Sustainable development:
successful case studies from the Pacific

Commonwealth Secretariat

South Pacific Regional Environment Programme

Acknowledgements

This project was made possible by technical assistance provided by the Commonwealth Secretariat through the Commonwealth Fund for Technical Co-operation. (www.thecommonwealth.org)

In addition, the following individuals are thanked for their valuable contributions toward the project.

- Paul Stapleton and Seema Deo of SPREP for technical advice, editorial and design/layout input.
- Mary Power and Matt McIntyre of SPREP for reviewing drafts.
- The contact person(s) for each case study, Shiro Amano, Faafetai Utime, Alivereti Bogiva, Alifereti Tawake and Sefanaia Nawadra for providing the valuable information needed for this project.
- Aliti Vunisea, Secretariat of the Pacific Community, Noumea and Tanya Tremewan, Christchurch for advice.

Talica Koroi
Writer and compiler

Sustainable development:

successful case studies from the Pacific

Introduction

The Pacific island countries and territories (PICTs) have for centuries lived a subsistence lifestyle, depending solely on natural resources from the land and sea. With the introduction of a market-driven economy, however, their cultures and lifestyles have been changing rapidly from an economy administered through a communal social system to a more western style of living. This trend and its socioeconomic consequences are driving internal migration into the urban centres from rural areas, industrialisation, monoculture agricultural development and commercial exploitation. The result is unprecedented degradation of the limited natural resource base.

PICTs continue to rely on donor countries for aid and support toward their development. Although this support is vital to the island countries, sometimes the work does more harm than good. Part of the problem has been the inability of the PICTs to handle the projects, especially where large delivery project frameworks were favoured by donor agencies. Many projects that have been carried out have been designed for implementation through the top-down approach, which does not fit with the usual form of governance in many PICTS. A change in approach is overdue. Sustainable approaches to community lifestyle and development allow people and governments to determine how their countries progress, taking into consideration aspects of development that not only work for the present but also benefit future generations.

The Barbados Plan of Action (BPoA) for Small Islands Developing States (SIDS) aims at implementing Agenda 21 actions that address sustainable development. It seeks to deals with the degradation and overexploitation that threaten the environment and livelihoods of Pacific island peoples. The commitment of the SIDS, of which PICTs are a part, to protecting and conserving their natural resources should be supported by the international donors. Already this is happening across the Pacific, with donor countries, non-governmental organisations (NGOs) and island governments working together to achieve a common goal.

Pacific stakeholders realise they need to move from theoretical models of sustainable development to practical implementation. The question remains how. Over the last few years some consensus has been reached, with a common call for “mainstreaming” the environment into development process. That is, making the environment a common consideration in all aspects of development. To allow this, the processes of governance need mechanisms such as integrated legal frameworks, vertical and horizontal administrative linkages, coordinated policy development, better use of economic information, community participation in decision making, empowerment of communities and better partnerships among government, NGOs and local communities. Development of these mechanisms is at different stages in different PICTs.

This booklet highlights some stories of practical sustainable development around the region, because countries have been calling for the documentation of such successes. This booklet is seen as a first production of a series of reports relaying successful case studies around the region, to showcase initiatives that illustrate positive ways to implement sustainable development.

Many Pacific islanders depend on natural resources from the land and sea

Managing waste

Issues addressed

Management of Wastes (Chapter III of the Barbados Plan of Action)

The Fukuoka semi-aerobic landfill method has given Samoa has a proper facility to tackle waste management and pollution prevention

Overview

The Pacific island countries have always lived a subsistence lifestyle in which they depend solely on their natural resources from the land and sea. However, with the introduction of a more market-driven society and modern technology, the focus has shifted from subsistence living to a commercially driven one. This has also been the impetus for Pacific islanders to move to urban centers in search of better education, work and lifestyle. Thus, Pacific islanders migrate to city centers because of pressing social and economic reasons.

The Pacific region has been growing steadily in the last decade with a population growth rate standing at 2.3% per year across the region. Apart from this population growth, the Pacific region has also been going through some changes in its political, economic and social structures. Although these developments are essentially good for the country, in most cases, they put pressure on the limited land and other natural resources for some, if not most, small island states. All these developmental and social changes that these island countries go through have impacted, some good and some not so good, the livelihoods of the Pacific island people.

