

# DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES

## ANNUAL MONITORING FORM

### Project Details

Project Reference No. 162-8-89

Project Title Coral Reef Conservation - Fiji

Institution: Just World Partners

Round 1            (please tick)  
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## PROJECT IMPLEMENTATION TIMETABLE

- a) Outline progress over the last year (1999/2000) against the agreed baseline timetable for the project. If some milestones have not been achieved or have slipped, explain reasons for this.

### *08/99 Project site selected in collaboration with Fijian partners*

Cuvu Tikina has been chosen as the project site, consisting of 8 villages and one hotel on the coral coast in the Province of Nadroga. The hotel, Shangri-La's The Fijian Resort, is located on Yanuca island. The island is owned by the villagers in Cuvu Tikina and is leased to the Shangri-La group. The resort employs many people from the villages.

### *08 - 09/99 KAP survey*

PLA (Participatory Learning Action) workshops were carried out in the villages of Tikina Cuvu by FSP-Fiji staff with the aid of experienced facilitators from other NGO's and Government departments. The workshops assessed attitudes and gathered local knowledge and information on resource use and local practices; as well as introducing the concepts of watershed management and marine resource management planning. A large volume of data was collected from the workshops, which has been written up as a full report, including the problems and solutions identified by the villagers which will form the basis of the action planning and community aspect of the project. Please see attached report.

### *08/99 Training of environmental engineer and other trainees, including a student from USP*

This has been postponed until June when Jane Shields will be in Fiji again. Potential trainees have been introduced to the project, but it was inappropriate for them to spend time with the consultants during the early investigative stage. Potential trainees have expressed interest in the project and have been kept up to date with project development.

### *08/99 Indicators for use by local community developed*

The condition of the reef and the quality of water at several locations are being monitored to indicate the quality of the marine environment. As yet, only baseline information has been gathered. The water sample analysis carried out by USP was very costly, prohibiting repeat sampling, but, with a grant from Jersey Aid, we will be able to purchase our own portable 'water testing' equipment which will enable villagers to regularly measure the quality of the water. As described below the reefcheck methodology is being adapted to make it more accessible. Other indicators will be developed with the communities as part of the on-going PLA process to enable villagers to monitor the progress of their projects.

Additional indicators of water quality and coral reef health that will be used are as follows;

- algal growth
- crown of thorn starfish numbers
- visual pollution (eg sewage, animal discharges)
- silt (erosion for logging and roads)
- rubbish
- condition of mangroves

An easy and replicable way for communities to collect, qualify and use these indicators to reflect the health of water quality and the coral reef is under development.

### *08/99 Training of at least 6 community members in reef monitoring*

A reef check training day was held at the Fijian resort in February 2000. One survey of the reef was carried out by the participants as part of the course. The information collected is being used as baseline reef health data (please see the attached reefcheck results). The results of this survey were sent to Reefcheck International in Hong Kong for inclusion in their annual global reef health report. As Reefcheck methodologies require participants to

scuba dive, the methodology is currently being adapted for use with simple snorkelling gear for use by local communities.

*11/99 Manual outlining participatory approaches to raise awareness about the importance of the marine environment produced*

The community participation process is being documented to enable the project to be improved and replicated in other areas. Two working guides prepared by Hugh Govan, 'Empowering local communities to reverse the decline of coral reef ecosystems in Fiji' and 'Process timetable and workshop contents, community-based management of coral reefs' which will form the basis of the manual once field tested. The production/ publication date for manuals has been put back, as it would seem more logical for them to be produced at the end of the project, when the materials have been field tested and, if needs be, improved.

*11/99 Watershed management strategy for project site produced*  
Please see the attached document.

