

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	Niyati Patel
Project title	Raiders of the Rann: A multivariate approach to understanding and mitigating crop raiding by Indian Wild Ass in Little Rann of Kutch, Gujarat, India.
RSG reference	17767-1
Reporting period	July 2015 to December 2016
Amount of grant	£4996
Your email address	niyati.patel145@gmail.com
Date of this report	28 th December 2016

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
Understanding spatiotemporal pattern of crop depredation in LRK				The primary data is still being collected on crop depredation from the field. We proposed to survey at least 40-50% of the total grids. But we have already surveyed 80% of the grids until now. We intend to survey 90-100% of the grids. We have also collected a total of 428 interviews from 133 villages to understand crop depredation pattern. The secondary data has been difficult to get, because farmers do not reports this issue nor they receive any compensation.
Geospatial mapping of crop depredation zones and preparing a risk map				As aforementioned we have already collected the data form 80% grids. The assessment included crop depredation level and intensity, herbivore population, habitat parameters throughout the LRK. Once the conflict surveyed are finished a conflict risk map of the protected area, will be prepared. All ground-truthing has also been conducted. For which we are looking for high resolution remote sensing data to use for land use and land cover (LULC) information of the study area. This will take another couple of months.
To understand the human dimensions of crop depredation				Till now we have collected a total of 428 interviews from 133 villages to understand the attitude and perception of people, and how farmers value wildlife along with different aspects of crop depredation through semi-structured interviews with the help of

				trained student volunteers and assistants. Currently, the data is being gathered from the remaining area of the study region.
Training and educating locals for reducing crop loss				As aforementioned we faced trouble during the permission seeking. And due to heavy rain in the monsoon study area, we could not focus on the education and training part, when we planned to do. The field work is still on-going to complete the coverage of 90-100% grids. Once the data collection have been and completed we will start awareness and training programme. Meanwhile educational materials are being prepared in local language to be distributed in the conflict prone villages. Many interested individual have been identified, and are still being identified during the on-going surveys and interactions with the locals. Once the conflict surveys are finished, we will start their training. These monitors will be trained and engaged for monitoring crop depredating species, warn others and most importantly share their knowledge and train other farmers in the community. Looking at the large expense of the study area in Little Rann of Kutch we aim to identify and train at least 10 teams (3-4 members) for achieving this objective, as against 4-5 teams (as we proposed).

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

Due to heavy rainfall during the monsoon in Gujarat and it was difficult to conduct field work for nearly 4 months (June -September 2016). Also the research permit was received late.

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

As aforementioned the project is still on going and some field work is yet to be done, few important outcomes of the project has emerged from our efforts as mentioned below.

- 1) An essential outcome of this work would be mapping of crop-raiding hotspots. Although a final conflict hotspot map, based on multivariate approach, will be created only once we have the complete data. The primary data compiled has provided us with the information never gathered on this much large scale in this area. We will know where people are suffering and where more effective efforts are required. That information will also help Gujarat Forest Department in directing the available limited resources properly.
- 2) Another most important outcome of the work is a better understanding of their attitude, perception and knowledge about wildlife, crop raiding, protected area, wildlife manager and management. This understanding has provided us a guide to design effective and targeted educational programmes to influence their minds. The educational programmes while helping farmers in improving farming practices and reducing crop loss, will significantly increase their tolerance of wild ass and hence improve their support for wildlife conservation.
- 3) The third important outcome is the involvement of the local community in the various stages of project, about which I would describe in the next section.

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

- a) Involvement of local communities in different stages of the proposed work has been the most significant outcome of this work. First of all, the interaction started when we started conducting the population survey and conflict surveys. During the farm survey and conflict interview survey, we had this direct interaction where they could explain the problems they are facing. We tried to provide them with solutions whenever possible.
- b) It took us more time in collecting field data, which was significantly affected by the heavy rain, we could not give sufficient time to develop education materials. However I have hired researchers to do the field work, which also belongs to the same region, so that I can develop the educational materials. The educational programmes will start by the mid of January 2017. This education programmes will be conducted in assistance with the monitors identified and trained monitors. Such approach while helping locals in improving farming practices and reducing crop loss, will significantly increase

their tolerance of wildlife and hence improve their support for wildlife conservation.

