

## Final Evaluation Report

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Your Details	
Full Name	Sanjay Babu
Project Title	Human – Elephant Conflict and its Mitigation Assessment in Rajaji – Corbett Landscape of Shiwalik Hills
Application ID	24676-1
Grant Amount	£3,892
Email Address	<a href="mailto:sanjuakodiya@gmail.com">sanjuakodiya@gmail.com</a>
Date of this Report	27 July. 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
Field survey				The study was not possible without field work. With the financial support through the Rufford grants scheme I could smoothly conduct field work to accomplish the objectives i.e., 2, 3 and 4, mentioned herein. Three persons including one driver and two field assistants were hired during field survey. Wherever necessary, help of local people by giving them proper training, was also taken throughout the field work.
Monitoring of Land use land cover and Forest canopy density				The preliminary maps of LULC and FCD were prepared prior to field survey but the validation of each class in classified maps was done by carrying out representative sampling during field work. Following which the ground truth information was incorporated to prepare final maps and the accuracy for each classified map more than 90%.
Habitat use and suitability analysis of elephants				Data regarding how elephants use different habitats across the landscape was also collected during field survey. The habitat use/ suitability analysis has helped us to conclude that the forest areas dominated by Mallotus and those comprised of a greater number of plant species were highly suitable whereas the areas of difficult terrain conditions and high human interference were avoided by elephants.
Assessment of Human-elephant conflict (HEC)				HEC analysis conducted through geospatial modelling using data collected from villages through informal interviews using questionnaire, and forest department during field survey, shows that high conflicts were mainly in the villages situated nearby forest boundary and in low suitable areas.

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

Not many difficulties were faced during the project except at some villages during human-elephant data collection. The people were unwilling to talk on any topic regarding wildlife because of negligence in compensation for damage caused by wildlife species from the concerned authorities (forest department). However, I tried to manage things to some extent by advising them to convey their concerns to the forest officials so that their problems are resolved.

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

The project at landscape level has addressed three main components: long-term monitoring of land use land change pattern, assessment of the suitable habitats for elephant and human-elephant conflict analysis, necessary to mitigate conflict in the region. Their results are as follows.

- The LULC analysis has shown no change in forest areas except the loss in eucalyptus plantation due to its clear-cutting for settlements of forest dweller Gujjar community. Also, the increase in built up areas in towns and cities like Haridwar, Kotdwar, Ramnagar and Dehradun, together with sugarcane expansion, is a serious matter of concern from the perspective of elephant and other wildlife conservation.
- To protect and conserve any wildlife species, it is necessary to prepare the map of its suitable or unsuitable area. Therefore, the project included this component too. The results have showed that about 40% of area in the landscape, dominated by Mallotus plant in particular, was highly and very highly suitable for elephants. It is also observed that elephant avoids areas of difficult terrain.
- Through human-elephant conflict modelling it is concluded that conflicts were pronounced in the landlocked regions and the villages adjacent to forest fringes.

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

N/A

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

As present study was conducted in part of the north-western Himalayas region where one of the Indian elephant populations survives. Yes, I have planned to continue this kind of work in other part of this region which is adjacent to the present study site and makes contiguous habitat for elephants. Addressing this type of issue at large level can greatly help in conservation of elephants and other wildlife species. If I get an opportunity in near future then definitely, I will pursue it.

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

As mentioned earlier, the outcomes of this project study have been shared by me to officials of the forest department. And this work has been appreciated by them. Also, the results have been already shared in conferences and seminars at the national level. Moreover, I have planned to publish it internationally in the near future.

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

The grant was used more than the anticipated length of the project. Because of some personal issues I could complete only 80 days field work within the actual length of project time. Although, remaining 40 days field work was conducted in September, October and November in 2019.

**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
2 Field Assistance	1390	1390		
Miscellaneous Items	35	35		
GPS instruments	174	174		
Stationary	116	116		
Raincoat	17	17		
Rucksack	58	58		
Sleeping Mat	17	17		
Transportation	2085	2085		
<b>TOTAL</b>	<b>3892</b>	<b>3892</b>		

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

As mentioned in the point 5, to effectively conserve elephants and their habitats in the north-western Himalayas, there is an urgent need to carry out this type of research at larger scale so that actual problem and its causative factors are addressed at regional level and mitigated on time. Therefore, I am planning to continue this work at another project site.

**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, the Rufford foundation logo was used on t-shirts distributed to field assistants, driver and some forest staff. We wore t-shirts a majority of times during our field work. Hence, the foundation got publicity among forest officials and to some extent among villagers wherever interviews regarding elephant conflicts were conducted. It was an overwhelming experience for all of us.

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

**Mohammad Inaam** - Assisted in field data collection

**Siddique** - Assisted in field data collection

**Arun Negi** - Driver for transportation during field work

**12. Any other comments?**

As mentioned in my grant proposal, I applied for this grant for seeking financial support specially to carry out field work related to PhD research. The grant helped me a lot to pursue my PhD research smoothly. Without this grant I was not able to complete my PhD and could not deliver the outcomes which are very important for de-escalating human-elephant conflicts. I would like to thank the Rufford Foundation for giving this invaluable support. Hopefully, my present work would be considered positively in case if I applied further for the booster grant.