This case study looks at the issue of pollution and waste management in the region and in particular the Fukuoka Method of waste management that was carried out in Samoa.

The success story

The Fukuoka method of waste management was carried out in Samoa and it became the first country in the Pacific to test this semi-aerobic type landfill. Before the establishment of this new waste disposal method, Samoa was no different from any other Pacific island country in that rubbish or waste material of any sort was disposed of at random at the dumpsite, creating unwanted air pollution, a breeding environment for flies, mosquitoes and rodents and an eyesore to the area and its surrounding vicinity. With this Fukuoka semi-aerobic landfill method however, Samoa has a proper facility in place to tackle this critical issue of waste management and pollution prevention.

The steady growth of the population of Apia has prompted the government of Samoa to set up a dumpsite that will cater for this growth. The Tafaigata dumpsite was first opened in 1992 and since then open dumping of solid waste, of which 70% is household rubbish, has been the norm. With this open dumping come other problems like scavenging with people exposing themselves to potentially dangerous gases or diseases; open burning that could lead to poisonous and toxic gases released into the vicinity of the dump; a breeding grounds for flies and mosquitoes which could cause the spread of diseases; and contamination and pollution of the soil, land and water of the area around the dumpsite.

In 2002, the government of Samoa passed a national waste policy that is currently used as a working document for issues concerning the control of solid waste problems in Samoa. This was a positive step for Samoa in that it was to encourage the establishment and use of a new waste management facility. Today Samoa boasts a dumpsite that is the first of its kind in the region and one that is synonymous with recycled-conscious countries, for instance Japan. In this way, Samoa has paved and led the way for the region in successfully dealing with their solid waste problems.

Scavenging from dumpsites is unhealthy and even dangerous

Impact

Environmentally speaking this method of waste management is good for Samoa as it has helped towards minimizing the contamination and pollution of groundwater. The social impact of this project is that it has helped lessen the stench from the area and has also cut back on the number of scavengers rummaging through potentially dangerous waste materials.

In addition, this type of landfill can work to the advantage of small island states with limited economic and land resources in that it is not only an affordable project to carry out but could also be used for a very long time. In addition, the dumpsite can be converted into a recreational park, a flower garden or for other suitable future uses once landfill operations are completed.

The adoption of a new national waste policy by the government of Samoa has certainly pushed for this project to eventuate and this is an indication that Samoa has incorporated into its national policy a waste management strategy that is to be utilized by and benefit its future generation.

The Tafaigata dump in Apia, Samoa before (top) and after (below) the introduction of the Fukuoka method of waste management

Case study

Title: Waste management: Samoa adopting the Fukuoka 'semi-aerobic landfill' Method

Location: Tafaigata, Upolu Samoa

Responsible organizations: JICA in partnership with SPREP; Government of Samoa (Ministry of Natural Resources and Environment)

Description of project: The semi-aerobic landfill that was set up in Samoa is a waste disposal method that enhances and accelerates the decomposition of waste

Key activities:

- Pushing and compacting of old wastes to form about 5 compartments proposed to store incoming new wastes
- Laying of concrete and plastic pipes through the compartments to collect generated leachate
- Establishing of vertical pipes and empty drums to allow for the release of generated gases
- Establishing a pond to collect generated leachate
- Periodic covering of new incoming wastes with top soil
- Establishing new access roads within the area

Results achieved: In 2003, the Tafaigata rubbish dump was given a new look with the Fukuoka landfill that was not only environmentally friendly but also has great significance for the general population of Upolu. This initiative is the first of its kind to be carried out in the region and has been a great success in that:

- Risk of contamination of ground water was reduced
- Flies and rodents were hardly seen on site
- Wastes were properly disposed of in an orderly manner, assisting in providing adequate space to accommodate for more incoming waste
- Air pollution has been drastically reduced and thus creating a safer and workable environment for landfill workers and residents from nearby villages

Contact:

Mr. Shiro Amano, SPREP, Box 240, Apia, Samoa
Mr. Faafetai S. Uitime, Planning and Urban Management Agency, Ministry of Natural Resources and Environment, Samoa

