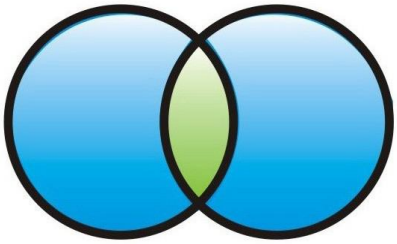

DEMONSTRATION PROJECT TO ERADICATE INVASIVE CANE TOADS AND MAMMALS FROM VIWA ISLAND, FIJI

Project Plan

June 2005

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TABLE OF CONTENTS

1. ACKNOWLEDGEMENTS

Firstly, we would like to thank the people on Viwa Island for their hospitality and warmth. It was a pleasure to spend time on the island, especially during the farewell ceremony. Particular thanks to Pou (Ilaitia Ratuvou) and his wife Vasiti for looking after us during our visit. Also we appreciate the translation services and sense of humour of Joape Kuruyawa.

Thanks to those who provided useful comments on drafts of this project plan. These were Roger James (CI), Seva Tabua (NLTB), Dick Watling (Fiji Consultants Ltd), Semi Rogoyawa (FAB), Elizabeth Erasito (National Trust), Kevin Clark (Monitoring and Evaluation Specialist), Dave Towns (DOC), and Keith Broome and his colleagues from the DOC Island Eradication Advisory Group. Phil Bishop and Jack Mace from the University of Otago and Peter Narins (UCLA) also provided suggestions on this project.

Thanks to Nunia Thomas and Clare Morrison from the University of the South Pacific for their contribution in providing research on the cane toads and Fijian Ground Frogs and Taina Waqatabilai and Inoke Bakoso Waqatabilai for their work on Viwa Island.

Thanks to those who participated in a Cane Toad workshop in Hamilton December 2004, particularly Mike Ambrose (DOC) who was an author on the initial feasibility study. Besides the authors of this plan these were; Ben Bell (Victoria University), Phil Bishop (Otago University), Alan Saunders and Steven Bavin (PP-CII), and Dave Towns, Keith Broome, Avi Holzapfel, Michael Crossland and Leigh Marshall (DOC).

Finally, thanks to the staff at the PP-CII HQ; Steven Bavin for organising the initial finances to get this plan started, Souad Boudjelas for her many useful comments, and Alan Saunders for his help and advice on the plan.

2. PROJECT SUMMARY

Fiji has been identified as a 'hotspot' in the Pacific region because of its high biological diversity and endemism. Invasive alien species (IAS) are known to have a negative ecological and economic impact, particularly on islands. To help restore the biodiversity on Viwa Island, Fiji, it is planned to eradicate several invasive species (cane toads, Pacific rats, feral cats and feral dogs). This project will also have numerous socio-economic benefits for the people of Viwa by providing employment, improving the water supply, improving health standards, and creating ecotourism opportunities. More importantly, this project will provide a model for an effective community-based conservation management programme for the Pacific.

Results from this project have the potential to demonstrate to Fiji (and other Pacific countries) that conservation in the South Pacific is beneficial and that the eradication of IAS is achievable. The mammalian eradications, to be conducted first in this project, have been successfully completed elsewhere, however, the cane toad eradication will be a world first and will require the development of effective eradication methods and technologies.

The accessibility of Viwa Island to Suva and the University of the South Pacific (USP), coupled with the islands easy terrain and small size, makes it an ideal site for achieving awareness-raising, community education and research objectives. Viwa also has the potential to become an important eco-tourism destination where people can view several rare endangered species, such as the Fijian ground frog, crested iguana and ground birds. The island could also be established as Fiji's first community-based wildlife sanctuary.

3. BACKGROUND

Invasive alien species are non-native organisms that cause, or have the potential to cause, harm to the environment, economies and/or human health. Islands are particularly vulnerable to IAS, as more species have gone extinct on islands than in any other ecosystem type in recent times. Fortunately, the successful eradication of invasive species, like rats from islands, means significant biodiversity conservation goals can now be achieved.

