

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	Sara Anne Thornton
Project title	Evaluating benefits and values provided by tropical peat-swamp forests in Borneo: Fish and the sustainability of fish ponds as sustainable livelihood sources
RSG reference	15547-1
Reporting period	June 2014-July 2015
Amount of grant	£5,678
Your email address	s.thornton.p@gmail.com
Date of this report	03.07.2015

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 sample local fish over a year to add to our understanding of TPSF ecology and fish biodiversity in this region.			x	Fish sampling has been completed over a year, but I have decided to extend the sampling to include a full dry season. This will therefore extend surveys to around November time. We have also successfully completed the fish species list for the forest and river in the area, which includes 46 species to date.
Design and apply appropriate sampling methods to form the basis of monitoring and sampling strategies to be used locally.		X		We have designed and are using a specific method for sampling the fish using traditional wire traps which are locally available and used. However, the effectiveness of these traps as a monitoring method will be evaluated once the fish ponds have been harvested in the next coming months. Furthermore, an undergraduate student project (from the University of Leicester) which I am supervising this summer is testing the fish traps against other sampling methods to see their specificity against species and fish sizes. This will provide us with more information regarding how appropriate this sampling method is for monitoring fish populations.
Establish the sustainability of fish ponds as a sustainable livelihood option and as incentives for forest protection, and the potential applicability of this approach elsewhere in Kalimantan/Indonesia		X		We have completed monthly surveys in the fish ponds of fish and water quality. This is vital to establish the sustainability of these fish ponds by comparing catches and environmental data with data from the river and forest (as well as looking at trends between fish ponds and between months). Once more though, we are waiting for the harvesting of these fish ponds in the next few months to see what their effectiveness was (how many fish they ultimately have). I also have yet to complete individual interviews with community members to evaluate their opinions and

				perspectives related to using fish ponds. This will be vital to evaluate their social viability. Therefore, fish and environmental data has been collected monthly, but full evaluation of the fish ponds is yet to be completed and will be done in the next months until November.
Establish how people in Central Kalimantan relate to and use forests and fish, and whether they perceive a change in this use from the past.		X		Qualitative data has been collected through elite interviews and ethnographic work. One hundred and fifty structured interviews have been completed in the local communities regarding their use of fish with some questions related to changes in the past and future. However, further information will be collected through further ethnographic work, in-depth interviews and focus groups. This will start in July and finish in November.
Evaluate the role and importance (socially and economically) of fish to communities surrounding the Sabangau river		x		Again, structured interviews have been completed related to the economic importance of fish and fishing to communities. Further qualitative data is yet to be collected through in-depth interviews and focus groups which will start in July and finish in November.

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

This project has firstly run longer than expected, and this is due to delays in getting meetings with people and the project taking longer to get set up than expected. I also felt I needed to reach a certain level of spoken Indonesian especially for the interview and focus group work (within the 11 months I have now reached a conversational level of spoken Indonesian, this will be vital for the data collection for the in-depth interviews and focus groups). Furthermore, a key point for the evaluation of the fish ponds is their harvesting, which will occur in the next few months. The project has therefore been extended until November, and to support this project extension I have applied and been awarded the Allan Robertson Grant through the International Peat Society to fund my project for these last months and to ensure it can fully achieve all project goals and maximise its effectiveness and impact.

Another difficulty was equipment breakage. There is little you can do to fix this, as field conditions are humid (up to 100% some days) and very hot (temperatures on the boat and outside of the forest can reach 45 degrees celsius!). Electronic equipment therefore struggled and the only thing we could do was organise back-up equipment where possible or move to using techniques not involving electronics (e.g. using a secchi disk instead of a turbidity meter). This was a good lesson for me, and

made it clear that future projects should depend on as few electronics as possible in a tropical environment like this one!

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

These are probably yet to come (especially with regards to the social and cultural data), and I will be happy to write another report to Rufford once all data collection has been completed. So far, the following have been the three most important outcomes of the project:

1. Involvement and training of local research assistants, local community members and members of the local community Patrol Team
These will be vital participants in future monitoring projects of the fish in the river and fish ponds. I have set up and trained a team of five research assistants who help me with various aspects of the project. This team will grow to six this summer when another assistant will join our team to help with translations and the social aspects of the projects.
2. Completed the first ecological fish surveys in the forest, river and fish ponds
I have to date completed 11 months of fish surveys in the river. I have completed 6 months of fish surveys in the forest and 10 months of surveys in the fish ponds. I have also completed a pilot survey of 3 months in a canal in a transitional forest zone. I have identified and photographed 46 species present in the Sabangau forest and river. This is the first definitive fish species list put together in the area following extensive fish trapping efforts. I have trapped, measured and released over 20,000 fish in the river, over 3,000 fish in the forest and over 800 fish in the fish ponds.
3. Designed and completed interviews regarding the economic and cultural importance of fish to communities

These have been conducted by two Indonesian research assistants and members of the local Community Patrol Team who have been trained now in interview methods. They have completed 100 interviews in Kereng Bangkirai, and have started in the neighbouring village of Sabaru (50 have been completed to date). They will begin interviews in Taruna Jaya and Kameloh in August and September. They have furthermore reported very positive side benefits to the interviews: that they are able to explain to community members the role they have as the community patrol team, and to explain when asked about the fire-fighting and damming projects which they take part in. This chance for socialisation is vital for the Patrol Team and their work towards the conservation of the peat swamp forest.