Biodiversity conservation

Issues addressed

Biodiversity Resources (Chapter IX of the Barbados Plan of Action)

Coastal and Marine resources (Chapter IV of the Barbados Plan of Action)

Involving the local community, district and village chiefs and headmen were crucial factors in the success of this project. After 3 years the villagers reported a 35% increase in household incomes and tripled catches

Overview

The Pacific region has a history of “boom and bust” resource exploitation in the guise of development that has driven regional governments and community organisations to search for more sustainable development options that does not only satisfy the needs of the cash economy but also sustain our unique and vulnerable ecosystems.

The empowerment of local communities through the synergistic application of traditional and western resource management structures and practices has been a successful vehicle for sustainable development in the region. This case study focuses on the Fiji Locally Managed Marine Areas (FLMMA) Network through the Veratavou Project.

Success story

In the coastal district of Verata, which is outside Fiji's capital Suva, marine resources provide the backbone of this local community's livelihood. The Verata district is one of the major suppliers of fish and other marine species to the greater Suva area. Overharvesting to supply market demand had led directly to the depletion of marine species within the district fishing grounds.

In 1997, the Verata district, in an effort to revive its dwindling marine resources, became the first site in Fiji to test a biodiversity conservation method where traditional authority was used to declare sections of its 94 km^2 fishing grounds as no-take *tabu* areas. In addition, issuing of licenses to commercial fishermen within the district's Fishing Rights area and destructive fishing methods (fish poisoning, coral harvesting and mangrove extraction) were banned. A species of shellfish that was at particular risk of overharvesting, *kaikoso* (*Anadara* sp.*),* which was also the traditional totem of the Verata people, was banned from being harvested.

The crucial factor in the success of this project was the involvement of the local community and specifically the commitment of the district chief, the *Turaga na Ratu,* village chiefs and headmen. The people of Verata, after training from project facilitators, had the task of monitoring the target species. After 3 years, the size and the abundance of the target species had increased tremendously. At the same time villages reported a 35% increase in household incomes and tripled catches. The single biggest lesson was that while commercial fishing was primarily responsible for the decline of the marine resource, traditional fishing methods, if effectively managed, could satisfy community cash income demands while also conserving the marine ecosystem.

This project allowed the whole district to work better as a community in their efforts to conserve their marine areas. It has also encouraged other communities in Fiji to actively participate in managing their marine areas. Community members from Verata have used their skills and experience to assist in training in other communities in Fiji and other countries like Federated States of Micronesia, Indonesia and South Africa. A team from Verata was also contracted to make marine field surveys for a number of Environmental Impact Assessments.

In 2002, the Veratavou Project under the banner of FLMMA (Fiji Locally Managed Marine Area) won the *Equator Initiative Award* at the World Summit on Sustainable Development in Johannesburg, South Africa

Impact

The establishment of a network of practitioners and local fishing communities alike in addressing the issues of biodiversity conservation has greatly impacted the livelihoods of the local people by raising the standard of living, increasing awareness and conservation of marine resources for future use and opening up channels of communications between different stakeholders.

Fishing in one of the FLMMA community areas

Case study

Title: FLMMA: Fiji Locally Managed Marine Areas Network

Location: Fiji

Responsible organistions: Local Communities; Institute of Applied Sciences – University of the South Pacific **(**IAS/USP); NGOs – Worldwide Fund for Nature (WWF) Fiji Country Program; International Marine Life Alliance (IMA); Resort Support; Foundation of the South Pacific People (FSP); Fiji Government: Fisheries Dept, Environment Dept, Tourism Dept, Fijian Affairs Board (FAB)

Description of Activity: The increase of a more commercial based fishing in the Pacific region to satisfy the market demand from within and outside the country has led to the rapid depletion of our marine resources. From this concern to protect and conserve our marine resources for the future generation, a network of practitioners and coastal fishing communities was formed. In Fiji, the establishment of the FLMMA network in 1999 aims to guide and provide coastal fishing communities with knowledge through awareness raising workshops and community training on ways to best protect and conserve their fishing ground for future generation