The proposal to eradicate cane toads (*Bufo marinus*) and invasive mammals (rats, feral cats and feral dogs) from Viwa Island, in Fiji, is in line with the main objectives set out in the Fiji Biodiversity Strategy and Action Plan (FBSAP 1999) on protecting and conserving Fiji's biodiversity. Managing the threat posed by invasive organisms in the FBSAP is considered a high priority because of the significant effect these pest species have on Fiji's fragile insular ecosystems. Both rats and cane toads are listed as problem species in the FBSAP but it was only after several discussions in 2002 with experts from USP and various NGO's and Government organisations that the idea to eradicate rats and cane toads was formulated by Dr Craig Morley.

These eradications would help protect the endangered Fijian ground frog (*Platymantis vitianus*) which is found on only four mongoose-free islands in Fiji (and a small population recently rediscovered on Vanua Levu) (Morrison et al. 2004). Fijian ground frogs are impacted by the Pacific rat (*Rattus exulans*), feral cats and cane toads

(IUCN 2004). Cane toads are extremely abundant on Viwa (population estimates suggest 250,000+; N. Thomas *unpul. data*) and they compete with Fijian ground frogs for food, as well as preying upon juveniles and adults (Phil Bishop, *pers. com*.). There is ample evidence that on other islands Pacific rats have contributed to the decline and extinction of a range of herpetological species (Towns & Broome 2003).

The removal of these invasive species from Viwa Island is also expected to benefit a range of other organisms. These include the banded iguana (*Brachylophus fasciatus*), Pacific boa (*Candoia bibroni*), oceanic gecko (*Gehyra oceanica*), Pacific slender-toed gecko (*Nactus pelagicus*), several skink species (*Emoia cyanura*, *E. impar*, *Lipinia noctua* and *E. concolor*) and birds including the golden dove (*Chrysoenas luteovirens*), many-coloured fruit dove (*Ptilinopus perousii*) and banded rail (*Gallirallus philippensis*).

Viwa Island is relatively small (60 ha) and is approximately 30kms northeast of Suva. The island is easily traversed with many permanent tracks developed and maintained by the local residents. Viwa has one main settlement with 25 houses - 104 people live on the island. There are six permanent man-made ponds used for bathing and washing clothes but these are only utilised as a last resort when rainwater supplies are limited. The villagers drink mainly rainwater, collected in tanks from roofs, but some people also have deep wells with brackish freshwater which is used for washing dishes and clothes.

The people of Viwa have title to the land and have given their permission to proceed with the eradication work (See Annex 3: Letter of Support). A strong relationship has been established with the Viwa Islanders by University of South Pacific (USP) researchers who have consulted considerably with Viwa residents over the past 3 years (see Annex 2: History of Engagement and Consultation). In the past 3 years a new health dispensary has been constructed (with money from USP), pathways across the island (for their school children) and around the village have been laid (with money from the British High Commission and labour from Raleigh International), and a new community hall has been built for the many guests they receive on the island (with money raised by the community).

This project aims to enhance the livelihoods of the people of Viwa in a several ways. Firstly, by improving their water reticulation. Water is a limiting factor for both the people of Viwa and cane toads (for breeding). It is therefore necessary to stop cane toads gaining access to water while increasing the storage capacity for the villagers. Secondly, by reducing illnesses through improved water quality and a reduction in rat-borne diseases. Thirdly, by providing income towards community projects (e.g. a new school boat and education costs). Fourthly, by offering skill-sharing and youth training opportunities, and finally creating the potential for ecotourism by setting Viwa up as a “living” community-based wildlife sanctuary.

This project presents a unique opportunity to showcase how the people of Fiji can improve their standard of living by removing harmful invasive species and restoring their natural environment. The continued support of Viwa residents is critical to the success of the project and as long as everyone is fully consulted and involved in every step of the process then this community-based conservation project will provide an excellent demonstration project.

4. PROJECT CONTEXT

There are a number of international, regional and national strategies, policies and plans that this project will contribute to:

International

- Convention on Biological Diversity (CBD) (*Article 8h*) - Fiji is a contracting party to this convention.
- IUCN (2004) Red List of Threatened Species – The Fijian ground frog is listed as endangered because its extent of occurrence is less than 5,000 km², its distribution is severely fragmented, and there is continuing decline in the number of mature individuals in Fiji.

