephant movemen
	management plan.	calendar is completely
	To develop an effective	changed in 2017-18.
	management plan we need to	For example, the 60%
	enumerate all sub-groups and	to 80% of entire
	establish their home ranges.	elephant population
	During the survey, total number	stayed 290 days out o
	of elephants in a herd along with	295 days (from Apr
	the group composition will be	2018 to 15 th Januar
	recorded to understand the	2019) in Medinipu
	population trend and sex ratio.	Forest Division and the
		remaining populatio
		is migrating in entire
		range.
		It makes the HEO
		management more
		challenging to us.
We intend to change the	Community capacity building,	No Change.
retaliatory attitude for villagers	sensitization programme on	We achieved 100% o
and achieve '0' retaliatory killing	habitat protection, resource	objective successfully.
of elephant and minimise human	management and human-	
life and property damage by 50%	elephant coexistence:	
in coming 3 years.	Sample villages from 'High-	
	Moderate-Low Elephant	
	Distribution Area' with high	
	intensity of 'conflict' will be	
	chosen to do capacity building	
	programme to mitigate human-	
	elephant hostility. We intend to	
	implement new ideas developed	
	during previous years study by	

Project Goals	Objectives	Changes
	replacing traditional mitigation	
	policies by modern technologies.	
	We will facilitate training and	
	installation of different low-cost	
	crop/village guarding system in	
	sample villages for protection of	
	house and crop-field.	
	Village education programme will	
	be upscale to all interaction prone	
	districts of Southern West Bengal.	
	We will arrange participatory	
	awareness programme through	
	seminar/workshop/photography	
	/painting/literature competition	
	and develop education pack and	
	documentary for distribution	
	along with communication and	
	publicity materials.	
	We will also encourage young	
	conservationist to enhance their	
	research skills by volunteering. Orientation & training of 'Anti-	
	, , , , , , , , , , , , , , , , , , ,	
	depredation Squad': We will	
	organise orientation & training of	
	'Anti-depredation Squad' formed	
	during IEF project (2017) &	
	arrange training programme for	
	five more 'ADS' members formed	
	by villagers to mitigate HEC: We	
	will also strengthen 'Anti-	
	depredation Squad' in Dalapani –	
	Kankrajhore and other inter-state	
	migration corridor and one	
	mobile unit to monitor and secure	
	safe passage of elephants during	
	migration.	

Objectives	Specific actions taken to
The prime objective of the project is to find out the ways to secure the safe passage of migratory elephant herds through existing inter-state corridors and suggest suitable alternatives of physical barrier on state border installed by government of West Bengal to restrict elephant migration.	achieve that objective We have done a preliminary baseline survey of the corridors and interacted with the adjacent villages to conduct sensitization and capacity building programme. We have communicated with forest managers and local villagers to remove the blockage in elephant corridors and give safe passage to the elephant herds. Finally, the physical barriers from the inter-state border had been removed and the safe passage was given to the migratory elephant herds.
Study the elephant population, ecological condition, fodder availability etc. for habitat management and develop updated database and maps of the inter-state elephant corridors. We intend to develop the recommendation to mitigate human-elephant hostility, for example, we will develop a seasonal movement calendar of elephants which can be used for agricultural planning and protection.	We have enumerated the elephant population in project area through direct sighting. The enumeration of resident elephant has done but their home range marking is not completed yet. We have also documented the fodder species available in the corridor forests.
Intensive community capacity building in corridor dependant villages and awareness workshop to minimize the impact of elephant depredation and human- elephant hostility by 50% comparative to last years.	We have conducted several awareness programmes and capacity building programme for villagers. We have documented the resource dependency (i.e. NTFP, fuel-woods etc.) of villagers on elephant habitat. We have also identified the sample villages and introduced low-cost mitigation techniques like unpalatable crops, cash crops and fore-alarm system. They have adopted and successfully implementing of alternate ways to mitigate human-elephant 'conflict' like 'chili fumes' etc. to deter elephants from crop field. The study of bee sound effect as sound deterrent on elephant

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	herds also tried in the area but it need some		
	modification.		
	As per time line, the ERS will be active from the		
	monsoon crop season. In June, we have		
	communicated the local villagers, forest		
Set up a model 'Early Response Squad' to	managers and collaborative NGOs to identify the		
minimise the depredation during elephant	village to form the ERS. At present we are		
migration in human dominated landscape.	planning to conduct the training workshop for the		
	ERS members.		
	Finally, the name has been changed to		
	'Conservation Response Unit'.		
	To develop local conservation stewards we have		
	conducted several capacity-building programmes		
Develop opportunities for local students to	for local young people in colleges, high schools		
work as volunteers in the project.	and villages. They got a basic training on		
	monitoring the elephant population migration		
	and human-elephant hostility in their locality.		

5. Describe any activities that differ from the original proposed actions and explain the reason for the change.

The schedule was little bit disturbed for a month due to government electoral process in the project area.

Apart from that, this year the elephants followed a new route during their return journey to Jharkhand. The route has a good partially continuous forest of *Shorea robusta*. But, the local residents are too much curious about the elephant as they are seeing the elephant herd first time and they gathered in more than 8,000 during elephant driving, which make elephant driving more challenging. We included this new route into project site and started analyzing the collected data on vegetation, conflicts etc.

No other changes took place in activities and actions.