- c) Many individuals, especially young farmers have shown a great interest in our work. Some of them also assisted us during the human-wildlife conflict and perception survey. As proposed we already have identified such individuals and have started forming the monitor groups. We expect to begin the training programme of these groups by the end of January 2017. The monitor groups created, while helping us in identifying conflict zones, will significantly build the capacity of farmers in reducing crop loss. This project will stress on motivations of these monitor teams, find ways to make them sustainable so that we can use this model in other parts facing crop depredation in Gujarat and elsewhere in India.
- d) Results of the present work will be shared with the local communities. The proposed benefit of this project is expected to reach directly to 300 farmer families in LRK and indirectly, through the "monitors" and education materials, to more than 5,000 people.
- e) Some of the farmers have also agreed to experimentally test the cost-effective crop loss reduction techniques. This will greatly help my team understand the effectiveness of those techniques for such those species. Seeking funding to try such cost effective methods will definitely will be an important part of the next project.

5. Are there any plans to continue this work?

Yes, we will continue to collect data and raise funds in the future for the project. We also plan to expand our objectives to experimentally test the feasible strategies to reduce crop loss. A small educational documentary about the wildlife and communities in little Rann of Kutch is also planned, and for the same we will raise funds. We are also planning to do expand similar work in other protected area of Gujarat, where human-wildlife conflicts are rising.

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

The results from the project will be shared at different level. At the local level, the results of the project will be shared directly with the local communities and indirectly, through the "monitors". The medium would be posters, audio-visual presentations, group discussion, and personal meetings. The final detailed report of the project will be made available to the Gujarat forest department for better management of conflict issues and hence the conservation of wild ass as well as other herbivores. It will also be shared with local NGOs, researchers, academicians and other stakeholders to better understand crop depredating around LRK. The results will be presented in the conference at national and international level. We will also plan to

publish results in peer-reviewed scientific journals, popular article, social media and local newspapers to reach out to the people.

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 Rufford Small Grant Funds has been used for a period of year from December 2015 to December 2016 (Funding was received in June 2015). Data collection is still under process. This study took extra months to complete the field work due to heavy rainfall in the study area and delay in permission from the Gujarat Forest Department. The project will take another 4-5 months to completely attain the proposed objectives.

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
Project In charge per diem	1060	852	208	The field work is underway at the moment, and the remaining funds will be used for the next 2-3 months as per diems for the field in-charge.
Field Assistant	424	325	99	As mentioned above the project work in progress underway and remaining funds will be used for the next 2-3 months of field assistant salary.
Vehicle hiring	954	780	174	Will be used during the field work that we will carry out in the coming months
Fuel costs	954	596	358	Same as above
Vehicle maintenance and repair	350	216	134	Same as above
Food & Accommodation	954	660	294	Many a times the team stayed at the camp sites of the Gujarat forest department. This saved a quite a bit of the funds. The remaining fund will be used during the comings months. Some of this funds might be diverted towards other expenditure that may

				occur
Imagery & other secondary data acquisition (LANDSAT images, land cover maps, BIOCLIM images; and terrain map)	150	150	0	Will be used as proposed
Contingencies & Miscellaneous expenditure	150	400	-250	More expense occurred because two of our team members travelled to Nagpur to attend a 2 day workshop on human dimensions of wildlife conservation.
Total	4996	3979	1017	

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

The following are important steps that need to be taken to build on the gains from this project:

- a) From initial observations, it appears that human-wildlife conflict has increased in the LRK. Once data is fully analysed, recommendations can be made as to where conflict management should be targeted.
- b) Involvement of the local community in the research and management would be the most valuable steps towards conservations in this area. Provide them with the training and skills in wildlife monitoring; involve them in analysis and publication.
- c) More research is needed on the current issue of wildlife-human conflicts.

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?

No, the RSG has not been used yet as the data is still being collected and data generated from this project is currently being analysed. Also no documents have been published as part of the project. However, in the coming months the RSGF logo will be used wherever relevant, including educational material, presentations etc.

11. Any other comments?

Thank you to the RSG team for their support and help. This was my first grant. I am extremely grateful as, without this support, I would not have been able to carry out this project. The training and the experience the identified monitors will gain, will built the scientific and conservation capacity of the local community in the area which will enable the project to be continued beyond the scope of this project. I feel that the findings of this project will be of significant important in advancing the study of human-wildlife interaction.