Regional

- The major relevant regional strategy in the Pacific is the South Pacific Regional Environment Programme's (SPREP) Action Strategy for Nature Conservation 2003-2007 (SPREP 2004). This strategy (endorsed by Fiji) provides a framework for mainstreaming conservation into all development sectors and involving partnerships between conservationists, governments, the private sector and civil society.
- Fiji has been identified in BirdLife International's Pacific Important Bird Areas due to its high diversity and endemism.
- The island forests of Fiji have been included in the World Wildlife Fund's Global 200 list of the most outstanding examples of the world's ecosystems.
- Conservation Internationals Critical Ecosystem Partnership Fund Ecosystem Profile for the Polynesia-Micronesia Hotspot identifies Fiji as an important 'Hotspot'.
- Fiji is a party to the Convention for the Protection of Natural Resources and Environment in the South Pacific Region and Related Protocols (SPREP Convention) and the Convention on the Conservation of Nature in the South Pacific (Apia Convention).

National

- Fiji Biodiversity Strategy and Action Plan (FBSAP 1999) - sets out the national blueprint for the development of environmental policies and plans.
- Fiji: State of the Environment (1992) – this report states much of Fiji's economy is based on the use of natural resources and the benefits provided by healthy ecosystems. However, the current level of understanding of Fiji's biological and ecological resources is poor and a comprehensive survey of these resources is urgently needed.
- The National Environment Strategy (1993) – some of the principal recommendations of this Strategy include instituting a Department of Conservation, registering sites of national significance, and identifying priority sites for complete protection.
- Revised Sustainable Development Bill (1999) – this bill provides for the establishment of a Conservation and National Parks Authority within the Department of Environment, with specific responsibility to implement various international agreements in the areas of biodiversity protection, conservation and habitat management.

Previous work

- Researchers and students at USP have been conducting herpetological surveys and experimental research on Viwa Island for many years. This work is still on-going.
- Although researchers have worked on Viwa Island in the past only a little of this information has been published (see Barbour 1923; Gorham 1968; Ryan 1984; 1985; Morrison 2003).
- More recently, work has been carried out on the vegetation, ground arthropods, and birds on Viwa. This work is on-going.
- To increase the understanding of the distribution of the endangered Fijian Ground Frog, USP researchers surveyed four islands in Fiji for this species in 2002-3 with funding from BP Conservation (Kuruyawa et al. 2004).
- In January 2005, Phil Bishop (Otago University) and Peter Narins (UCLA) carried out research work on the acoustics of the FGF and found some interesting vocal behaviour in the males.

5. STAKEHOLDERS

As there are a number of stakeholders involved in this project, two Stakeholder Committees have been formed. The Resident Stakeholder Committee (RSC) is comprised of residents from Viwa, plus the project coordinator and project manager. The second committee (the Viwa Stakeholder Committee or VSC) is comprised of all the members of RSC plus the representatives of NGO's and government. These committees will oversee all activities on Viwa and provide a contact point for each agency. Either committee can raise their concerns and issues with the project manager, and help develop solutions to achieve resolution should any conflicts arise. Each person on the committee has been selected because they are able to effectively and authoritatively communicate with the people they represent.

Below are the people involved in the Resident Stakeholder Committee (meetings with the RSC will occur once a month – or as the need dictates):

- Viwa residents –
    - Resident Chief on Viwa (Isikeli Doviverata)
    - Viwa resident; ex village Turaga ni Koro (Usaia Saumailagi)
    - Viwa woman rep (Akosita Lewenimau)
    - Viwa youth rep (Taina Waqatabilai)
    - Viwa Church Minister (Manasa Tuinai)
- Viwa project coordinator (Craig Morley)
- Viwa project manager (Joape Kuruyawa or Nunia Thomas)

Below are the people and organisations that form the Viwa Stakeholder Committee. Meetings will occur 3 times a year (or as the need dictates).

- Department of the Environment (Manasa Sovaki)
- Native Land Trust Board (Seva Tabua)
- The National Trust of Fiji (Jone Niukula)
- Fijian Affairs Board (Semi Roqoyawa)
- Conservation International (Lemeki Lenoa)
- Environmental Consultants (Fiji) Ltd (Dick Watling)
- Pacific Programme of the Cooperative Islands Initiative (Chris Denny)

6. VISION

To develop a community-based cooperative conservation project that will lead to ecological, social and economic benefits on Viwa Island. This project will serve as a model for conservation activities on other islands in Fiji and elsewhere.