6. Describe the conservation outcomes for elephants, other wildlife, habitat and human communities, and list major findings and accomplishments to date.

The Asian Elephant is the most widely distributed subspecies, currently occurring in fragmented forest patches on the Asian mainland, from India and Nepal, east to Vietnam and Malaysia. A recent estimate for the global population size of the Asian elephant was 41,410 to 52,345 animals. The estimated population size in India 26,390–30,770 and the population size in project area is 198+ in 2017-18.

The villagers got an opportunity for alternate livelihood development to minimise corridor forest resource dependency. The project is playing an important role to protect and restore the degraded corridor forests and also to reduce resource dependency of villagers by promoting alternate livelihoods. The interactive and in-depth community awareness, sensitization and capacity building programme to reduce the intensity of conflicts is gradually changing the attitude of people and reached 'ZERO' retaliatory killing for last 2 years.

'Elephant Distribution Map' and 'Conflict Intensity Zone Map' developed during project will help forest managers and policy makers to develop need based management plan.

Major accomplishments for this project period:

- Continuous updating and upgrading of human-elephant interaction mitigation techniques due to behavioral changes in elephant herds.
- **r** The study of bee sound effect as sound deterrent on elephant herds

7. Approximately how many humans/communities are/were impacted by your project? Approximately how many elephants are/were impacted by your project?

Approximately 56 villages covered so far and approximately 50 thousand people were served by the project by introducing prior alert system and more than 300 people were directly interacted to sensitize, capacity building programme on HEC mitigation.

It is a slow process to introduce new techniques as the villagers have a blind faith on their traditional system. We hope within coming 6 months we can fully set up a sample village to demonstrate the HEC technologies.

We have offered different education opportunities for 'Anti-depredation Squad' formed during IEF project (2017) & five more newly formed 'ADS' members. They are learning to make and install 'Early-alarm System', trip-alarm etc. The villagers were also offered knowledge on livelihood, crop alteration, save period of cultivation, unpalatable long-awned (bristles) paddy, chilly etc. through training and field verification. We have developed (not distributing now) a short documentary on HEI which is shown as a conservation message. We have already covered 56 villages to conduct community education programme. We also organized awareness

programme through seminar, photography, painting competition. We also offered young conservationist to enhance research capacity by working with us.

Age Group (both gender)	Unit	Number	Activities
Upto 6 years	Primary School x 22	2239	Film screening, awareness programme, Sit & draw etc
14 to 18 years	Secondary School & Higher Secondary School x 17	14983	Interaction/discussion and film screening on elephant conservation
Above 18 years	Local club x 12		Discussion on village specific HEI problems & mitigation
Above 50 years	Village	32000	
Women above 18 years	Village	(approx)	ideas.

The project site covers the migration range of 197+ elephants (Source: All India Synchronized Elephant Population Estimation – 2017). Presently the population reached 215+ (January 2019) in number including migratory herd of 165+ individuals. Primarily these herds are protected by the project work (monitoring, tracking, securing route and maintaining good public relation). Unfortunately, we could not avoid death of 2 elephants by accidental electrocution and 1 elephant cub by dehydration.

8. Describe any problems discovered or that occurred during this grant period.

In true sense, we did not face any difficulties to work either on elephants or human. But, we faced some community agitation immediate after the crop depredation by resident elephants. We also experienced our helplessness when a man was killed by a tusker elephant. If we have any medical support or ambulance van support during elephant driving, we may save the life of the person.

Apart from that, the Indian Supreme Courts' banned on fire-torches also creates a temporary trouble during elephant driving.

9. Was your project successful? State short and long-term goals that you are using to evaluate your accomplishments.

We have achieved project goals on time and already secured the safe passage for elephants in inter-state borders and achieved '0' retaliatory killing of the elephants till date. Though the death of human life has increased to 13 numbers (April 2018 – January 2019).

Short-term goals to evaluate accomplishments:

1. Change the retaliatory attitude of villagers and achieve '0' retaliatory killing of elephant and minimize human life and property damage by 50% in coming 3 years: During project period,

only one person was killed by elephants and no incidents of retaliatory killing took place. During evaluation we considered it as a project success.

- 2. Securing the safe passage to migratory elephant herds through the existing inter-state corridors was one of the priorities of the project. In this current year, the inter-state barricade to restrict elephant migration has fewer impacts on elephant migration. The Anti-Depredation Squad stayed in the region for more than 30 days continuously, but they were mostly engaged in tracking elephant movements in night to protect the crops from damage rather than blocking the migratory routes.
- **3.** Estimation of local and migratory elephant population and elephant depredation management development & implementation in sample sites is also a vital goal of the project to develop a management plan for Human-Elephant Interaction. The achieved the objective partially and still working on the same to understand the group composition.

Long-term goals that to evaluate accomplishments.

- 1. Suggest suitable alternatives of inserting physical barrier on state border to restrict elephant migration.
- **2.** Develop better habitat management plan for ecological restoration of degraded corridor forests to ensure fodder, shelter and other resource availability for the elephant herds.

10. Based on this Project, what is the "next step" for this project and does it have implications for future conservation actions?

The current project is an emergency initiative to secure elephant migration routes in Jharkhand-West Bengal border. We will focus on the securing migratory passage with the West Bengal itself. As discussed earlier, the most of the migratory passages are converted human dominated landscape from forest land. The villagers too put illegal high-tension energized fence, poisons etc. on elephant routes to divert the herd movement away from their villages or farms. We will start the campaign against such activities during this project tenure and upscale the direct activities in field in coming future.

