

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	Edward Narayan
Project title	Monitoring Reproductive Success of Endangered Fijian Ground Frogs on Viwa, Fiji Islands
RSG reference	28.01.08
Reporting period	One year
Amount of grant	£5198
Your email address	edward_nryn@yahoo.com
Date of this report	8/06/09

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 study the variations in reproduction i.e. comparison of the total numbers of gravid females, metamorphs, nesting areas between cane toad accessible and inaccessible habitat sites.				We were able to successfully monitor the variation in numbers of reproductively active female Fijian ground frogs within cane toad accessible and inaccessible sites.
To record the types of potential nesting sites of <i>P. vitianus</i> , morphometrics of egg clutches (number of eggs and arrangement), egg morphology and morphometrics of <i>P. vitianus</i> froglets found within the natural habitats.				We discovered nesting areas of Fijian ground frogs within both cane toad accessible and inaccessible sites. Higher numbers in the inaccessible site. The morphometrics of eggs, nesting areas and froglets were noted. Furthermore, the numbers of froglets within both sites were recorded.
To show that the reproductive capacity of <i>P. vitianus</i> can be improved in the absence of cane toads and record potential impacts of cane toads upon <i>P. vitianus</i> .				We showed the using exclosures provided a good breeding ground for the Fijian ground frogs with easy access to natural substrates and prey. Cane toads basically affected the Fijian ground frogs in terms of competition for habitat space and food and it also preyed upon newly hatched froglets and metamorphs. We showed that <i>P. vitianus</i> was able to reproduce more effectively in the absence of cane toads and the recruitment of froglets was much higher.

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

It was a challenging project especially because the field work was on few occasions restricted by severe rainfall and we could not get to Viwa Island via boat. However, the field sites remained intact within the forested landscape and despite our absence, the villagers assisted with data recording and this was helped in mitigating this issue.

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

This project is the first one to show the impacts of invasive cane toads upon Fijian ground frogs. This project has shown the cane toads compete with Fijian ground frogs for habitat space, food and most seriously cane toads prey upon the froglets. This project has demonstrated that exclosures can be

used as a very effective barrier against cane toads and that the Fijian ground frogs can breed naturally within exclosures on Viwa Island and we do not have to be concerned about food supplement and translocations. This project is a good baseline example of community involvement in conservation science and it can easily be replicated in other Fijian communities and Pacific Island countries such as New Caledonia where cane toads are a major pest.

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

The local community of Viwa Island have played a major role in this project because the Fijian ground frog is located within indigenous land and therefore we carried out regular discussions with the villagers during each step of the project work from beginning till finish. The local youths were involved in the project as field assistants and they really enjoyed taking part in the field surveys, monitoring and contributing to discussions.

5. Are there any plans to continue this work?

Definitely, our aim is to continue this work we have started on Viwa Island and to establish more exclosures on the island for the Fijian ground frog to breed, we worked with only one exclosure and now we would like to erect 4-5 more exclosures as one objective for the next phase of our project. By this means, we will be managing to keep the cane toads out of bounds and the Fijian ground frogs will be able to breed naturally and we can carry out long term monitoring of their reproductive variability and strengthen our database.

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

I have published this work in a peer review journal (South Pacific Journal of Natural Sciences) and have also done oral presentation for the University of the South Pacific, Research Day.

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 one year period as request. This was the actual timeframe for this project work to be completed.

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
Travel	£2698	£2698	Nil	NA
Food	£1000	£1000	Nil	NA
Field Assistants	£500	£500	Nil	NA
Miscellaneous	£1000	£1000	Nil	NA
TOTAL	£5198	£5198	Nil	

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

Our next goal is to prepare fences around the cane toad breeding ponds so that they can stop entering the ponds for breeding (there are 6 ponds on Viwa Island) in order to control their reproduction on the island.

Secondly, our aim is also to prepare a management action recovery plan for the Fijian ground frog, which is going to be the first one ever documented for a native Fijian species. This management action plan will enable a strategic and fast recovery of the Fijian ground frog populations and it will include ideas and discussions with scientists, conservation managers, students and local communities for total protection of this native iconic frog species.

Thirdly, we aim to make Viwa Island a sanctuary for opportunities for people to visit the island and watch the Fijian ground frog under its natural habitat. Therefore the building of enclosure will assist in this plan. The management action plan will be used as a guideline for recovery of the Fijian ground frog population over the next 5 years and it will also provide bio-security measures preventing re-entry of any invasive species on Viwa Island and strengthening the relationship amongst the local people and scientists.

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?

Yes of course, I used the RSGF logo for the power point presentation done for the University of the South Pacific Research Open Day. The RSGF has also received publicity during workshops on Viwa Islands.

11. Any other comments?

I am very thankful to the RSGF for supporting this research work for protecting the Fijian ground frog population on Viwa, Fiji Islands. On behalf of the people of Viwa Island, we thank you very much.