7. PROJECT DESIGN

GOAL

To restore and protect the native biodiversity of Viwa Island and enhance the sustainability of livelihoods of men, women and children on Viwa.

OBJECTIVE 1

To eradicate selected invasive alien species from Viwa Island.

Outputs

1.1 Capacity is developed among Viwa residents and within Fiji to effectively address the threats posed by invasive alien species on islands.
1.2 Eradication programmes developed and implemented.
1.3 Ecological monitoring programmes and research initiated and maintained.
1.4 Appropriate surveillance and contingency actions implemented.

OBJECTIVE 2

To enhance the quality and sustainability of the livelihoods of Viwa residents

Outputs

2.1 To improve domestic water supplies and wastewater disposal on Viwa Island improved.
2.2 Crop yields enhanced and new opportunities for agriculture and horticulture created.
2.3 Work experience for men, women and youth from Viwa provided.
2.4 Opportunities for sustainable tourism ventures on Viwa based on UNEP guidelines created.

OBJECTIVE 3

To enhance cooperation and communication between project stakeholders.

Outputs

3.1 A process for cooperation between Viwa residents, national agencies and partners developed and implemented.
3.2 Awareness raised of IAS issues and their management among Viwa residents and supporting organisations.

8. ACTIVITIES

Detailed actions, timeframes and necessary inputs will be set out in an operational plan. Generic actions, timeline and progress already undertaken to achieve the project goal and objectives are summarised below:

GOAL: To restore and protect the native biodiversity of Viwa Island and enhance the sustainability of livelihoods of men, women and children on Viwa			
OBJECTIVES	**ACTIONS**	**TIMELINE**	**PROGRESS (as at June 2005)**
1: To eradicate selected invasive species from Viwa Island	▪ Eradicate rats ▪ Eradicate feral cats & feral dogs ▪ Eradicate cane toads ▪ Undertake research and appropriate monitoring on baseline species, e.g. invertebrates, skinks and plants ▪ Establish Technical Advisory Group (TAG) ▪ Establish biosecurity and quarantine procedures ▪ Report & promote in appropriate forums	▪ By Nov 2006 ▪ By Nov 2006 ▪ By Nov 2008 ▪ Ongoing ▪ By Aug 2005 ▪ Ongoing ▪ Ongoing	▪ Discussions underway with experts ▪ Collapsible traps trialed (7 cats & 3 dogs captured) ▪ Cane toad traps tested, water bodies being mapped, enclosure fences being designed ▪ Herpetological surveys conducted (3 years), mark recapture work undertaken, invertebrate monitoring underway, habitat types mapped ▪ TAG members identified and invited to participate ▪ Quarantine procedures discussed with Viwa residents ▪ Viwa project promoted by USP, PP-CII and others
2: To enhance the quality and sustainability of the livelihoods of Viwa residents	▪ Establish Resident (RSC) and Viwa Stakeholder Committee (VSC) ▪ Improve water reticulation systems ▪ Implement training & skills-sharing ▪ Facilitate ecotourism infrastructure ▪ Encourage appropriate landuses ▪ Document health status of residents	▪ By Mar 2005 ▪ By mid 2007 ▪ Ongoing ▪ By 2007 ▪ Ongoing ▪ Ongoing	▪ RSC and VSC established and several meetings held ▪ SOPAC engineer (Sarah Davis) visited Viwa and provided comments ▪ Some residents trained in research methods ▪ Discussions with Fiji Tourism underway ▪ Residents are recording when they have illnesses
3. To enhance cooperation and communication between project stakeholders	▪ Develop and implement a communication strategy ▪ Facilitate stakeholder participation in restoration activities and assessment ▪ Document policies, procedures and results	▪ By Sep 2005 ▪ Ongoing ▪ Ongoing	▪ Community notice board erected on Viwa & USP film unit agreed to produce a documentary at cost ▪ Relevant agencies invited to be on the VSC

9. FEASIBILITY

A feasibility study conducted by Morley et al. (2004) concluded that the eradication of cane toads and other mammals would be extremely valuable and potentially feasible. Their report suggested that removing the cane toads will be problematic but a number of techniques could be effectively used in an integrated pest management approach. They also suggested removing Pacific rats as they are a threat to the islands biodiversity, and are a health and nuisance threat to the residents. In addition, they advised that the removal of cats is warranted, and dogs be removed to help local residents, rather than for ecological reasons.