We know that the 1 year or 2 years are not enough to study, draw management plan and implementation. In the coming year we will do ecological restoration of the elephant corridor forests and integrated habitat management. We will also conduct higher number of community capacity building programme to develop alternate livelihood options and also implement the 'conflict' mitigation recommendation in sample villages.

We have experienced 'ZERO' death of elephants by electrocution, railways accident and retaliatory actions for couple of months but we will also need to focus on 'ZERO' human causalities in coming years.

11. Provide at least one human interest story. This story should enable the reader to identify with the people, a problem, day-to-day situations, achievements or a funny or strange occurrence during the course of the project. Examples: a story about when the bull elephant

put his tusk through the window of the research vehicle or the lion with a snare on his leg and the many weeks it took to find the animal and remove the snare or a specific family who benefitted due to the project. If available, please include a photo of the incident described.

The elephant conservation work is one of riskiest as well as interesting work to do. Every day we are experiencing the mind game between elephant and human. The corridor forest near Jharkhand-West Bengal border was monitored by forest departmental staffs to restrict the



Forest Ranger Mr. Aditya Rajak

migration during crop season. The elephants changed the strategy to enter West Bengal and a group of 30-40 elephant are splits into several groups with 5-7 elephants in each group. These small groups are moving atleast 5kms away from the traditional entry points and then enter the West Bengal without any obstruction. The intelligence of the gentle animal is really amazing.

The person on our left is a 65 years old person who got special appointment after his retirement at age of 60yrs as Forest Range. He is working on elephant for more than 30 years and the government using his expertise to secure safe passage of elephants in Mayurjharna

Elephant Reserve and approximately 38kms migratory route in non-forest areas. I personally observed how he communicates with the elephants and I believe the elephants can understand him too. I am mentioning the person in this report because this year during elephant driving when we faced a tusker elephant whose attitude towards human was quite unfriendly and chased us in an open field only this person stopped the elephant with a single fire torch. He took risk of his life to save him team members. Though the elephant was very aggressive and killed a villager at 2:45 am same night in front of us.

12. In 500 words or less, summarize the progress and results achieved. This will be used for media and donor recruitment.

Mayurjharna Elephant Reserve, the only elephant reserve in West Bengal for Eastern India population, is gradually losing its resources and potentials too. The number of elephants in 'Mayurjharna Elephant Reserve' (414.06sq.km.) and extended 'Zone of influence' (1436sq.km) has increased by approximately 67.80% during last 08 years (i.e. 118+ in 2010 to 198+ in 2017). The project site links Singbhum Elephant Reserve, Jharkhand and Mayurjharna Elephant Reserve, West Bengal through four elephant migration corridors. Since July 2016, West Bengal government blocks these corridors by 'Energised fence', 'Elephant Proof Trench', human-barrier with fire torches etc. to restrict inter-state elephant migration which turns the elephants more aggressive and increase the depredation in the corridor-dependent villages.

This IEF project aims to secure existing Jharkhand-West Bengal Inter-State Elephant Corridors through habitat management, and stakeholders' capacity building for Human-Elephant Coexistence. Prime objective of the project is to find out the ways to mitigate Human-Elephant 'Conflict' in the corridor dependent villages, secure safe passage for the elephants and conduct training programme for villagers to strengthen model 'Anti-depredation Squad'.

During our studies, we found that, Dalapani (Jharkhand)-Kalrajhore (West Bengal) is only active elephant corridor with high priority of conservation. Majority of migratory herds take this route to enter West Bengal. The corridor has more than 37 species of elephant fodder and the forest is a continuous one in entire Jhargram division (Bhulaveda and Belpahari forest range). In 2018 approx, 125+ elephants used the corridor for to and fro journey. The elephant herd consists of approx 18+ migratory elephants with short home range use Mahilong (Jharkhand)-Kalimati (West Bengal) corridor frequently in post-monsoon to pre-winter and Chandil (Jharkhand)–Matha (West Bengal) and Jhunjhaka (Jharkhand) – Banduan (West Bengal) elephant corridors are no longer exists in the West Bengal region.



The project succeeded to secure free passage to the migratory elephant herds in the inter-state elephant migration corridor in Jharkhand-West Bengal border areas, which facilitate the elephant movements. The community participation in these corridor forest villagers was really appreciable for securing the safe and free passage to the migratory elephant herds. It is also great news that no retaliatory killing of elephant took place in 2017-18 (till July of 2018). After a stay of 7 to 9 months, we estimated 11 calves with the herds were returned to Jharkhand, which also indicates that the natural conditions are favourable for elephants in the project site and extended home range.

The community capacity building programme conducted till date were focused on HEC mitigation techniques like low-cost crop-guarding system, fore-alarm system, alternate livelihood practices, crop alteration, save period of cultivation of cash crops, unpalatable long-awned (bristles) paddy, chilly etc. through training and field verification in corridor dependent villages to mitigate human elephant hostility. The project has an important role in communication and confidence building of stakeholders to minimize retaliatory attitude. During community interaction, we explained 'how we can change the conflicts to coexistence' through few precautionary activities. We are

developing local conservation stewards to monitor the elephant population migration and human-elephant hostility.

