

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	Nachiket Kelkar
Project title	Long-term tracking of conflict between green turtles and fishers by community-based seagrass monitoring in the Lakshadweep Islands, India
RSG reference	12517-2
Reporting period	Dec 2012 to Dec 2013 (extension requested until February 2014)
Amount of grant	£5980
Your email address	rainmaker.nsk@gmail.com
Date of this report	15th March 2014

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
Monitoring long-term changes in turtle and seagrass distribution across islands			Yes	This activity was completed well over three seasons, and changes in turtle abundance and distribution across five islands were documented, along with corresponding changes in seagrass community composition and abundance. These data will now be used to assess potential recovery of seagrasses following high turtle grazing. These data form significant long-term trend data that will help future monitoring.
Measuring impacts of turtles on seagrass fish communities			Yes	In three islands, we have documented in detail the impacts of turtle-grazed seagrass loss on fish communities, especially with regards to feeding and nursery functions of meadows. We now understand that turtles can upset and modify community dynamics of seagrass species quite significantly.
Group discussions and consultations with fishers and policy makers			Yes	This took off well, and over time, many discussions took place either with small groups of fishers, individual fishers or community groups. In the initial meetings, the local fisheries and environment department officers participated in the discussions and there were many exchanges over key issues.
Voluntary logbook-based monitoring schemes		Yes		Although we could generate sufficient data on fishing activity and fish catch across two lagoons, this idea could not be sustained for long in these locations, due to fishers losing interest. Also, its wider application reduced a lot because of fishers' unwillingness to fill logbooks after a point. This was a lesson learnt by us that encouragement about voluntary effort needs to be cautiously enhanced and incentivised more than we did.
Creation of information database and forecast / warning systems	Yes			Although creation of information database is going on, and this will also likely get integrated with island-level

				habitat management plans, the establishment of forecast/warning systems could not be achieved due to shortcomings in networking between fishers and local departments.
Awareness and outreach regarding turtles and seagrass ecosystem conservation		Yes		This is likely to get achieved more fully as we plan to now develop and distribute awareness and turtle conflict management related outreach materials / brochures to Lakshadweep fishers and government departments.

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

- 1. Bringing together fishers in meetings:** We had a rather difficult time bringing fishers together in Kadmat Island for group discussions on turtles. There were some interesting reasons for this. One was that fishers mentioned that turtles are not such a big problem after all (unlike the other island – Agatti!). Also, key informants working with us mentioned that in Kadmat, the attitude is still that of indifference, because of the more rural setting than Agatti, which is why, attendance to meetings was below expectations.
- 2. Sustaining logbook surveys:** For inexplicable reasons, after a very promising start, fishers who agreed to fill in logbooks voluntarily could not continue this for long. This happened especially in Kadmat, where despite great enthusiasm on the part of fishers to do this, very few data points were obtained. Luckily, data were adequate to at least compare broadly between Agatti and Kadmat fishers, but this was below expectations.
- 3. Cultural bearings on perceptions regarding turtle conflict:** One thing that we found puzzling to deal with, but also fascinating, was that perceptions of fishers regarding conflict with turtles seemed to differ heavily across Agatti and Kadmat islands, despite similar fates of seagrass meadows. In Agatti, the group discussions were highly animated, and rather surprisingly, people highlighted turtles as a bigger problem, even more than declining tuna resources or El Nino SST events. This led to a lot of fierce arguments for and against turtles, with no real outcome. In Kadmat, on the other hand, fishers were far more tolerant of turtles, despite having faced similar losses. These cultural differences made it somewhat difficult for us to use a standard discourse to communicate our findings on turtle conflict in Lakshadweep. We are attempting to address this issue by making our currently ongoing development of resource materials more inclusive of diverse opinions.
- 4. Networking with local fisheries and environment departments:** was rather difficult for us, owing largely to reasons of inexperience dealing with situations as odd as turtle conflict management on both sides. However, we are trying our best to push this effort ahead and grow sustained links with the local departments to seek their support for mitigation measures following seagrass meadow loss.

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

1. Our long-term surveys of turtle, seagrass and fish distributions have generated an excellent baseline for future monitoring of lagoon environments, which can be useful in local management and conservation planning.