In the present plan it is proposed to remove a suite of mammalian pests (rats, feral cats and feral dogs), prior to eradicating cane toads. Removing these mammals first is seen as critical in developing the appropriate infrastructure and capacity for the cane toad eradication. The mammal eradication operations will help demonstrate eradication techniques to the villagers and will assist in determining whether the island eradication team can sustain a longer eradication project around day-to-day village life. It will also remove any potential interference of rats, cats and dogs from the cane toad eradication. With careful planning, the mammalian eradications are not expected to present major difficulties and can be achieved for relatively little cost (using bait stations and traps). An experimental approach will be taken to the eradication of cane toads with progress carefully monitored as the operation proceeds. This will allow for techniques to be adapted and refined as the project proceeds.

10. RISKS

Risks	**Management**
Re-invasion by rats or cane toads or invasion by mongoose	Effective quarantine and contingency procedures in place
Cane toad eradication fails	Effective project management and support
Lack of support from stakeholders, particularly local residents	Formation of the Viwa Stakeholder Committee, Ensure ownership and involvement of local residents
Insufficient data to record changes	Suitable scientific monitoring and project support in place
Rats, cats and dogs not eradicated	Project manager to coordinate eradication with advice from the TAG and others
Lack of knowledge, skills and technology to manage IAS	Provision of training and skill-sharing opportunities, Identify suitable methodologies
Research providers not identified	Project manager to identify and engage research providers
No improvement in domestic water supplies	Ensure appropriate water agencies involved and ensure ownership of the water facilities
No dissemination of results	Project manager to ensure results are disseminated at regular intervals in appropriate forums
Insufficient funds for eradication	Effective prior promotion and proper project management
Inadequate agency support	Government agencies consulted and appropriately engaged from outset

11. PROJECT MANAGEMENT STRUCTURE

Implementing Agency: University of the South Pacific
Project Coordinator: Dr Craig Morley
Project Manager: Nunia Thomas or Joape Kuruyawa
Eradication Team Leader: Local villager
Eradication Team: Scientific experts and local villagers

Roles and responsibilities

Stakeholders	Roles	Responsibilities
Project Coordinator	Project coordination	Oversee the project, hire project manager, fiscal responsibility, publish reports and results.
Project Manager	Coordinate, plan & manage work on Viwa (including monitoring and experimental work)	Liaise between TAG, VSC and project coordinator, manage Viwa staff & acquire materials & tools for work, monitoring & evaluation. Ensure work targets are completed, write progress reports
Eradication Team Leader	Arrange eradication operations	Organise workers and equipment.
Eradication team	Establish trap lines Eradicate target animals	Cut transect lines, set and bait traps, record bait take, capture rates and maintain exclosures.
Viwa residents	Land owners, decision makers, workers	Oversee the project success, provide workers, provide equitable employment, and provide local knowledge.
Department of the Environment	Advisory capacity, scientific knowledge & island visits	Oversee the implementation of environmental practices (FBSAP), threatened species management.
Native Land Trust Board	Advisory capacity & island visits	Oversee the implementation of native land issues.
The National Trust of Fiji	Advisory capacity & island visits	Oversee the implementation of species management & Fijian protocols.
Fijian Affairs Board	Advisory capacity & island visits	Oversee the implementation of Fijian protocols & protection of traditional and customary rights.
Conservation International	Advisory capacity, funding & island visits	Oversee the implementation of the project for C.I.
Environmental Consultants (Fiji) Ltd	Advisory capacity & scientific expertise	Oversee the implementation of the project as an objective scientific observer.
University of the South Pacific	Advisory capacity, management, supervision, administration & scientific expertise	Recruit Viwa staff and student workers, coordinate with project manager, payment of expenses/wages, work with TAG and VSC, monitoring & evaluation, write reports & publications.
PP-CII	Project coordination Funding management	Initiate the implementation of the project and provide support.