14. List all organizations associated with this project and their roles in the project.

Associated Organization	Role
National Council of Science Museum, Government of India	1. Community capacity building (development
	of fore-alarm, elephant presence detector
	etc.) programme and training of volunteers.
	1. Supporting the project through knowledge
	sharing, infrastructural supports and
Directorate of Forests, Government of West	providing local staffs.
Bengal.	2. Direct involvement as stakeholder and
	collaborative arrangement of conservation
	education/capacity building programme.
	1. Knowledge sharing about the unpalatable
Central Rice Research Institute, Orissa	long-bristles paddy varieties and interested
,	in farmer's orientation from elephant
	depredation zones.
Local cable channels, FM radio, electronic	1. Awareness generation among local people
and print media	and other stakeholders.
	2. Publicity of project in local areas.
	1. Development of agricultural planning
	according to elephant migration calendar.
	2. Resource support for alternate livelihood
Local NGOs and institution	development.
	1. Network with the stakeholders and
	participate in the awareness and capacity
	building programmes.
	1. Capacity building programmes for students
Undergraduate Colleges and Universities.	and engage them as volunteers in the
	conservation project.

15. Include an itemized financial report of International Elephant Foundation funds spent as a separate page of the report.

BUDGET ITEM	IEF Grant	Comment
Staff costs	\$2175	
Travel expenses for survey, networking,	\$1560	West Bengal Forest Department
capacity building,	\$1300	provided motorbike during

BUDGET ITEM	IEF Grant	Comment
		elephant tracking in forest roads. We only need to refill the fuel tank. By this time, the fuel price increased by 10% approx.
Boarding and meal cost during field survey, awareness etc	\$1800	Forest department & local NGOs provided a basic accommodation in their offices or locations at a concessional rate during community awareness and habitat survey.
Supplies (Consumable)	\$1150	It is difficult to restore, fodder plantation or monitor entire corridor forest with small team or limited funds. We are working with support from West Bengal Forests Department in some sample sites and expecting that the positive outcome will encourage them to replicate the same new areas.
Services (itemize) Communication materials like posters, leaflets, booklets, pamphlets, banners, stickers. Pre project evaluation of community attitude towards HEC and Human-Elephant Interaction intensity. Community support/ facilitation programme for underprivileged tribal indigenous children of human-elephant conflict zone	\$1550	Communication & awareness materials printing done and distributed. Project evaluation of community attitude and HEI intensity has been completed by questionnaire basis. Several community support / facilitation programme for underprivileged tribal indigenous children has been done.
Capacity building workshop	\$1250	-
Miscellaneous expenses Meeting with stakeholders group, communication with press, introductory	\$500	Meeting with the entire stakeholders group is always a ongoing passage.

BUDGET ITEM	IEF Grant	Comment
materials for media (TV &radio)		
TOTAL	\$9985	\$9985

16. Submit at least five high resolution digital images (350kb or over) representative of the Project as separate individual files for each 6 month and final report. Do not send the same photos for multiple reports. If possible, please include at least one photo with an elephant in the frame that demonstrates your project activities.

- Image 01_Samya Basu with other forest department official is inspecting the electrocuted elephants
- Image 02_The Forest Minister, Govt. of West Bengal inagurated elephant satue in the forestry day programme.
- Image 03_Awareness Programme in village with teachers, students and parents in presence Deputy Forest Ranger
- Image 04_Samya Basu interacting with affected farmers
- Image 05_Distribution of chilli flakes fumigants as elephant deterrent

17. Submit at least one video clip least 2 minutes in length for each 6 month and final report. Do not send the same video for multiple reports. The video can cover anything you think IEF and/or the general public might find interesting as long as it relates to the project funded by IEF and includes the following:

- Introduce yourself and the title of your project
- State the purpose of the project
- Please very briefly acknowledge the International Elephant Foundation.
- Must have either audio or subtitles

• If the audio is not in English or if it is difficult to understand or to hear, you must provide a written transcript in English.

- Do not add music to your video.
- Please try to include footage of elephants when possible

Please remember that the general public and donors are fascinated by the work you do and your knowledge of and experience with elephants. They want to learn about the projects that help elephants and see how their donation is being used. You can explain the goals, objectives and significant outcomes of your project, or take us through a day in the life of a patrol or your interactions with community members, or tell us why your project has greater implications for elephant conservation.

Use your imagination to tell us your very special conservation story.

Most videos are uploaded in YouTube. The video link is shared.

17. Do you intend to publish and/or present your findings at a conference or symposia? Please provide us information about the journal/conference/symposia and a timeframe. Please send a copy of all future publications that result from this study.

Yes. I will definitely share the project findings through publication in leading journals and interactive audio-visual presentation in conference, seminar etc. once the project is completed. We have already presented the present work in 'University Grants Commission, Government of India' sponsored seminar for Zoology students of different college in West Bengal. In September presented the 'Elephant Problems and Human Response' seminars in National Council Science Museum', Ministry of Culture, Govt. of India. We have presented the findings to West Bengal Forest Department too.

18. Has your project received any media coverage? If so, provide copies of the articles, videos, etc complete with web links if the coverage was online.

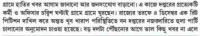
The HEI seminar in Bankura district was covered by 'Doordarshan' (A Government News Channel). Only local broadcasting channels and print media published basic news of project. Different media has covered our project on elephant conservation.