I have also completed an elite interview with Pak Suwido Limin who is a Dayak community leader regarding the cultural importance of the river and fishing to Dayaks. This is vital to understand the cultural values related to fish and fishing to the Dayak communities surrounding the forest and river. I plan to conduct further interviews with him starting next month to gain more in-depth information regarding some of the aspects we discussed, especially religious and spiritual relations which Dayaks have with fishing and the river.

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

The project has trained and involved members of the community in the fish surveys who have previously had little field work experience. I have trained five research assistants who are able to use

the various instruments and know the methods used in this project. They will therefore be able to continue monitoring once I have finished my fieldwork and the fish monitoring continues.

While they learnt from the experience, I learnt from them, and one of these community members has been one of the most important members of my team. He taught me the fish species and how to identify them using his local knowledge. So importantly, this project has been a learning experience for both of us.

I have also trained two members of the local community patrol team in methods of structured interviews. They have been collecting this data and will continue to do so in the coming months. Their experience will be valuable in the future for when more social work and research is conducted in the area. They also had very positive responses from their experiences conducting the structured interviews: as while I was primarily interested in information regarding fish and fishing, they were able to introduce themselves and the community patrol team and the work which they did to members of the community as well.

Finally, once my data has been collected, I will work together with my local counterparts (CIMTROP) to produce an illustrated fish guide and monitoring protocol in Bahasa to support their long-term work in the region

5. Are there any plans to continue this work?

Yes, after my project is completed in November 2015, fish monitoring will continue in the river and fish ponds. This will be vital to collect long-term data on the fish populations in the region and their trends and to further assess and monitor the fish pond project. This data is then vital for designing future conservation or management projects.

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

As previously mentioned, I plan on creating a field guide to the fish of Sabangau and monitoring protocol which will be available in Indonesian and English.

I will produce publications based on my data to be submitted to international journals, and I will present my results at international conferences during my final year of the PhD.

I will also share my experiences on social media and in newsletters such as the International Peat Society newsletter. So far, my project has been featured in the following:

- September 2014 newsletter of the IUCN Freshwater Fish Specialist Group (page 35-37: <http://www.iucnffsg.org/wp-content/uploads/2014/09/Sept.-FFSG-Newsletter.pdf>)
- The Orangutan Tropical Peatland Project Blog: (<http://outrop.blogspot.com/2014/06/hello-monday-sara-and-her-fish.html> and <http://outrop.blogspot.com/2015/04/discovering-fish-of-sabangau-forest-and.html>).

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 over a period of one year. The project has run over this period, and therefore I have applied and was granted the Allan Robertson Grant by the International Peat Society to

continue this project and data collection until November. The RSG was absolutely vital for the setting up of this project as well as running it for the majority of what the final project length will be.

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
Return flight to Indonesia	700	945	+245	International flights were more expensive than expected
Internal return flights to Palangka Raya	100	60	-40	Domestic flights were cheaper than what was budgeted for
Year-long research permit and visa	150	150	0	
Vaccinations	178	178	0	
One field staff for 12 months	2280	2280	0	
Fish sampling and identification equipment	50	72	+22	Wire purchase for making the fish trap was more expensive than the 50 pounds assigned to equipment
Food and accommodation at Sabangau base camp for 12 months	1680	1680	0	
Costs for Jakarta based agents	60	60	0	
Internet and accommodation contribution in OuTrop house (Palangka Raya) for 12 months	120	120	0	
Transport, other basic equipment and disposables	360	360	0	
TOTAL	5678	5,905	227	

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

The project is still to be completed, and so the next four months will be spent collecting the final data and completing the planned objectives. Once this project is completed, it will form the basis of future monitoring efforts in the Sabangau River and the fish pond project. This will be vital to collect long-term data to understand fish population changes and the potential implications of this to local communities. Furthermore, more projects are needed in the local communities to understand their needs and perspectives in terms of resource use. Hopefully the experience which my assistants have after this project in terms of interviewing techniques and focus group methods, will help in future social projects.

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?

The RSGF logo was used at a presentation which I held at the University of Leicester and another presentation which I held at the Indonesian Ministry of Research and Technology regarding my project. It will be used in any other presentations which happen in the future related to this project if the RSGF is happy for me to do so, and any papers produced from the data collected in this project will acknowledge the RSGF. My final PhD thesis will also acknowledge the RSGF. I will be giving an oral presentation at an international conference once my data collection has been completed and data analysis is at a further stage, here the RSGF logo will be used. I furthermore plan to create a field guide to the fish of the Sabangau River and Forest and monitoring protocol which will be available in English and Bahasa Indonesian on which the RSGF logo will be included.

11. Any other comments?

I sincerely thank the RSGF committee for granting me the RSGF. It was absolutely vital for my PhD research, and has allowed me to tackle an extremely ambitious project. While data collection is still ongoing, this project is still being supported and will be completed as planned. Again, I am happy to provide an additional report when this data collection has been completed.