*01/00 Community awareness programme started.*

A series of PLA workshops were started in November, a significant portion of which concentrated on environmental education to raise community awareness. Further workshops are planned in Cuvu Tikina for 'action planning' and creating 'Community based marine management plans' as well as the development of a watershed management strategy. The community programme will include ongoing appraisal / evaluation of the project and its processes, as well as what is being achieved. Training of Fish wardens will be carried out in July / August in conjunction with The Coral Gardens Initiative (another FSP-Fiji project working in the same Tikina) and the Department of Fisheries. Rubbish disposal and management / land use management workshops are being planned for July / August. These workshops will focus on the environmental impact of 'dumping' rubbish, different types of household waste: biodegradable and non-biodegradable, and the best ways to dispose of these items. It may include training in construction, use and benefits of composting units. Also a Marine Resource Management workshop is planned for July / August which will include basic coral reef ecology, impact of different fishing methods, impact of over fishing of species.

- b) What progress has the project made in achieving its objectives over the last year? Is the project still expected to achieve all the original objectives which were specified? Explain any problems/difficulties which have been encountered to date in achieving the objectives of the project (or any which you envisage may be encountered in the future).
- *To raise awareness among communities of the importance of coral reefs and the implications of water and waste management on the marine environment and encourage community initiated simple waste management innovations.*

As described under section a), this objective is largely being met through the implementation of PLA workshops. The 'action planning' workshops will begin shortly at which stage it is expected that communities will start to construct/use simple waste management systems. It is envisaged that this objective will be met.

- *to prepare a water management plan and strategy for the region identified.*

Preliminary environmental assessment of Cuvu Tikina and The Fijian resort has been produced, with recommendations for waste and water management and treatment. Please see the attached report.

- *to identify and develop ecological water and waste management technologies for one hotel and one small community.*

Trials are currently in progress at Vuda piggeries (animal husbandry has been identified as a major source of nutrient rich pollution which is affecting coral health in the area). Experimental composting and vermiculture are being used to treat solid waste and five artificial wetlands have been created to treat liquid effluent, testing a variety of native species pollution tolerance. See attached report. Floating wetland treatment raft trials are being carried out at a local lake for use on the Fijian resort's waste water lakes. It is expected that this objective will be met.

- *to train local counterparts in the design, construction and maintenance of appropriate technologies.*

Potential trainees have been identified and kept informed of project activities. Preliminary training will begin in June involving small seminars introducing concepts of watershed management, ecological treatment systems, composting etc. It had been hoped that organisations would release trainees to work alongside and be trained by Jane Shields. However, it now appears that potential trainees are not available for such lengths of time and a more intensive training programme will need to be designed. With extra funds secured from a UK trust, it is still hoped that this objective will be met.

- *to collaborate with DoE in the production of specific strategies that could be incorporated under Fiji's National Biodiversity Strategy and Action Plan.*

Initial contacts have been established and these will be developed further later in the project. The project has involved a number of other local institutions, ministries and NGOs with the aim of sharing experiences in community coastal management. To this end, a number of planning meetings have been held and an inter-institutional facilitation team has been formed. Institutions and people involved include:

- FSP Conflict Management Team (Roshni Chad, Simione Koto)
- Etika Rupeni (WWF)
- Wana Sivoi (SPACHEE)
- Simione Kaitani (FSP)
- Aliti Vunisea (USP - Women in Fisheries)
- Aliferety Tavake (USP student - community based monitoring)
- Manasa Sovaki (Principle environmental officer DoE)
- Aisak Vana (Fisheries Officer - Sigatoka)
- OISCA (a Japanese NGO involved in mangrove and tree planting in coastal areas)
- Local Rural Authority (local government body responsible for waste disposal outwith towns)
- Keresi Fonomanu (Senior Technical Officer The Native Land and Fisheries Commission)
- Osea Bolawaqatabu (Senior Reseach Officer The Land Use section)
- Ilaitia Caginavanua (Native Lands Trust Board)
- Keep Fiji Beautiful (a local NGO working on litter issues)
- Alifereti Bogiva (Fijian Affairs Board - deals with issues affecting indigenous Fijians)
- Kinivilame Namoumou (Principle Agricultural Officer, Western Department of Agriculture)
- Ed Lovell ( Marine Biologist and local expert on coral reef ecosystems)
- Pumale Reddy (Senior Surveyor, Foreshores Department of Lands and Survey)
- Founding members of a committee that is reviewing the current conservation status of wetlands in Fiji (including coral reefs) with a view to Fiji signing up to the Ramsar Convention. The committee consists of NGO's and government departments and will make a recommendation to the Government.

c) What lessons can be learnt from your experiences (both good and bad) over the last year?