বন্ধ হুলা, হাতি সামলানোয় বন দপ্তরের ভরসা জনসংযোগ

চিরদীপ ভট্টাচার্য

ওভিশা থেকে যে কোনও সময় রাজ্যে চুকে পড়বে প্রায় একশো হাতির পাল। ইতিমধ্যেই ন্যায়ায়ে চুকে পড়েছে গোটা পরিঞ্জিশ। ওদিকে, আরাবাঢ়ি রেঞ্জ রাপাক্ষে ন-ক্ষটি হাতির একটি দল। এর সঙ্গে সুকনাখালির জঙ্গলে বড় দলের জন্মায়েত হলে হুলা (লোহার দণ্ডের আগার লাগানো আভনে বাগো) বাংবাহা ছাড়া এই নামালসের লাগানিপি কীতাবে সামলাকেন (ভবে হাত-পা পেটে সেমিয়ে যায়েছ বন মন্তরের। ভয়টা হার্জির থেকে নয়, হার্তির হানায় ক্ষতিগ্রন্ত এন সংগ্রু কিন্তু হয়ে উঠছেন বন দণ্ডরের ওপর। জনরোমের আঁচ লাগতে রনকর্যীয়ের গায়ে।

হিনেৰ বলছে, ২০২৭- ন পুরো শক্তিশবঙ্গে হাতির সংখ্যা ছিল ১৯৮। এর চেয়ে উত্তরবঙ্গে হাতির সংখ্যা অনেক বেশি, প্রায় তিনগুণ হাতেল সমস্যাট কোখায়' মেনিশীপুর ভিজিশনের ভিঞাও রাহনের সির্দ্ধা বায়' মেনিশীপুর ভিজিশনের ভিঞাও রাহনের হাতির সংখ্যা অনেক বেশি, প্রায় তিনগুণ হাতেল সমস্যাট কোখায়' মেনিশীপুর ভিজিশনের ভিঞাও রাহনের হাটি হোট অংশে শিকত, শার মধ্যে অভয় চাম্যম্যাগ বার্ব হারে উত্তররাজে বেছেটা হোটি আমের কিন্তু, যার মধ্যে অভয় চাম্যম্যাগ বিশেষ হাতে কার্বেম, বার্জ বিজে কেন্দ্রের হার্ট হোট আমের কিন্তু, যার মধ্যে অভয় চাম্যম্যাগ বির্দ্ধার্থ হার্ট বিরুদ্ধের হার্ট হোট আমের কিন্তু, যার মধ্যে অভয় চাম্যম্যাগ বিরুদ্ধের হার্টের হারে হার্টের হারে হার্টের হার্টেরি হার্টের হার্টের হার্টের হার্টের হারের হার হারের হার হারের হারের হারের হারের হারের হারের হারের হার হারের হা





আমাদের হাল খারাপ হয়ে যাবে।'

মানাবাৰ হলে নামা হ'বে সামা ৰহা উদেক আগও মেনিনীপুৰ ভিজিশনে হাতিৰ পাল থাকত মেত্ৰেকেটে মাস পাঁচেক। এখন ৰহুৱে বন – দশ মাসই এদেৰ স্থানী আৱানা লালোঁড, টাংড্য, গিনাকাটি, ভাতৃতলা, গুডান্তজিপাঁচেন জঙ্গল। সাবেক স্থায়ী নিৰাম ললমা হেড়ে এখন এদেৰ বেশিৱভাগই মেনিশীপুৰ ভিজিশনেৰ 'কেনিডেট'। কথাৰা জীই উঠাকনাশলাৰ আগিয়াট জাইজেশেনে ৰামা বসু বছৰ মন্দেক গজিপবলেয় হাতিদেৱ নিয়েই পড়ে আছেন। তিনি বলছেন, 'মেনিশীপুৰ ও খজাপুৰ ভিজিশনেৰ জঙ্গলগোয় হাতিৰ প্ৰচুৰ থানো, জ্ঞাৰ মেতে সহজে। ফলে বজাৰা, আত্মখেজৰ বেসিডেন্ট তাৱিদেৰ যিচহজাই কাৰবৰ কেনেজা সময়টা ইজৰখনে ধৰে বেসিডেন্ট

হাতদো নাহত নাহ বহুকে মনোচাল সকাতা নালনে মহল মহল বাজে বাজে বাজে বিজ্ঞানে বিজে বাজে। টাগড়া ক্লে প্ৰতিদান নিৰ্বাদিয় যাজি জনালেন, চলাচৰ বহুকে আমার রেপ্তে হাতির হানায় মারা পড়েছেন চারজন। এখানকার ৯টা ডিভিশনের মধ্যে সবচেয়ে ক্ষতির মুখে পড়েছে টালড়া এলাকার খেততলোই। একমিকে আদলতের রায়ে হলা করা আছে না, বছ তেল-বোবিলের জোগান দেওা।ও। জনির ফসর রজা করতে লা পারায় জনোবা আমেকে বস্তুই এসে পড়াছে। বাঘড়ুবি, জানেশাল, পাঁজাপোল, হেতিয়াশোল, ভুমুরকেটি, ডাইনমারিতে গ্রামের মানুবজনে