Results achieved: This network has grown to include 27 coastal fishing communities from different districts throughout Fiji . These project sites, though at different stages of development, are working their way to attaining full membership status of this network. Recognition of the work and commitment of FLMMA has led to the Fiji government (the various departments and ministries involved) to incorporate many of the networks' recommendations into its national policies. FLMMA contributed to the formulation of Fiji's National Biodiversity Strategy and Action Plan (NBSAP). In addition, FLMMA was a recipient of the *Equator Initiative Award* at the 2002 World Summit on Sustainable Development in Johannesburg, South Africa

Contact:
Alifereti Tawake, IAS/USP, Suva, Fiji
Etika Rupeni, Coordinator, WWF, Suva, Fiji

Shipping-related marine pollution

Issues addressed

Management of wastes (Chapter III of the Barbados Programme of Action)

Transport and Communication (Chapter XII of the Barbados Programme of Action)

The USS Mississinewa afloat in 1942 (top left), burning and sinking in 1943 (above) and leaking oil at the bottom of a Yap lagoon in 2002 (bottom left)

Overview

The livelihoods of the people of the region are dependent on the maintenance of its marine ecosystems. Shipping, which is a necessity in the region has been identified as having some environmental impacts that in some instances have the potential to be catastrophic. At present there is a lack of regional and national capacity to address these shipping related marine pollution issues.

In direct recognition of this situation, the South Pacific Regional Environment Programme (SPREP) in partnership with the International Maritime Organization (IMO) has developed and is implementing PACPOL, the Pacific Ocean Pollution Prevention Programme. PACPOL currently carries out activities in the following areas:

- Marine spills (oil and other hazardous materials).
- Ships' waste (oil, sewage and garbage/marine debris).
- Development and operation of ports.
- Invasive marine species.

Success story

In a region sometimes called 'Oceania', the health of the ocean is fundamental to the health of all aspects of the entire Pacific region. The importance of coastal and marine environments to every aspect of the lives of Pacific islanders cannot be overstated, and the impacts of pollution constitute a major concern for Pacific island peoples. For Pacific islanders their livelihoods revolve around the ocean and its natural resources and any damage, whether man made or natural, to these vulnerable ecosystems could have a detrimental impact on coastal and marine environments and the people.

Marine pollution is recognised as one of the three major threats to the world's oceans, along with habitat destruction and over-exploitation of marine resources. The IMO administers a comprehensive range of legal instruments aimed at ensuring marine environment protection from shipping related marine pollution. A number of these instruments have regional equivalents in the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region and related protocols (SPREP Convention). The aim of PACPOL is to assist Pacific island members to meet their obligations under these legal instruments.

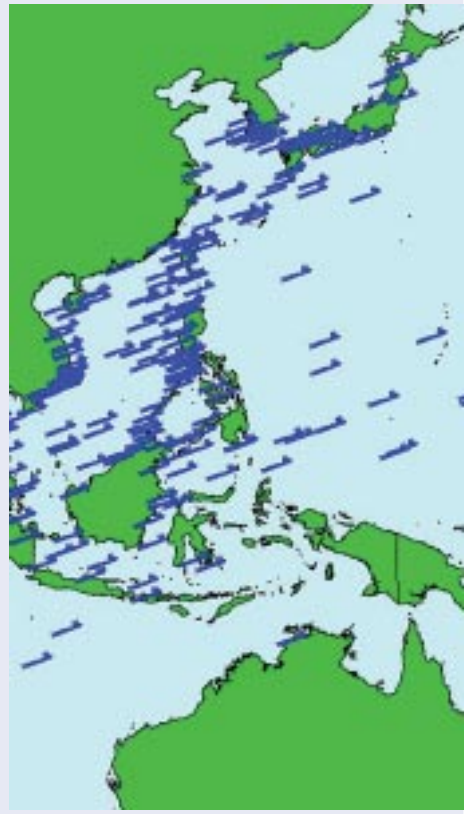
In addition to PACPOL's four focal areas outlined above a new threat from man's actions 60 years ago has emerged. Sunken World War II (WWII) wrecks are scattered all over the ocean floor and some still contain substantial amounts of pollutants. This became a frightening reality when the oil from the sunken naval tanker USS Mississinewa leaked into the Ulithi Atoll in 2001 (see left).