Technical Advisory Group

The role of the Technical Advisory Group (TAG) is to provide independent advice, monitor progress and assess whether the project is on target and meeting its objectives. A small TAG comprising of experts with herpetological and eradication skills is required. They will meet at least once a year to set targets and review progress. Research project proposals and reports will be emailed to TAG members for comment as required.

Proposed TAG composition is:

- Project coordinator – Craig Morley (USP)
- Facilitator, TAG chair/convener – Chris Denny (PP-CII)
- Island restoration/eradication - Keith Broome (DOC)
- Freshwater ecologist/mammal eradication - Lindsay Chadderton (DOC)
- Amphibian ecologist – Marc Hero (Griffith University)
- Cane toad researcher - Michael Mahony (Australian Cane Toad Task Force)
- Social scientist – *In the process of approaching suitable people in USP's School of Economic and Social Development.*

12. COMMUNITY PARTICIPATION

A key role of the Residents Stakeholder Committee (RSC) has been to ensure that the Viwa residents are fully informed as to what the project is about, who will be doing what, and how each member of the project team will help each other. All documents for the project are being translated into Fijian because without the full knowledge and support of the community this project cannot proceed. To expedite all this, the project manager will be a qualified Fijian who can discuss directly with the residents the aims, objectives, desired outcomes, and roles and responsibilities of each person involved in the project.

Many discussions have already occurred within the community about the eradication process, the costs versus benefits (short-term and long-term inconveniences – e.g. the use of rat poisons, lower crop harvests, keeping domestic animals penned, and having more people visiting the island – for the work and ecotourism), the project objectives and rationale, and techniques to be used. The community is fully behind this project and a letter of support from the Roko Tui Viwa (the Paramount chief of Viwa) has been attached (Annex 3).

Finally, the landowners will have the final say as to what happens on their land, and mechanisms have been put in place to promote and enhance feedback measures and procedures. Furthermore, all input by stakeholders, additional planning, reporting and ongoing management issues will be discussed with the community before anything is enacted. It is aimed that monthly meetings be held with the Viwa community and a whiteboard has already been provided so the residents can communicate their concerns/ideas.

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ANNEX 1. ESTIMATED BUDGET

Viwa Budget (NZ$$)	Cost	Quantity	Year 1	Year 2	Year 3	Total
MEETINGS						
Viwa Stakeholder Committee meetings - At least 3 meetings per year – in Suva or on Viwa						
Transport – Boat ($40) Taxi ($60)	100	9	300	300	300	900
Lunch/dinner- 8 people at $25 each (3x/yr)	25	24	600	600	600	1800
Kava (sevusevu and i tautau)	60	45	900	900	900	2700
Technical Advisory Group meetings - at least once per year						
Flights (5 people) from or to Fiji from NZ or Aust, accommodations, meals, etc	1500pp	1/yr	7500	7500	7500	22500
Project coordinator - flights, accommodation, food, etc	2000	1/yr	2000	2000	2000	6000
ACCOMMODATION ON VIWA						
Project manager and two others (at least 3 weeks/month) (3 people at 21 nights per month x 12 months at $30/night)	630	3 yrs	22680	22680	22680	68040
Project coordinator and others (1 week/month)	210	3 yrs	2520	2520	2520	7560
Generator cost - $5/night	5	3 yrs	1820	1820	1820	5460
VEHICLE AND BOAT COSTS						
Project coordinator, project manager and 2 others – return trip $100 (taxi & boat)	100	3 yrs	1200	1200	1200	3600
Miscellaneous trips (building supplies, bait stations, traps, etc)	100	3 yrs	1200	1200	1200	3600
LABOUR COSTS						
At least 4 full-time people to conduct eradications and assist with cane toad experiments (construction of fences, traps, etc) at $20/day for 45 weeks	480/wk	45 wks/yr	21600	21600	21600	64800
Taina and Inoke to continue FGF survey work -$20 each for 2 nights/week	40	100 days/yr	4000	4000	4000	12000
Project manager	30000	3 yrs	30000	30000	30000	90000
Experts for skill sharing - 3 per year	2500	3/yr	7500	7500	7500	22500
ERADICATION INFRASTRUCTURE						
Mapping - aerial photo, GPS and map production	Various	1	2000			2000
Materials - track clearance, petrol, chicken cages, etc	Various		10000	3000		13000
WATER SUPPLY						
Materials - guttering, drain pipes, brackets, glue, cement	Various		13000	3000		16000
SOPAC & others advice $250/day	250	8	2000	2000		4000
VERTEBRATE ERADICATION						
Rats traps (during pre-poisoning index trapping, post poisoning monitoring period)	5	40	200			200
Bait stations (1500 @ $2/station)	2	1500	3000			3000
Costs of Pestoff Rodent Bait 20R (20ppm brodifacoum) - $200/ha for 60ha	12000	1	12000			12000
Cat/dog traps	10	300	3000			3000
Other materials - tools, safety gear, containers, etc	Various		5000	2000	2000	9000

