

## 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. 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

Grant Recipient Details	
<b>Your name</b>	Dr. Edward Narayan
<b>Project title</b>	Community Led Exclusion of Invasive Cane Toads from Breeding Sites of the Endangered Fijian Ground Frog ( <i>Platymantis Vitiana</i> ) on Viwa, Fiji Islands
<b>RSG reference</b>	10205-B
<b>Reporting period</b>	Final Report
<b>Amount of grant</b>	£12,000
<b>Your email address</b>	Edward_nryn@yahoo.com
<b>Date of this report</b>	13.12.12

**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
Preventing the entry of cane toads within FGF natural breeding sites on Viwa Islands.			Achieved	<p>The cane toad removal process was an intensive one and it involved various methods most of which were implemented through engagement and discussions with the indigenous community.</p> <p>We undertook daytime and night-time surveys of cane toad to catch and remove adult individuals from the breeding sites of the Fijian ground frog on the island. The adult toads were euthanised humanely and disposed underground.</p> <p>These Fijian ground frog breeding sites were fenced off by the help of the field assistants to avoid any entry of the cane toads.</p> <p>We also removed any water bodies within the field sites by filling them up with soil.</p> <p>This process helps towards the removal of eggs and tadpoles of cane toads.</p>
Monitoring of cane toad removal and breeding activity of Fijian ground frogs.			Achieved	<p>Monitoring was done throughout the 18 months of the project period i.e. before the start, during and upon completion of the cane toad removal process.</p> <p>Data on the morphometrics (body weight and snout-vent length) and reproductive status of Fijian ground frogs were recorded during cane toad removal phases.</p> <p>The post cane toad removal monitoring process is important and this has been set-up with the support of the local people.</p>
Community workshops			Achieved.	<p>We have coordinated workshops on Viwa Island and involved the local community towards development of a sustainable management action plan and biosecurity protocols for the Fijian ground frog</p>

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

The villagers (field assistants) took major part towards the data recording and surveys. This helped in overcoming with possible delays in data collection.

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

1. We were able to successfully monitor the reproductive activity and stress physiology of the Fijian ground frogs within the cane toad accessible and inaccessible sites.
2. We have data related to the annual breeding cycle of the endangered Fijian ground frog. Currently, we are currently writing a paper based on “Annual assessment of reproductive success of the endangered Fijian ground frog (*Platymantis vitiana*) during the exclusion of invasive cane toad (*Rhinella marina*) from natural breeding sites”. This is combining data from my RSG 1<sup>st</sup> grant and my current RSG Booster grant.
3. Similar to the results obtained under the RSG 1<sup>st</sup> grant, we discovered nesting areas of Fijian ground frogs within both cane toad accessible and inaccessible sites. More egg nests were found in the inaccessible site. Recruitment rate was also higher in the cane toad inaccessible site.
4. We have showed that exclosures provide a good breeding ground for the Fijian ground frogs with easy access to natural substrates and prey items, without disturbance from the invasive cane toads. Cane toads mainly affected the Fijian ground frogs through intensive competition for habitat space and food and it also preyed upon newly hatched froglets and metamorphs.
5. We showed that *P. vitiana* is less stressed and able to reproduce more effectively in the absence of cane toads and the recruitment of froglets was much higher within cane toad inaccessible sites.
6. Increased knowledge of the abundance, habitat structure of native frog species on Viwa, Fiji.
7. Identified actions for the community in how best to protect their native frog fauna.
8. Increased community knowledge on the importance of frogs to them.
9. Identified actions for future management and research priorities for native species.

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

The local community of Viwa Island played a key role towards the project implementation. Our success towards maintaining the interest of the local community under this project was through regular dialogue and discussions with the villagers throughout the project work from beginning till end.

The local youths took part in the project as field assistants and they really enjoyed taking part in the field surveys, monitoring and contributing to the workshop discussions.

**5. Are there any plans to continue this work?**

Yes, it is vital to continue the ecological monitoring of native Fijian ground frog population on Viwa Island and this provides an excellent field site for a community based conservation study.

I am keen to monitor the Ground frog reproductive hormonal cycle, stress physiology and breeding success between seasons and amongst years so that the patterns in their biological responses towards management interventions and the environment could be assessed.

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

Through national and international conferences and upcoming publications that will be posted on the RSG website.

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

18 months matched to the actual length of the project.

**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
Traditional Presentation	600	600	Nil	Full RGS amount used.
Travel	3400	3400	Nil	Full RGS amount used.
Equipment(s)/Consumables:	1000	1000	Nil	Full RGS amount used.
Light traps	500	500	Nil	Full RGS amount used.
Fencing material	2000	2000	Nil	Full RGS amount used.
Local field assistants	3000	3000	Nil	Full RGS amount used.
Rotomold	1000	1000	Nil	Full RGS amount used.
Miscellaneous	500	500	Nil	Full RGS amount used.
<b>Total</b>	<b>12000</b>	<b>12000</b>		

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

I strongly feel that it is very important 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.

The management action plan will be used as a guideline for recovery of the Fijian ground frog population over the next many 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.

Viwa Island could be made into a sanctuary for opportunities for people to visit the island and watch the Fijian ground frog under its natural habitat.

Therefore the creation of more exclosures will assist in this planning.

**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**, the RSGF has also received publicity during workshops on Viwa Islands.

**11. Any other comments?**

I would like to sincerely thank the RSGF for supporting this highly important work on Viwa, Fiji Islands. I will look forward to your continuous strong support with my research in the future.