- Community processes cannot be rushed and arranged dates are cancelled if there is a death in the village - the need to maintain flexibility
- Obtaining high quality building materials in Fiji is difficult and very expensive
- Importance of keeping all stakeholders fully informed, and make sure that they all fully aware of committee decisions and understand the project activities.
- Working with such a large community spread out over 8 villages has presented logistical problems, and slows down the progress of the project. Co-ordinating activities, having to do so many workshops, dealing with pre-existing conflicts within and between villages contribute to delays.
- The issue of financial compensation by the Fijian Resort for using the traditional fishing grounds of the communities has arisen as a result of increased environmental awareness through the project. The villagers feel that the project is confirming their long held belief that the resort has, to a certain extent, been responsible for the degradation of the surrounding reefs and fish stock. FSP has advised the committee of the need to approach the issue in the best manner possible as it is sensitive and could affect the good relationship between the Resort, FSP and communities. FSP's conflict resolution team will be working with the committee to resolve this issue.
- Working with a Resort that is part of a large international chain has meant that there is more bureaucracy, as all decisions must be approved from overseas. This has slowed down the project, and held back the design phase.
- Other NGO's and government departments have been supportive of the project and have indicated their desire to work with us. By co-ordinating activities and working together, the objectives of the project can be best achieved.
- By ensuring that all of our workshop materials were printed in Fijian we got a better response from participants.

d) If the project timetable has slipped or changed, provide an updated project implementation timetable for the remainder of the project. *(Please note that projects are expected to adhere to their original timetable and that the timely completion of projects is an important factor taken into account by the Department when assessing project performance. However, from time to time projects may be delayed unavoidably due to circumstance beyond their control. Where a project is falling behind schedule, details on the revised programme of work should be provided below. This will need to be passed to the Department for approval).*

<b>Revised PROJECT IMPLEMENTATION TIMETABLE</b>	
<b>Date</b>	<b>Key milestones</b>
<b>2000/2001</b>	
07/00	Training of Environmental engineer and other trainees, including student from USP started
07/00	Appropriate ecological technologies and systems to conserve water and treat waste identified
08/00	Plans produced for specific technologies and systems for one hotel and community
09/00	Construction at hotel started
11/00	Preliminary waste water system to be installed at the resort
<b>2001/2002</b>	
05/01	Training of Environmental engineer and other trainees ended
07/01	Manual on technology identification produced
07/01	Manual on PLA finalised and produced

e) What is the estimated completion date for the project?

August 2001

f) Is this different to the completion date set out in the original application form?

Yes  (please tick)

No

## **PROJECT OUTPUTS**

a) What outputs have been achieved by the project over the last year (1999/2000)? We would like you to work through the list of standard output measures which have been agreed for the Darwin Initiative and to report on those which are relevant to your project. All information provided should be referenced clearly to the appropriate project output reference number, and should provide the level of detail required (requirements are specified in the Guidance Note on Output Definitions which accompanies the List of Standard Output Measures).