CANE TOAD ERADICATION						
Rotenone – concentrate in 5kg bags	10	100	1000	200	200	1400
Cane toad traps (1000 @$20/each) and maintenance and repair	20	1000	20000			20000
Exclosure plots- timber, frames, wire, mesh, etc	Various	4 plots	12000	2000	2000	16000
Other materials - nails, tools, polythene, incinerator, spades, lights, etc	Various		8000	2000	2000	12000
Air freight of bait and equipment from NZ to Fiji - including cartage	3000	1	3000			3000
RESEARCH COSTS						
Scholarships	10000	2	20000	20000	20000	60000
Tracking work	Various		5000	1000		6000
MISCELLANEOUS ITEMS						
Administration costs (photocopying, phone & fax costs etc.)	1500	1	1500	1500	1500	4500
Conference proceedings (flight, fees, etc)	3000	1	3000	3000	3000	9000
Documentary - USP at cost	13500	1	4500	4500	4500	13500
Translation services (for interpreters in the village, when in discussion with the local landowners about the project and progress, and for a final report in Fijian)	20	25	1000	1000	1000	3000
First aid kits, field guides, torches, batteries, etc	Various		600	300	300	1200
15% CONTINGENCY			35043	22398	21048	
TOTAL			**233620**	**149320**	**140320**	
GRAND TOTAL						**523260**

ANNEX 2. HISTORY OF ENGAGEMENT AND CONSULTATION ON VIWA FROM 2001 – 2005

Below is a summary of work undertaken and community consultation with people on Viwa from October 2001 until April 2005.

Date	Days on Viwa	Purpose	Personnel
Oct 2001	1	Sevusevu and initial animal survey	C. Morley (University of the South Pacific - USP); D. Watling (Environmental Consultants Fiji Ltd.)
Mar 2002	10	Trapping cats and rats	C. Morley
Sept 2002	4	Frog surveys	C. Morley; T. Dunn (Fijian USP Technician); BI304 Class – USP students
April 2003	4	Research Methods Projects Course	C. Morley; T. Dunn; BI400 Class – USP students
Sept 2003	4	Frog surveys	C. Morley; BI304 Class – USP students BP Research Team: this consisted of J. Kuruyawa, N. Thomas, T. Osborne, I. Rounds (USP MSc. Students); C. Morrison (Postdoc Fellow IAS)
Nov 2003	3	Feasibility study. Visited the nearby island of Telau (a possible refuge for frogs, other herps and ground birds). Visited all water holes and assessed the viability of actually completing a cane toad eradication project.	C. Morley; J-M Hero (Griffith University, Aus); M. Ambrose (Department of Conservation, NZ); A. Bogiva (Fijian Affairs Board); A. Caginitoba (Wildlife Conservation Society); J. Nuikula (National Trust of Fiji); T. Dunn, J. Kuruyawa , N. Thomas, T. Osborne, I. Rounds, C. Morrison
Feb 2004	2	Presentation of Feasibility Study Report and discussed options for eradication	C. Morley; J. Kuruyawa; N. Thomas
March 2004	1 wk/ mth (over 1 yr)	MSc. Project. This project was on the abundance and distribution of the frogs and cane toads on Viwa Island	N. Thomas; Inoke & Taina Waqatabilai (Viwa youth)
March 2004	4	Research Methods Projects Course. Discussed the possibility of establishing a marine protected area to conserve nearby fisheries	C. Morley, T. Dunn, J. Kuruyawa BI400 Class – USP students Isoa Korovulavula (FLMMA)
August 2004	Three months	Raleigh International Volunteer program. Constructed a pathway across the island and tidied up rubbish dump. Talked about environmental issues with the people on Viwa.	17 youth from the U.K. and Fiji. Also included Viwa Island youth in the programme.
August 2004	1	Opening of the footpath across the Island	C. Morley; J. Kuruyawa; The British High Commissioner, Mr Charles Mochan; Raleigh International Staff and youth