2. Awareness and outreach regarding conflict situations: despite some gaps, our project has managed to generate considerable awareness among fishers about the complexity of finding 'solutions' to the turtle problem in the Lakshadweep. We hope that such a joint understanding would reflect in changes in people's negative attitudes towards turtles, considering the situation's inevitability in the larger scheme of things.
3. We produced a research paper on the complex ecological dynamics behind conflict in the journal *Biological Conservation*. This paper received some decent publicity and the turtle conflict issue became highlighted across an international audience. Journalists also compiled popular articles about this research paper, on Indian environmental conservation websites and blogs.

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

Through the group discussions, consultations and contact programmes, local fishers have benefitted in terms of knowledge sharing. The local fishers understood the need to keep track of subtle changes in lagoon habitats – especially seagrass recovery following turtle emigration post-feeding aggregation. We hope that conflict perceptions against turtles might also become less extreme after these discussions and interactions.

5. Are there any plans to continue this work?

Yes.

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

1. With the Lakshadweep state departments: we plan to share results through research articles, policy manuals for turtles, brochures for conservation awareness and outreach, and related resource materials.
2. With conservationists and ecological scientists: research articles and popular writing.
3. With a broader general audience: we plan to do this mainly through use of popular articles and popular science efforts through some ecologists we know that are involved in this. Also, the turtle conflict story has been filmed by environmental filmmakers from Delhi as part of a documentary on turtle conservation in India, which we hope will soon get released for popular media.

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

The RSG was used from December 2012 to February 2014. The duration of the project, as compared to that anticipated, exceeded by 2 months. This was mainly due to the following: 1) Long and heavy monsoon season in 2013, 2) time taken in organisation of community programmes, 3) Limited initial response of fishers to our contact programmes and discontinuity in voluntary logbook schemes, and 4) availability of field contact persons.

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
Organising discussion sessions, community interactions, printing costs for outreach materials, information brochures	800	780.00	20.00	Brochure and outreach material preparation is In process.
Travel from mainland to islands, and between islands (flight or ship costs)	1,710	1,700.74	9.26	
Food and per diems for researchers and field assistants (@£66 p.m. for 12 months)	790	1,295.00	(505.00)	We had to get two research assistants for increasing our monitoring efforts and outreach with local fishers and departments, for which we had to spend some extra funds. Since the amount of equipment obtained was available at relatively lower costs, we could use that for per diems of research assistants.
Accommodation costs (@ £50 p.m. for 12 months)	600	600.00	-	
Boat hire and fuel for surveys (@ £40 per survey x 15 surveys)	600	599.68	0.32	
Equipment: Masks, Snorkels, Camera, Laptop, GPS, GIS data, Computer accessories, data storage	820	347.53	472.47	This was a category where many unspent funds remained, which we diverted to increasing monitoring effort and coverage with the help of more research assistance.
Communications (Phone and internet costs estimated @ £25 p.m. x 12 months)	300	298.72	1.28	
Services for translation /publication of awareness materials @ £65 per format x 3 formats (brochure, leaflets, notices)	195	180.00	15.00	In process. Brochures are being printed and once ready, will be shared with the RSG.
Miscellaneous costs: includes emergency rescue,	165	160.00	5.00	

evacuation, medical and insurance costs				
TOTAL	5,980	5,962	18.33	

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

1. We need to increase our collaboration and networking with local departments. This seems a crucial step not just for our research project in particular, but also for the overall changes and threats affecting the near-shore ecosystems of the Lakshadweep islands, including coral reefs.
2. Continuing long-term monitoring with greater involvement of local people: currently, the local response we have received has been at best mixed. So, we would like to strengthen efforts to monitor from within the community.
3. Looking at larger drivers of turtle population increase: this is an important step for our research that now needs to be taken. So far we have been monitoring population processes and trends in herbivory, turtle distribution and seagrass communities, but we now need to look more deeply at turtle movements, population changes at a larger scale, and their causes, which might extend far beyond the Lakshadweep islands.

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?

We have used the RSGF logo on some brochures we are preparing for outreach and awareness. We also used the logo in talks given to fishers during contact programs and consultation sessions. We plan to use it also in manuals for the environment and fisheries departments that are being prepared now. This was the publicity that RSGF received in the project.

11. Any other comments?

I would like to sincerely thank the Rufford Small Grants Programme for their great support throughout our project.