This incident has resulted in the formulation, approval and implementation of a Regional Strategy to Address WWII wrecks. SPREP now has a database that contains the particulars for over 3500 wrecks located within the Pacific region (see next page). A successful operation was undertaken in February 2003 to pump out 9 million litres of heavy fuel oil from the wreck of the USS Mississinewa. This oil was later taken to Singapore for reprocessing.

Impact

The raising of awareness of shipping related marine pollution issues and the establishment of effective measures and capacity to address them. Adopted a standardised approach to shipping related marine pollution in order to facilitate co-operation and inter-operability. The establishment of a network of practitioners from both government and the private sector to co-operate on shipping related marine pollution issues. The hosting of regular regional meetings where issues can be discussed.

SPREP now has a database that contains the particulars of over 3500 wrecks located within the Pacific region



Case study

Title: Ship's waste and PACPOL (Pacific Ocean Pollution Prevention Programme)

Location: SPREP member countries

Responsible organistions: SPREP, IMO; COMSEC; Government of Canada; Association of Pacific Ports; oil industry; Secretariat of the Pacific Community

Description of Activity: Shipping related marine pollution has the potential to have severe impacts on the regions' marine environment. SPREP in co-operation the IMO have put in place PACPOL to address these potential impacts through activities that assist members to put in place legal and policy frameworks, operational plans and practices and build institutional capacity to effectively minimise and manage shipping related marine pollution

Results achieved: Key achievements of PACPOL:

- Drafted regional marine pollution model legislation aimed at enabling the provisions of international and regional conventions such as MARPOL, OPRC, London Convention and the SPREP Convention. This model is to be used by members as the basis for enacting national legislation and to date 2 members have completed the process with 4 others well into it
- Members approved the "Pacific Islands Marine Spills Contingency Plan (PACPLAN)" and the majority of countries enact National Marine Spill Contingency Plan (NATPLAN) based on the PACPOL NATPLAN model
- Members approve a "Regional Strategy to Address the Risk of Marine Pollution from World War II Wrecks." Strategy utilised to pump-out 9 million litres of fuel oil from a WW II wreck (oil tanker) that had started to leak oil
- Review of ships waste management in the region carried out and regional arrangements put in place for the "provision of adequate ships' waste reception facilities"
- Entered partnership with Association of Pacific Ports to improve environmental management of ports
- Through a combination of regional and national workshops, operational guidelines and practical hands on field training established a core of trained personnel to address shipping related marine pollution issues

Contact: Sefanaia Nawadra, Marine Pollution Adviser, SPREP

Ecotourism

Issues addressed

Tourism Resources (Chapter VIII of the Barbados Plan of Action)

Members of local communities of Vanua Bouma planning for the tourism projects

Overview

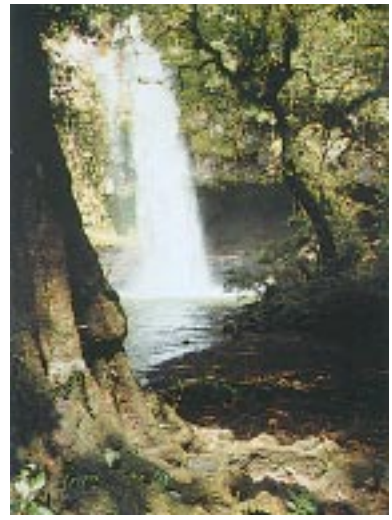
The potential for the development of eco-tourism in the Pacific region is great given the diversity and uniqueness of our flora and fauna, natural resources and ecosystems. Eco-tourism for some island countries is already proving to be a significant segment of its tourism sector. In many cases, the lower impacts and direct benefit of eco-tourism may not only be more desirable to communities but can also be used as a vehicle to encourage communities to better manage and conserve their natural resources.

For this case study what will be brought to the fore is how eco-tourism can be sustainably developed to meet a community's development aspirations while at the same time ensuring the long-term conservation of its resources.

Success story

Taveuni is Fiji's third largest island and is one of the few islands where the flora and fauna have been relatively free of the impacts of invasive species such as mongoose. Taveuni has 87% of its land covered in tropical rainforest and this has been the habitat for some wildlife that cannot be found else where in Fiji.

