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	MARGARITA N. LAVIDES
Project title	How threatened are Philippine reef fishes due to fishing: setting conservation baselines for exploited species (Philippines)
RSG reference	18.11.06
Reporting period	February 2007-July 2008 extended to November 2008
Amount of grant	£5000
Your email address	Margarita.Lavides@ncl.ac.uk; lavides@yahoo.com
Date of this report	September 2008

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
1. describe changes in particular target fish stocks at the family and species levels in some selected Philippine fishing grounds;			Yes	The following factors that contributed to the achievement of this objective were: the availability of funds to hire appropriate research assistants who were both knowledgeable in marine fisheries and social science methods; the availability of other secondary relevant data; and the availability of support and networking system in the field sites such as from NGOs, local communities and government bodies.
2. assess whether these depletions are predictable from life history traits;			Yes	The factors that contributed to the achievement of this objective were: the availability of secondary data of life history from Fishbase (Froese & Pauly 2008) and relevant local studies from Philippine national stock assessment program.
3. use historical and other data to assess long-term trajectories; and		Yes		This objective was not fully achieved because of lack of sufficient data to warrant meaningful analyses. Further the duration of the project was not enough to gather and analyse sufficient data. Moreover, the Philippines still has a relatively very young historical records of fishing compared to older civilizations.
4. Compare knowledge of abundance data with people's perceptions of the stocks involved.			Yes	The factors that contributed to the achievement of this objective were: the availability of rare secondary long term underwater visual census (UVC) data from 2 island reef fishery settings; and the support and network provided by other NGOs, the local communities and the hired research assistants.

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

The difficulties encountered were logistical and financial. Originally, Leyte Gulf was one of the field work sites for the fisher interviews. However, upon examination of the secondary data on fish catch, it was found that almost all the species were pelagic and very few species were reef-associated which the focus of the study was. Further, Leyte Gulf was too big an area to cover, existing funding and human resources would not be able to cope with the size of the gulf area. Therefore, instead of

Leyte Gulf, Balicasag island together with Pamilacan island both in Bohol were chosen as fieldwork sites where there were existing secondary underwater visual census data of reef-associated finfishes and whose size in terms of area were compatible with existing funding and human resources.

The second difficulty was about budget. It was not foreseen that food and accommodation was too expensive many times over the approved budget since the islands were prime tourist areas. Therefore, I realigned the budget by cutting costs on airfare and boat rentals and cutting on the number of interviewers/research assistants, 3 instead of 4.

The third difficulty was about the complexity of the nature of the datasets necessitating further statistical advice and insufficient funds to cover such statistical advice. It took additional 4 months for additional funds from Ford Foundation to come to pay for statistical advice and it also took more than 2 months to learn the new statistical technique and another 2 months to process the data. Thus, a 4-month no-cost extension was requested from RSG.

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

1***. Overall catch per fisher per day declined between 61-82% from 1950-2007.*** Linear mixed models with random intercept and generalised least squares showed that in CPUE data large predators (e.g. Epinephelinae, Lutjanidae, Carangidae and Lethrinidae) declined (1950-2007) the most while in UVC abundances other common target families (e.g. Acanthuridae, Caesionidae and Scaridae) declined (1985-2007) the most in Pamilacan and Balicasag. Declines in UVC data of large predators (e.g. Epinephelinae, Carangidae and Lethrinidae) were not detected, possibly because these groups were depleted prior to the period as shown by mean abundances of 0-<1 per 500m^2 in non-sanctuary areas from 1985 to 2007 at Pamilacan. Non-target families such as Pomacanthidae, Chaetodontidae and Zanclidae declined in abundance.

2. *There was 65-82% decline (1950-2007) in grouper mean size*. Several grouper species, considered very vulnerable reef apex predators, declined (1950-2007) between 65-82% in mean size based on fishers' knowledge. There was positive correlation between the most reduced in size and either the largest grouper species or the species with the lowest intrinsic rate of increase.

3. *There were 20 species which used to be abundant were no longer caught in Pamilacan and Balicasag between 1960-2007.* At least 18 species no longer caught based on fisher interviews and species disappearances from UVC data (1999-2007) were moderate to very large-bodied and some slow-growing and late-maturing fish, concurring with the Fishbase vulnerability index categories of 'moderate' to 'very high' while none of these were evaluated by IUCN.