বামভূবি, ভামশোল, পাঁভাশোল, হেতিয়াশোল, ভুমূরকোটা, ভাইনমারিঙে গ্রামের মানুসকলের সঙ্গে কথা বলে রোমের উভাপাঁতা অনেকটাই বোগা গেল। ভুততোগী গ্রামবাসীরা সুশ্রিম কোর্টের নিদান জালা সত্রেও মনে করে, চাইলে বন পস্তুর উদানে বেজ- বোলিব- ভালী কিয়ে বায়া করতেই পারে। রাজ্যের বনজ্যী নিমানুক্ষম কর্মেনে স্পষ্ট কথা, 'আচ পর্যন্ত এ রাজ্যে ছলার কারখে কোনও হাতির মৃত্যু দুরে ধাক, ক্ষতি পর্যন্ত হয়নি থে সমগ্র এনজিও সার্বোচ্চ ছলার কারখে কোনও হাতির মৃত্যু দুরে গাঁক, ক্ষতি পর্যন্ত হয়নি থে সমগ্র এনজিও সার্বোচ্চ জ্যাল তেবে এই রা অনেহেন, তাঁমে সনির্বন্ধ অনুবোচ্চ জ্যান্জি, একবার অন্ত গ্রামবাসীলে সঙ্গে মিলে ফাল আর প্রাংহানি আটাকানোের বিরুদ্ধ উপাচগুলো হাতেরুলমে করে দেখান।' একদিকে সর্বোচ্চ আলালতে নিদান, অন্যানিকে রমেই এগিয়ে আসা দামাল বাহিনী। বেদিনীপ্রের মাটি কিন্তু কাপতে গুরু কেরেছে।

Figure 1: Aajkaal, December 17th, 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



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

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, thejumbos 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.

Figure: Times of India, December 17th, 2018

মশালের তেল অমিল, সন্ধ্যা হলেই আতঙ্ক

কৌশিক সরকার

১২ ডিসেম্বর: শীতের ছোটবেলা। সদ্যা নামে বেলা চারটে বাজতে না-বাজতেই। বেলা গডালে আতঙ্কও নামে চাঁদমডার। আতঙ্ক কেন? ডিভিশনাল ফরেস্ট অফিস থেকে এসএমএসে আডাবাডি রেঞ্জের বিটগুলিকে জানিয়ে দেওয়া হয়েছে, ৯টি হাতির পাল রয়েছে আরাবাড়ির বনেই। আমন ধান কাটার পালা শেষ। আলু বোনার কাজে হাত দিয়েছেন গ্রামবাসীরা। ৯টি হাতির পাল ঠিক সেই সময়েই এসে গিয়েছে চাঁদমুড়ার আলু খেতে। হাতির হামলার পর বনকর্মী জিতেন ঘোষ, সাতবক্স গায়েনদের কাছে জবাব চাইতে এসেছেন ক্ষিপ্ত গ্রামবাসীরা। তাঁদের সাফ কথা, হাতি মাঠে হামলা চালাচ্ছে, ঘর ভাঙছে। তবুও হুলা জ্বালানোর জন্য কেন তেল দিচ্ছে না বন দপ্তর? সরেজমিনে পরিস্থিতি দেখতে গিয়েছিলেন এক পদস্থ বনকতা। ক্ষিপ্ত গ্রামবাসীরা গালিগালাজ করেছেন তাঁকেও। বনকর্মীরা বলছেন, কতরিই যদি এই অবস্থা হয়, তাহলে তাঁদের



কী হবে। হাতি লোকালয়ে এলে তো তাঁদের গ্রামবাসীর ভয়ে জঙ্গলে লুকোতে হবে।

১৩ ডিসেম্বর: বন দপ্তর সূত্রে দুপ্রেই এসএমএসে খবর এসেছে, সেনিনও হাতির পালটি আছে আরাবাড়িতেই। আগের দিনের হামলার পর তাই সতর্ক সাতকড়ি গায়েন, তিমির মাহাতোরা। সূর্য ততক্ষণে পশ্চিমে। শালবনি থেকে গড়বেতাগামী রাস্তায় আরাবাড়ির কাছে একে একে জড়ো হয়েলেন আলেশালের ধামের বাসিন্দারা। বিকেল পাঁচটা নাগাদ দেখা গেল, সামনে জঙ্গল থেকে বেরিয়ে ধান থেতের দিকে আসছে হাতির পাল। সঙ্গে সঙ্গে শুকনো খড় জ্বালিয়ে হাতি তাড়ালোর মরিয়া সেষ্টা চালালেন-তাঁরা। কী হয়, কী হয় ভেবে তখন হাতি নয়, গ্রামবাদীদের ভয়েই সিটিয়ে বনকর্মীরা। তাড়া থেয়ে প্রথমে খানিক থমকে দাঁড়িয়ে বনের দিকেই ফিরে গেল হাতিরা। ফের বের হতে পারে আশল্লায় চলল রাত পাহারা। মোটের ওপর এখন এটাই দল্ভর মেদিনীপুর বন বিভাগে জঙ্গল লাগোয়া গ্রামগুলিতে।