In 1988 the landowning clans of the Vanua Bouma on Taveuni took in its stride efforts to protect their forests from the threat of logging and came up with a number of preventive measures that will create opportunities and alternatives to reduce their dependence on their forests The result of this was the establishment of the Bouma Forest Park for recreation and tourism use.



Bouma waterfalls

Known today as the Bouma National Heritage Park, an adventure/nature type tourism, it is enjoying great success with visitors coming as far as America and Europe. The local communities have been employed as tour guides and in areas of park management and traditional handicrafts. The Bouma National Heritage Park includes the Tavoro Waterfalls and the Lavena Coastal Walk, the Waitabu Marine Park and the Lekutu Hike and, while this adventure/nature tourism project is enhancing the livelihoods of the local communities due to the revenue it has generated, the tropical rainforest which is housed within this park is ultimately being protected from outside commercial-driven forces.

Impact

The direct result of this project is that the community of Bouma has established a manifestation of the collective will of the landowners that is enforced through traditional customary authority.

This project has been a success in that it has won first place in the Protected Areas and Natural Parks category of the British Airways Tourism for Tomorrow Award in 2002. Submission has been made for the overall prize that will be announced later this year, 2003. In Fiji this project has been replicated with great success in Koroyanitu.

Boardwalks are increasingly common features in eco-tourism projects

Case study

Title: Bouma National Heritage Park

Location: Bouma Taveuni, Fiji

Responsible organisations: Native Land Trust Board (NLTB); Fijian Affairs Board (FAB)
Financial and technical support for the Park is provided by the New Zealand Government

Description of project: The Bouma National Heritage Park was established in 1990 and the project had two aims:

- To protect and conserve the tropical rainforest of Bouma
- To establish forest-based recreation and tourism as a way of generating income for the four villages that are landowners of Bouma

The project was done in two phases. The first on the Tavoro Falls where the existing facilities were renovated and extended. The second phase included preparing a detailed management plan for the Bouma National Heritage Park, including work and training in the areas of:

- Park management/maintenance
- Tourism and marketing
- Interpretation and conservation education
- Chainsaw/brush cutter use
- Track and facility construction
- Flora and fauna
- Public speaking
- Accounting
- Basic carpentry

Results achieved: Since it was established in 1991, the Bouma National Heritage Park has grown to include the Tavoro Waterfalls (1991), the Lavena Coastal Walk and Lodge (1993), the Waitabu Marine Park and the Lekutu Forest Hike. The local villagers whose land is bounded by the park are directly involved in this ecotourism project as tour guides, park managers/caretakers, first-aid instructors, lodge keepers and other work, bringing income into the areas. In this way, the project has been able to employ the local community, serve as an important source of revenue and at the same time protect and conserve the Bouma tropical forest

Contact: Alivereti Bogiva, Research and Development, Fiji Affairs Board, Suva, Fiji

Sustainable development:
successful case studies from the Pacific

Commonwealth Secretariat

This booklet highlights some stories of practical sustainable development around the Pacific region. It is the first in a series of reports of successful case studies that illustrate positive ways to implement sustainable development. Featured are:

- **managing waste in Samoa**
- **conserving biodiversity in Fiji**
- **controlling shipping-related marine pollution in the Pacific**
- **establishing an ecotourism enterprise in Taveuni, Fiji**

SPREP IRC Cataloguing-in-Publication data

Sustainable development: successful case studies from the Pacific. –
Apia, Samoa : SPREP, 2003.

17 p. : illus. ; 29 cm

ISBN: 982-07-0258-1

1.Sustainable development – Oceania 2. Sustainable development – Case study Samoa. 3. Sustainable development – Case study – Fiji. I. Commonwealth Secretariat. II. South Pacific Regional Environment Programme. III. Title.

330.9095

SPREP
PO Box 240, Apia, Samoa
T: +685 21929 F: +685 20231 E: sprep@sprep.org.ws
W: www.sprep.org.ws

© SPREP 2003

This publication is available electronically from SPREP's web site

South Pacific Regional Environment Programme