Declines for Pamilacan and Balicasag are attributed to intrinsic vulnerability and fishing pressure in conjunction with habitat degradation.

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

Overall catch and catch per unit effort data for Pamilacan and Balicasag were all based on fishers' knowledge but were analysed within the framework of marine science. Therefore the involvement of local communities was through direct participation with data gathering. How the local

communities would further benefit from the results and analysis of the study is the subject of further work in the area.

5. Are there any plans to continue this work?

Yes, there are plans to continue this work by sharing the results with the local government units, the peoples' organizations, the NGOs and government bodies. There are also plans to replicate the work in other areas.

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

Dissemination of results will be done together with the local governments and NGOs. Public seminar and informal talks will be organized with the communications and advocacy units of Haribon Foundation. Popular science articles showing the results of the study will be published in conservation magazines and uploaded to the websites of Haribon Foundation and Coastal Conservation and Education Foundation. Community presentations will be organized with the local government units on the sites.

Articles are presently being prepared for publication to scientific journals.

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 extensively during my field work between March 18-July 8 2007 but the fund was also used for follow up data gathering between October 19-26 2007. I am supposed to submit final report in July 2008, after 1 and a half years of approval of my grant but I requested for an extension of 4 months until November 2008. The extension of 4 months was supposed to cover the difficulty encountered with the statistical analysis required for the datasets and the waiting time needed to raise the funds for the statistical advice.

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 In £1=PhP91	Budgeted Amount	Actual Amount	Difference	Comments
1. Honoraria	1997	1392.63	604.37	Since it was not foreseen that food and accommodation was many times more expensive that it was thought, I have to forego of hiring 1 interviewer/research assistant (3 instead of 4) to cut down on costs and cover for unexpected costs in food and accommodation.
2. Travel costs of applicant UK-Philippines-UK (air fare and excess baggage fee)	899	999.00	-100.00	Excess baggage consists mainly of references and field guides needed for the fisher interviews.
3. Fieldwork costs i) transportation (air, land	1158	1198.09	-40.09	The slight overspending was due to unexpected increase in domestic

& water travel including rents of boat)				airfare.
ii) food and accommodation	745	1618.64	-873.64	The real costs of food and accommodation in prime tourist areas were overlooked during the preparation of the proposal. I had to cut down costs on honoraria to cover food and accommodation to a certain extent.
iii) field supplies & materials	68	180.71	-112.71	Even if the areas were tourist's areas, they still lack amenities and facilities such as sufficient electricity. Much of the budget here were spent in batteries and portable lights.
iv) communications (mobile top up and internet use)	99	55.57	43.43	I cut down on communications to help with the cost of food and accommodation.
v) other services (photocopying and overseas courier fee (Philippines-UK)	34	229.13	-195.13	Overseas courier fee from Philippines to UK covered the cost of transport of more than 30 kilograms of completed datasheets.
TOTAL	5000	**5673.77**	-673.77	

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

First, articles showing the results and analysis of the study should be prepared and submitted for publication to scientific journals.

Second, after settling back to working at Haribon Foundation, popular science articles for the local newspapers, conservation magazine and website of Haribon Foundation and Coastal Conservation and Education Foundation should be published and uploaded. Public seminars and informal talks should also be organized with Haribon Foundation and possibly with other local universities.

Third, community meetings should be organized together with the local government units in the field work sites. Coordination with the local government units should be made to discuss how the findings can be used in relation to the local government's fisheries management and conservation policies.

Fourth, ground working for the development of a new proposal using the methods used in this project but that covers more fishing grounds in the Philippines should be organized together with local NGOs, local academe, government and University of Newcastle.

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 is included in the webpage of my research group in University of Newcastle. Extensive RSGF publicity as donor of the project will be done during the publicity of the results and analysis during the accomplishment of the 'next steps'.

11. Any other comments?

I am really grateful that there is Rufford Small Grant that is accessible to those working in developing countries. In effect, RSG has helped me get a PhD and at the same time, helped to open up new possibilities for the development of new monitoring techniques to inform fisheries management and conservation particularly the identification of vulnerable reef-associated finfish due to fishing and other threats such as habitat loss.