সম্প্রতি দেশের শীর্ষ আদালত নির্দেশ দিয়েছে, হাতি তাড়ানোর জন্য মশাল জ্বালাতে পোড়া মোবিল সরবরাহ করতে পারবে না বন দপ্তর। এই নির্দেশের পরিপ্রেক্ষিতেই বন দপ্থর তেল সরবরাহ বন্ধ করে দেওয়ায় গ্রামগুলিতে শুরু হয়েছে নতন সমস্যা। শুকনাখালির জঙ্গল আর হেতিয়াশোল গ্রামের মাঝে সীমানা বলতে পিচ রাস্তা। সন্ধ্যার মুখে সেই রাস্তায় সার্চলাইট হাতে বনরক্ষী সূর্যকান্ত ভূঁইয়াকে দাঁড়িয়ে থাকতে দেখে গ্রামবাসীরা হাঁক পাড়লেন, ফের দাঁতালটা ঢুকছে নাকি নতুন হাতি এল ? চাঁদড়ার রেঞ্জ অফিসার নিবেদিতা মাজি জানান, হেতিয়াশোল, ডুমুরকোটা এবং ডাইনমারি গ্রামগুলি হাতির আক্রমণে বেশি ক্ষতিগ্রস্ত হয় বরাবরই। এমনিতে বনরক্ষীদের ভালোই সম্পর্ক ডাইনমারির সোনা মাহাতো, দশরথ মাহাতো, অপু করণ কিংবা ডাইনমারির সনাতন মাহাতো, শশধর মাহাতোদের।

কিন্তু হাতির দাপটে এই গ্রামগুলি থেকেও দাবি উঠছে, 'হয় বনের হাতি বন দপ্তর সামলাক। না-হয় আমাদের তেল দিক।' ভূবন ঘোষ, শান্তিরাম

ডাইনমারি গ্রামে বিঘার (ঘাষরা বিঘার জমির দিকে আঙুল তুলে দেখালেন, ধান কাটার আগেই কীভাবে মাঠগুলি তছনছ করেছে হাতির পাল। মেদিনীপুর এলাকায় বছর দশেক ধরে হাতি-মানুষের সংঘাত নিয়ে গবেষণা করছেন সাম্য বসু। তাঁর মতে, হাতি এবং মানুষ, উভয়কেই রক্ষা করতে হবে। তবে হাতি তাড়ানোর উপযুক্ত ব্যবস্থা না-থাকলে মানুযের রাগ বাডবে। ফলে সংঘাত বাডার আশঙ্কা বেশি। মেদিনীপুরের বিভাগীয় বনাধিকারির রবীন্দ্রনাথ সাহারও বক্তব্য, এখন দক্ষিণবঙ্গে মেদিনীপুর এবং খড়্গপুর ডিভিশনে এই সমস্যা প্রকট। শুধ এই বছরের নভেম্বরের মধ্যে মেদিনীপুর ডিভিশনে প্রাণ গিয়েছে ৯ জনের। ব্যাপক ক্ষতি হয়েছে ফসলেরও। আদালতের নির্দেশ অমান্য করা আমাদের পক্ষে সম্ভব নয়। তবে সুপ্রিম কোর্টে রিট পিটিশন দাখিল করে মানুযের প্রাণ এবং সম্পত্তি রক্ষায় জরুরি প্রয়োজনে হুলা জ্বালানোর অনমতি দেওয়ার আবেদন জানানো হয়েছে সরকারের তরফে।

Figure 2: Ei Samay, December 16th, 2018

হাতির পাল্টা চালে বোকা বনছেন গ্রামবাসী, ফাঁকা হচ্ছে খেত

কৌশিক সরকার

কে বেশি বুদ্ধিমান, হাতি না মানুষ্য মেমিনীপুরের জনন্স লাবোয়া মামহলির হাজিজার বনহে, উন্তর চলহে সমানে মমানে। হাতি ঠেলতে নিগু নতুন ঠৌন্দা নিয়ে গ্রশার্থ হোশ্বান, আমবাসীরাও। সেই কৌন্দান ভেন্দ্রে নিগু নতুন ঠৌন্দান হিন্দ্রে হোঁতির দেখে হাতির। প্রথমের হাতির। সংবঁদের গন্দা ওন্টা হার নিয়ে গবেশ্বা হোঁতর নংখ্যা ১৯টি । বহুর দেশক বরে পিজনব্যের হাতির নিয়ে গবেশ্বা চালামেন মায় বয়। তিনি জানান, হাতি সরক্ষা কর্মসূচির নির্দেশিকায় জন্সা লোযো য়াঝারলৈকে হাতির তাওবে প্রা এবং সম্পত্তি বাঁচাতে পরিখা

কটার সুণারিশ রয়েছে। সে নির্দেশ মেনেই হাতি দেখাতে অনেক ফরেন্ট ডিভিশনেই কাটা হয়েছে পরিণা পশ্চিম মেনিশীপুরের জামশোল, শাজালোল, চাঁলভূইয়ালোল হামে লেখা লিয়েছে একন পরিখা। পরিখা কাটা হয়েছে। আরাবাড়ি রেঞ্জ অভিনের বাইরেও।

খান ২,৯৯২ নামন মড় থাক নাম নাম বহিবে। সামার অভিজ্ঞতা, বিপল আঁচ করে হেখানে পরিশা নেই, নেই এলাকা বিয়ে এখন যামে চুকেহে হাতিনা। এমনত দেশা বিয়েছে, গনি বাগেই। পা নিয়ে নেই মাটি পরিখার ময়ে মেলে তা পেরির বিয়েহে তানা মতল আগে যে সব এলাকায় হাতির মাজ্যাতা হিল না, এখন তেমন এলাকাতেত বাড়হে হাতির আনাগেলা। বি হবরই হাতির সালে হাতে রহা হে জানগেলে, বাই মতি, আন বাই মজি,



