

The Rufford Small Grants Foundation

Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Nandini Velho
Project title	Protection from poaching: How does hunting intensity on sensitive wildlife differ with various protection regimes?
RSG reference	10544-1
Reporting period	1 year
Amount of grant	£5825
Your email address	nandinivelho@gmail.com
Date of this report	January 7, 2013

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
To test whether protected areas versus community forests have different hunting intensities		x		During the 1-year study period I was suppose to try and finish five sites, but I have managed to sample four sites. We were primarily constrained due to logistic reasons and really tough terrain, but this is still a very good representative sample size which will enable us to make robust general inferences. However we also supplemented this by doing baseline camera trapping in Eaglenest Wildlife Sanctuary.
To test for the presence of community or institutional forest management controls in our study area.			x	We had aimed to do 75 interviews, but have now managed to do 150 interviews which has generated invaluable data, part of which has been accepted for publication in a peer-review journal.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

Field sampling: Initially we had planned to use an occupancy approach, and a small pilot study was done to see accessibility of grids to be sampled and just the physical possibility of carrying out such a large exercise. I found this to be overwhelming, both, physically and mentally. However, a visit to Arunachal by my supervisor Prof. William Laurance helped resolve this problem. I sampled a spectrum of dominant land uses, along a gradient of prevalent habitat types in community forests and protected areas. Because the study area contains extremely steep and rugged terrain that limits physical accessibility, I used existing roads as the backbone of our sampling effort. My sampling unit at each randomly selected site was a U-shaped, 500 m-long transect, where I recorded any mammals that can be identified visually or acoustically and the presence of all interpretable mammal signs such as footprints, faeces, and scrapes. This approach helped get the same data which exactly the same as I proposed, but contextually rooted in field reality.

Interviews: The team has access to experts in the field of social sciences and community-related work and learnt from them methodology related to the questionnaire surveys and semi-structured interviews component. However given that hunting was a sensitive topic, there was apprehension in giving information and speaking freely thinking that I was a representative of the forest department. Therefore I took part in multiple workshops as a resource person talking to the community about conservation, benefits and other awareness camps. This helped synergise links with the community and forest department.

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

1. From this study, a peer-reviewed publication in the journal *Oryx* has already been accepted for publication. At least one more publication is expected from this study where for the first time in India, across multiple sites we have enumerated populations both inside and outside protected areas in one of the biologically richest places in the world. This will help understand the status of populations both inside and outside protected areas (across a range of protection regimes) and create a list of stakeholders to prevent poaching and conflict.
2. With over 150 interviews which have been done with hunters from four different tribes, this has helped identify perceptions of what they feel the trends of animal populations are and why exactly they feel that way. In addition, village elders themselves have stated about how this will help create a repository of information related to taboos, fines, regulations and animal lore.
3. The most important outcome of this study is that it creates a bridge which addresses the ecological and socio-cultural drivers of hunting. For the first time in India, hunting patterns and the micro-economic logic of hunting have been overlaid onto forest landscapes using ecologically rigorous methods to understand what the response of species are.

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

By sharing their knowledge and practices, local communities have a consolidated data base about animal lore, hunting practices and the trajectory of populations over time. Interviews with hunters across generations will give the younger generation a longitudinal view of the drivers, of both permanency and change, in the forest they live in and the animals that co-occur with them. I hope this helps increase awareness about the numerous elements that make up their ecosystem, and helps them appreciate the tremendous diversity of the natural world, to encourage values that reflect respect and responsibility towards the reserve and the adjacent places that they live in.

5. Are there any plans to continue this work?

The project is continuing to this date, looking at animal population in the same areas across different times. We also plan to extend this work to more areas, and also do camera trapping to understand the responses of smaller less detectable mammals to different protection regimes. The project will complement the ongoing community based conservation efforts initiated G.B. Pant Institute and Ramana Athreya in different parts of Arunachal Pradesh. Moreover, I wish to sustain my long-term work with stake holders in the Arunachal Pradesh region of India, which will enable me to initiate a data-driven conservation programme through community-based conservation and collaboration with local forest department staff.

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

- One peer-reviewed paper entitled "Hunting practices of an Indo-Tibetan Buddhist tribe in Arunachal Pradesh, north-eastern India" has already been accepted for publication in the journal *Oryx*.

- A design student from Indian Institute of Technology, Mumbai a premier technological university has developed an info-graphic of this work.
- I will continue to engage with the popular medium and policy makers, by writing about pressing on ground field issues and raising awareness about hunting. Please see some of the articles written in the past one year:

http://articles.timesofindia.indiatimes.com/2012-05-20/special-report/31788126_1_muzzle-loading-hunting-animal-skin

<http://www.dailypioneer.com/sunday-edition/sundayagenda/travel-agenda/93156-hunting-remains-a-threat.html>

<http://www.downtoearth.org.in/content/making-slow-headway>

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

This funding was used over a period of 1 year. This is part of a larger project which is anticipated to carry on for the next three years at least.

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
Wages for 6 assistants (£1.6/day/person for 5 months)	1440	1701	- 261	Minimum wage has increased from £ 1.6 to £ 1.86, some assistants for a shorter time below 15 days were paid £ 2.5 per day.
Binoculars	50	50	0	
GPS E Trex Legend HCx 2 nos.	320	160	+ 160	The other pair was issued from research institute
Measuring tape and other small misc equipment	50	50	0	
Spotlights and torches	200	100	+ 100	More was spent on furnishing field camps as we had to go to multiple places
Camping equipment tent, sleeping bags, mats, etc.	100	200	- 100	This was adjusted with camping and spotlight equipment
Maps and satellite imagery	250	0	+ 250	No money was left to buy satellite imagery
Rent for 7 months	475	475	0	Due to transiting across multiple sites lots of money was spent staying in small motels
Travel to field site for 1 people @ £1200/person/roundtrip	1200	1200	0	

Local travel, Rent for vehicle, Fuel for vehicle	1515	1763	-248	Indian government increased fuel prices by £ 0.08 pounds per litre. Vehicle hire also increased £ 3.75 pounds per day.
AA cells for GPS torches and spotlights and camera	100	100	0	These also included batteries for a few camera traps that were deployed
Communications-phone, fax, internet,	25	25	0	
Medical aid	100	100	0	Minor accident took place to investigator and field assistant during field work.
Total	5825	5924	-99	

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

- I think increasing the scope of this study to get fine scale assessments for smaller less detectable mammals is an important step.
- Also given the re-discoveries and of species such as amphibians and birds, it would be interesting to expand the scope of this study to other taxa.
- Also documenting and aiding the process of formalising rules and traditional laws in conservation will also be useful. Communities should be aided in creating knowledge portals in the form of written material.

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

Yes, in two places. One peer-reviewed paper entitled "Hunting practices of an Indo-Tibetan Buddhist tribe in Arunachal Pradesh, north-eastern India" in the journal Oryx. The second being an infographic developed by Aditi Kulkarni.

11. Any other comments?

It would be nice if this small grant funding could be more spaced over 1.5 to 2 years.