Sept 2004	4	Frog surveys	C. Morley; T. Dunn; BI304 Class – USP students
Nov 2004	3	Viwa field trip. Assessed protocols for estimating cane toad density. Established and trained the survey protocols for the Raleigh Team	N. Thomas; J-M Hero (Griffith University, Aus)
Dec 2004	Three mths	Raleigh International and Raven Youth programme. Conducted cane toad surveys	6 Village youth and 7 Fijian youth (Raven volunteers)
Jan 2005	3	Project Plan Preparation. Selected 3 village representatives to be on the eradication and planning committee.	C. Morley; C. Denny (Cooperative Islands Initiative) L. Chadderton (DOC, NZ); J. Kuruyawa
Jan 2005	10	Bioacoustics frog research	P. Bishop & J. Mace (MSc. student) (Otago University, NZ); P. Narins (UCLA, USA); C. Morrison; N. Thomas
Jan 2005	1	Follow-up discussions with Islanders about Project Plan.	C. Morley; J. Kuruyawa; Lemeki Lenoa (Conservation International) Ledua Kuilanisautabu (USP)
Feb 2005	1	Draft Viwa Project Plan presented. SOPAC visited Viwa to assess water problems	C. Morley; J. Kuruyawa, Ledua; Sarah Davies (SOPAC); Marc Overmars (SOPAC); Tim Markwell (USP)
Feb 2005	1	Follow-up visit to discuss the Viwa project. USP Media team visits Viwa in preparation for filming a documentary	C. Morley; J. Kuruyawa, Ledua, N. Thomas Kelepi James (USP Media centre); Mel Guiney (Video Director USP Media Centre)
March 2005	3	Research Methods Projects Course USP media centre films students doing research and interviewing villagers	C. Morley; T. Dunn; L. Winder (USP); BI400 Class – USP students; Kelepi & James (USP Media Centre)
March 2005	8	Study on the vegetation of Viwa	Anna McGuire (USP undergraduate student)
March 2005	5	Construction of ten 2 x 2 m rat exclosures for plant study	C. Morley, J.Kuruyawa
April 2005	1	Eradication evaluation.	C. Morley, Dave Towns (DOC), Tim Markwell; Anna McGuire
May 2005	2	Presentation of frog and cane toad count data by Nunia Thomas on her Masters work on Viwa	C. Morley, J. Kuruyawa, N. Thomas, C. Morrison, I. Rounds, J. Kelepi, plus 6 international students from Canada, Australia and the USA.

ANNEX 3. LETTER OF SUPPORT

From Ratu George N. Komaisavai (Roko Tui Viwa) (The Roko Tui is a Fijian in charge of a district or area (high chief)).

Viwa
Bau
Tailevu

11 April 2005

Doctor Greg Molly
School of Pure and Applied Sciences
Biology Department
University of the South Pacific
Suva

Dear Doctor Greg

re: **CANETOAD/RATS ERADICATION**

Bula vinaka Doctor Greg. We have met once in 2004. I have often been updated on the progress of your work and I must say that I am impressed. The people of Viwa are indeed grateful for natures gift to this island and the international attention that your project is bringing to the island. I wish to assure you of our continued support for as long as it takes to make the project a success.

I understand that you are planning to build a boarding house and that a site has been recommended and has received your approval. The arrangement with regards to the use of this house, as suggested by you is encouraging.

It has been brought to my attention that you are planning two eradication programme.

a) CANE TOAD ERADICATION and
b) RAT ERADICATION

I am recommending that you begin with the eradication of rats because it is the smaller of the two projects.

Rats are not only a domestic problem but they have been responsible for destroying our mature root crops.

I do not wish to interfere much with your work however I hope that you will agree with the recommendation.

Kind regards.

Ratu George N.Komaisavai
Roko Tui Viwa