ছাশাও বা/সন্ধার। ।দল ছু:৬ ৬০/৫০ করলে আরও খেপে ৬০/ছ হ।।০। দেশশাপুরে বর মগুলের তোলা ছবি

বাবন্ধু বেরা কিংবা বাগডুবির ১ নম্বর সুদর্শন মাজিদের। তাঁদের অভিজ্ঞতা, গ্রামের স্বপন সোরেন, বিনোদ মাজি, আগে ফসলের যেতে ঢুকত ৩০-৪০টি

হাতির পাল। এখন দেশা ব্যাক্ষ, সেই পালই ৩-১টি দলে ভাগ হয়ে উড়িয়ে গড়েহে মসনেরে খেতে। মতে সেই হাতিসের সামনানো সমস্যাদনক হয়ে গড়েহে। স্বিক্ষপ্রের আবচ্ড সমস্যা মন্থ্রল এলাকা মেনিনীপুর এবং খলাপুর ভিন্দিন। কাতৃখত ধেতে এ রাজ্ হারে ভিন্দিয়া যাগুয়ার রুঠ বললেই বেয়েডুহে এই এলাগুর সমস্যা। মেনিনীপুরের ভিন্দেত রবীন্দ্রশাল সাহার মতে, বাঁচার গুর্নীবেন মেন

মোনশালুরে ডিএস্ড ভ্রাইজনা মাহার মতে, বাঁঠার ভাগিদে ফেন মানুহ নিত্র নতুন পথ খৃঁজয়ে, ডেমনই বাঁঠার পথ খুঁজয়ে, ডেমনই প্রেতি ২৫ তেরি দাবার খায়া দারীখা রয়েছে, এখন জারগায় আঠিক পড়লে সণার যে খাবার জুঁটবে না, তা বুবে পিয়েছে হাঁঠিলা তেই হেটি দলে ভাগা বিয়েই খাবারের সন্ধানে বেরোম্ভ ভারা বিশেষজ্ঞার জনাযেজন, দিনে,

নিবাপপ ভাগলের হয়েই বিআম নেয় হাতিরা। লক্ষ্যটুনের উতি তেওঁ অবন্য বোগা লুরুর। ফুলত এই ধরনের হাতির আরুমহেই ঘটহে গ্রাগার্হনি। বিকেনা হতেই খাবারের সাধানে হানা নিচ্ছে তারা। ভোরের আলো ফেটার আলেই নিবাপপ আবারে ফিরে আসহে তারা। দেরার সেই সময়টায় হাতিদের ব্যস্ততা থাকে বেশি। আই এই সময়টায় তারা বেশি আরুমন্যায়ক খারে। হাতির আজমদে মৃত্যুর যে খটনান্তরির বিশ্বরিজানাই ঘটহে রাত তিন্দট

থোক ভোর গঠাই রাভ ভোচেট থেকে ভোর গাঁচটার মধ্যে। এমনটাই জানালেন মেদিনীপুরের এডিএফও পুরবী মাহাতো। এখন মেদিনীপুর ডিভিশনে

া অখন নেগান্য ভাওলালে রয়েছে ৯-১০টি হার্ডি। তবে প্রায় ব ১৫০ হার্ডির যে লল গিয়েছিল হ ওডিশায়, নিন কয়েকের মধ্যেই তারা ম মেনিনীপুরে ঢুকতে চলেছে, এমনটাই

য়ে খবর বন পগুরের কাছে। সেটাই শ্য এখন মাথাব্যথার বড় কারণ। কারণ রে এখন আালু চাথের সময়। আলুর ল ক্ষতি হলেও থেপে পিয়ে গ্রামবাসীরা ছে কী করবেন, তা নিয়েই দুশিততায় হি বন পর্বর।

ণাপপড়ের বিট অফিসার শীতল মাইতি জনান, মাঠ ফলা ন'গেলে, খাবারের সন্দান গ্রাহে, তেওঁ হামলা চালাবে হাতির দলা ধান ফটা হলেও, এখন বান সেন্ধর সময়। সেই গড় নেশা ধ্রাচ্ছে হাতিবল রাজি, আইসিজির কেন্দ্র, গ্রাথমিক স্কুলের যে ঘরে খাবার মন্ধুত থাকহে, বেহে সেন্ড লিই ভাঙহে তারা।

বন পশ্চরের অফিসারদের মতে, বছরের বেশিরভাগ সময় এ রাজ্যে থাকার জন্য এখন ফসল ও চাবের ধরন বুঝে গিয়েছে হাতিরা। তাতেই সমস্যা বাড়ছে।

Figure 3: Ei Samay, December 17th, 2018

The ANI will shortly star a news coverage of the ground work done by us.

19. Please list all websites, blogs, social media accounts, etc associated with the project, its investigators, and organizations (this includes Facebook, Twitter, Instagram, etc)

Website: Not yet able to upload on the website in server due to some contents are yet to be reviewed. We are expecting it shortly.
Facebook: www.facebook.com/aecfindia
Twitter: https://twitter.com/elefriendsamya
Instagram: https://www.instagram.com/samyabasu

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YouTube: https://youtu.be/I8JJr7YJcmY https://youtu.be/AvLQ-76SgbY https://youtu.be/uKj4ksuJ8dg https://youtu.be/D70bWIYZgww (many other link will be uploaded shortly in YouTube)