*Please note you are not expected to report against all the output measures which are listed. We only expect you to report on the outputs which were agreed for your project. However, if further outputs have been generated which relate to one or more of the standard output measures, these should also be reported below. Further outputs which do not fit easily into any of the standard output categories should be reported later in the section (see sub-section b).*

## **Output**

<b>Ref. No.</b>	<b>Description / Commentary</b>
6A/B	<i>6 community members trained in reef monitoring</i> A one day training in the use of reefcheck was held for 4 participants. However, as the reefcheck methodology requires participants to scuba dive, it is being adapted so that it can be used with simple snorkelling gear. The training will continue once the methodology has been adapted.
6A/B	<i>1 student trained in design and construction of waste management systems.</i> Jos Mister has spent the last year working on the project and has become familiar with all aspects and concepts of the project, including tropical marine ecosystems; issues affecting coastal communities in developing countries; working with communities at a grassroots level; viability of different wastewater treatment systems as well as their design and construction; and native wetland species and their pollution tolerance. These skills, and other learnt during the year, will be used in further work when the student returns to university for one year after the placement, as well as in future employment.
8	<i>Two UK experts spend a total of 14 weeks in Fiji</i> Jane Shields and Hugh Govan spent a total of 16 weeks in Fiji in August/September/October 99.
4A/B	<i>At least 8 trainees, including 1 environmental engineer, trained in planning, design and construction of waste management systems.</i> This has not been achieved. Trainees have less time than originally thought and it was not appropriate for them to be part of the early investigative stages. They will receive initial training in July ?? in a more intensive format at which time their training programme will be drawn up.
7	<i>One manual on participatory public awareness methodologies published</i> <i>Draft manuals have been produced. They are currently being field tested and will be published next year, towards the end of the project.</i>
7	<i>One water management plan and strategy produced for catchment area</i> Draft produced and attached.
15A	<i>One press release in Fiji</i> This has not yet occurred. There will be a press release at the time of the first systems being installed.

- b) Please provide details on any further outputs generated by the project over the last year which do not fit easily into the standard output categories for the Darwin Initiative.

*Appropriate technologies for site identified and tested*

Trials are currently in progress at Vuda piggeries. Experimental composting and vermiculture are being used to treat solid waste and five artificial wetlands have been created to treat liquid effluent, testing a variety of native species pollution tolerance. A number of native species have now been identified for use in wastewater treatment systems, focus is now on increasing the diversity of plants, particularly 'useful' species which can be used for animal fodder, craft materials etc. The worm breeding programme is successfully underway to provide worms for community vermiculture and composting systems. The 'floating wetland treatment system raft' has been redesigned and constructed using local, low costs sustainable materials.

*Awareness of environmental issues raised in 8 villages*

One day PLA workshops have been held in the 7 of the 8 villages in Tikina Cuvu. Numbers of participants ranged from 15 to 60. Feedback from the workshops was very positive (see ) with participants keen to see environmental improvements in their villages and learn more. The next stage of the workshops is a response to this, and is based on what the community wish to learn more about.

- b) Explain any problem encountered to date in achieving the output targets specified for this project or any problems you envisage in achieving these outputs in the future.

Problems have been noted under outputs

**PROJECT EXPENDITURE**

a)	1999/2000 Darwin Grant	£24,353
b)	Overall Darwin Grant	£77,560
c)	Grant expenditure 1999/2000	£24,353
d)	Grant expenditure to date	£24,353

- a) Please provide a breakdown of grant expenditure using the main expenditure headings in the original application form.  
 b) *Explain any variations in expenditure (+/-10%) from the original application form.*

**1999/2000**

**Expenditure to Date  
 (if different to 1999/2000  
 expenditure)**



## STAFF RESOURCES

Name	Institution	Grade/Position	Input During 1999/2000
Verona Lucas	FSP/Fiji	Director	Oversight of project implementation
Floyd Robinson	FSP/Fiji	Project Officer	Coordination of project implementation
Jos Mister	FSP/Fiji - Salford University	Volunteer	Assisting with project coordination and reporting
Jane Shields	Living Water	Consultant	Watershed, water, waste and resource management and ecological water and waste treatment with training in the above.
Hugh Govan	Independent	Consultant	Overseeing community PLA process
Phoebe Cochrane	Just World Partners	Project Officer	

b) Please explain any variations in the composition of the project team or in the inputs of key staff from the details provided in the original application form.