

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	Aditya Gangadharan
Project title	Identifying critical areas for a landscape level wildlife corridor in the southern Western Ghats
RSG reference	43.02.08
Reporting period	1 August 2008 – 31 July 2009
Amount of grant	£5990
Your email address	gangadha@ualberta.ca
Date of this report	31/08/09

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 identify - grid cells used by focal species and relative utilisation rates - variables influencing species occurrence			X	Sign based presence/absence of animals, habitat variables and human disturbance related variables have been collected through occupancy based field surveys, and are currently being analysed.
To quantify inter-range elephant movement rates	X			We found it logistically impractical to undertake photographic capture-recapture of elephants in this landscape due to the poor road network, the difficulty in obtaining photographs clear enough for individual identification in evergreen forests and their inherently low densities in this area. All these made tracking on foot or vehicle unfeasible for a small field team.
To identify, based on species biology and habitat preferences, areas offering suitable conditions for movement of focal species			X	Remotely sensed and field data on forest cover, land use, human disturbance and infrastructure have been collected and are currently being analysed.
To identify potential stakeholders to partner in local conservation and restoration efforts (individual landowners/common land users)			X	Socioeconomic surveys on land use and tenure patterns, forest dependency, conservation attitudes have been collected from all settlements in the study area, providing us with data on areas where conservation of the corridor is most viable in terms of social acceptability and strength of local institutions.

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

- a. We were unable to carry out photographic capture recapture surveys of elephants due to the reasons explained above.
- b. Although much of the survey region is in the state of Kerala, it also includes a narrow belt of forest in the state of Tamil Nadu. We were, however, unable to obtain permission from the Tamil Nadu

forest department for carrying out field surveys. We were therefore forced to carry out fieldwork only in the state of Kerala.

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

a. This study has been the first to collect quantitative data within a robust analytical framework on large mammal occurrence and distribution in this region. This will help ensure that connectivity for large mammals is implemented at a landscape level based on empirical data rather than presumed movement paths. It also implements data collection protocols that can be replicated on a larger scale.

b. The multi-criterion and multi-species approach used in this study helps ensure that a wide range of large mammals are considered in planning for connectivity, and the areas chosen are optimal based on both ecological and socioeconomic criteria.

c. This study has set a robust baseline for future research and conservation activities in this region. The biological parameters obtained can be quantified again in the future to assess changes in animal distribution and relative abundance as a result of human disturbance.

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

Local residents have been interviewed on various aspects of their interaction with forest areas, including issues such as human-wildlife conflict, land use tenure and the degradation of local ecosystem services. We shall use this information in formulating future participatory conservation activities in this area. We also hired local residents to help in field surveys.

5. Are there any plans to continue this work?

Yes; we plan to remain involved in research and conservation activities in this landscape over the long term, and have applied for funding from several donors for this. Major activities planned for the medium and long term (starting August 2009) include: occupancy surveys over a much larger region, camera trap surveys for carnivores in the vicinity of major roads, dietary analysis of large carnivore scat to determine prey availability, identification of individual large carnivores through genetic studies, identification of small carnivore species through genetic studies, involvement/training of local residents and organisations in conservation activities and the implementation of a Payments for Ecosystem Services (PES) based approach to conservation.

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

This is being done through a technical report (in preparation), as well as planned publications in scientific journals. Publications of these reports will commence once data analysis is completed over the next 2-3 months.

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

The project was to have begun in June 2008; however, it actually began in August 2008 when permission for carrying out field surveys was received. Once initiated, it lasted 12 months as planned.

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. Exchange rate: £1= INR 78 (the rate in effect at time of receipt of grant)

Item	Budgeted Amount	Actual Amount	Difference	Comments
Staffing	2720	2735	-15	
Rentals	900	885	-15	
Travel	2070	2041	-29	
Incidentals	300	345	45	1. We underestimated the cost of photocopying blank data sheets for recording data; charges near the study region were roughly twice those in larger towns. 2. We also did not take into account recurring costs we had to incur on shoes for field assistants, which frequently wore out due to the ruggedness of the terrain and the fact that most fieldwork was not done on paths or trails.
TOTAL	5990	6006	16*	

* Small difference due to rounding errors

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

The following constitute important research activities in this landscape: 1. Expansion of research activities to cover wider areas; 2. Evaluation of differing species response to human disturbance and resultant spatial distributions and co-occurrence patterns; 3. Long term measurements of parameters directly related to large mammal movement such as probability of movement between different patches and movement characteristics during dispersal; 4. Studying carnivore movement and habitat use in the vicinity of paved roads; 5. Evaluation of historical patterns in land use change and project these for the future; and 6. Economic quantification of hydrological and carbon sequestration services provided by these forests.

Important applied conservation activities include:

1. Implementation of an incentive based approach for landholders to conserve ecosystem services;
2. Strengthening of local forest committees and user groups to better protect and manage natural resource extraction;
3. Improving availability of alternatives to extraction based resource use such as firewood.

We plan to undertake these activities over the long term in this area and have applied for funding for this.

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?

RSGF support has been acknowledged in the following: 1. Presentation at National Seminar on People and Tigers held at Periyar Tiger Reserve, September 2008; 2. In our progress report to the Kerala forest department, August 2009; 3. In the annual report of the Foundation for Ecological

Research Advocacy and Learning (FERAL); and, 4. On the FERAL website www.feralindia.org. Funding will be acknowledged in all future publications and presentations involving data collected during the course of this project.

