

The Rufford Foundation Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Khil Bahadur Tamang
Project title	Assessment on Human-Elephant (<i>Elephas maximus</i>) Conflict, Mitigation Measures and Promoting Conservation Awareness in Khata Biological Corridor, Bardia, Nepal
RSG reference	20875-1
Reporting period	November 2016 to December 2017
Amount of grant	£4998
Your email address	meet2khil@gmail.com
Date of this report	2 January 2018

1. Please 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>Assessment on nature, causes, trends and spatial location of human-elephant conflict (HEC),</p>				<ul style="list-style-type: none"> • On the basis on HEC records from District Forest Office and Khata Community Forestry Coordination Committee, 18 settlements were identified as affected area by elephants in last 5 years from the study area. • The nature of HEC were crop raiding, property damage (house damage and stored grain damage) and human casualties (injuries and death). • The yearly trend in HEC is increasing and this was mainly due to increase in the number of elephants, fragmentation of its natural habitat, mobility route of elephants, palatable and nutritious value in agricultural crops. • Crop raiding by elephant occurred mainly during its growing and maturing periods in night time. Mostly affected areas namely: Pattharbojhi, Majara, Dobhan and Bhagraiya which lies within one kilometre from the corridor boundary. • Most of the property damage by elephants occurred during night time. Property damage incidents were unevenly distributed over the study area. Most of the property damages were reported from Pattharbojhi, Majara, Khairi, Dobhan, Khata, Kothiyagau and Dalla, Bangalipur, Bhagraiya, Durganagar and Taduwa localities. • Five human casualties occurred by wild elephants over the last five years, two deaths, one serious injury

				and two light injuries in Sonaha, Dalla, Pattharbojhi, Dobhan locality.
Evaluate human- elephant conflict management practices,				<ul style="list-style-type: none"> • To minimise the human-elephant conflict, various mitigation measures were adopted by the people in the study area such as deterrents measures (loud noise, fire, explosive, etc.), physical barriers (trenching, bio-fencing and electrical fencing), changing cropping patterns and using watch tower. • Likewise, within community level rapid response team (RRT) was formed to support the wildlife victims such as funding for treatment, food materials collection, facilitation for legal procedure to get relief. • Compensation were given to many people over last 5 years from District Forest office and Bardia National Park.
Assessment vegetation composition and habitat disturbances				<ul style="list-style-type: none"> • Established a total of 12 vegetation sampling plots to understand the vegetation composition and habitat disturbances. We have recorded a total of 484 trees of six species in four families. <i>Euphorbiaceae</i> was the most dominant plant family in sampled site, followed by <i>Leguminosae</i>, <i>Mimosaceae</i>, and from both <i>Bombacaceae</i> and <i>Rubiaceae</i> family. The most common genera found in the site were <i>Dalbergia</i>, <i>Trewia</i> and <i>Mallotus</i>. Likewise, the basal area of trees in the sample plots was 19.69 sq. m/ha and the tree density was 483 trees/ha. • Number of illicit felled and tip cut trees were 17 trees/ha and lopped trees was 33 trees/ha which represents the habitat disturbances by human activities.

Community education and conservation awareness			<ul style="list-style-type: none"> • Research findings and results were presented as my MSc thesis to the MSc students, PhD scholars and Scientists of Forest Research Institute (Deemed) University, Dehradun, India. • Awareness campaign was conducted with local people and school students about co-existence of human and elephant in severely affected area. Participants were made aware on the status of Asian elephant, important of elephant habitat conservation and mitigation measures of HEC. • Status of Asia elephant, its ecology and behaviour and, mitigation measures of HEC also disseminated to local people and school students through brochure and posters.
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

In general, we had no major or unsolved difficulties during the fieldwork but we couldn't conduct awareness campaign on timely as per scheduled time due to heavy rainfall and devastating floods which occurred in August 2017. Likewise, we couldn't undertake in October and November 2017 due to the declaration of historic federal and provincial election which was held in 26th November and 7th December 2017. Thus, the project took more days in the field than the planned work. Though, with the support of stakeholders and actively participation by local communities has made the success of project.

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

Human-wildlife conflict is a common phenomenon from the past and has become a significant problem throughout the world and is one of the most widespread and complex challenges for wildlife management faced by the conservationist. Thus, firstly, the information on nature, causes, trends and adopted mitigation measures of human-elephant conflict (HEC) is sufficiently unavailable from Khata Biological Corridor and the result can be used as baseline information in developing sound management plan and appropriate policy formulation.

Secondly, the result will facilitate the implementation of proper scientific way of preventing and controlling the forest fragmentation and deforestation by the people through raising the community education and conservation awareness to ensure the proper management and strengthening this biological corridor for protection of the elephant habitats.

Thirdly, we disseminated the coexistence message of human and elephant through awareness campaign among the fringe communities and school students, which enhanced the positive attitude and perception of the local communities towards conservation of the Asian elephants.

4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

The project was completely conducted on participatory approach so different local stakeholders were involved throughout the execution of project. During the questionnaire survey, key informant interview, focus group discussion and in awareness campaign local people and students were actively participated on the issues of human-elephant conflict (HEC). They share their ideas, views and provided opportunity to discuss regarding to wildlife conservation which had made people aware for wildlife conservation. Likewise, community based organisation namely Khata and Khairi Community Forestry Coordination Committee, field level government forest officials and Nepal police officials also contributed with providing their views, ideas, support and related information regarding to HEC. Moreover, the local resource person also helped us to get ground reality. So, in this way these people were educated and become aware for wildlife conservation.

5. Are there any plans to continue this work?

Human-elephant conflict is fast becoming a serious threat in all areas where wildlife and human population coexist and share limited resources. Moreover, the conflicts are increasing in the developing countries like Nepal where the human population is increasing and wildlife habitat is decreasing. Recently, the Asian elephant is highly threatened by habitat fragmentation, habitat loss, and conflict with humans. Thus, the conflict would be increased in upcoming days. So, I would like to be continued this work focusing on the aspect of mitigation measures of human elephant conflict with the support of District Forest Office and other related agencies. The result and findings on nature, causes, trends, adopted mitigation measures and their effectiveness of human-elephant conflict (HEC) will be used as a baseline information for further study.

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

Research findings and results were presented as my MSc thesis to the MSc students, PhD scholars and scientists of Forest Research Institute (Deemed) University, Dehradun, India and shared the existing HEC situation of study area with DFO personnel. The detail report will be submitted to Department of Forest of Nepal and will be presented in seminars. A conference is going to be held in Nepal for the Rufford grantees where results of the study will be presented. Likewise, I will also try to publish result and findings of the project in national and international peer reviewed journals.

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

The proposed scheduled time for project was from the last week of November 2016 to September 2017. However, I had made little time adjustment with proposed time schedule due to the devastating floods and historic federal and province election of Nepal. The grant was entirely utilised as per proposed activities.

8. Budget: Please 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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Field equipment (Digital Camera, GPS, pocket calculator & Measuring tape)	498	498	0	Expense as per proposed amount
Standard field kits/ stationery (Printer paper, field note book, pen & lead pencils, plastic bag, ruler, etc.)	21	21	0	Expense as per proposed amount
Safety materials (Boot, raincoat, rucksack)	137	137	0	Expense as per proposed amount
Communication and travel allowance	338	350	-12	Cost was higher than proposed amount
Preliminary survey to understand the ground reality	112	112	0	Expense as per proposed amount
Wages and salaries	1680	1680	0	Expense as per proposed amount
Refreshment for one day workshop/training with the foresters and research assistant	16	16	0	Expense as per proposed amount
Brochure/pamphlet	640	640	0	Expense as per proposed amount
One-day Stakeholder workshop for sharing of research findings	58	58	0	Expense as per proposed amount
Awareness campaign	1408	1408	0	Expense as per proposed amount
Report writing, data analysis and miscellaneous	90	90		Expense as per proposed amount
Total	4998	5010	-12	

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

Bardiya National Park (BNP) has the Nepal's largest population of Asian elephants which is connected to the adjacent Katarniyaghat Wildlife Sanctuary of India by the Khata Biological Corridor (KBC). Thus, I feel that the next important steps are to widen the scope of the study and the co-existence training should be conducted at fringe community which will help to minimise HEC. Improved management and awareness programmes will help to educate all people living in or near elephant habitat to improve their understanding of wild elephants.

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

Yes, the Rufford Foundation logo was used in all the educational materials such as banners, posters, brochures, reports, etc. The logo was also used in the training programmes, awareness campaign and educational programmes. We will be use the Rufford Foundation logo in future presentations. The papers have not been published yet.

11. Any other comments?

I would like to extend my sincere thanks to the Rufford Foundation for funding support to this project. The project became successful with the guidance of my advisor Dr. Ruchi Badola (Scientist G) WII India, support of local government forest officials, and local organizations, active participation from all the communities, and relevant agencies. Further support is needed from the Rufford Foundation to empower and encourage local communities in conserving the elephant in their natural habitat.

Pictorial reflection regarding to research:



