



environment

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New Data for Vulnerability Plans Assessed

At a workshop jointly organised by SPREP and Waikato (NZ) University's International Global Change Institute (IGCI), Pacific island representatives who have spent the past two years learning how to scientifically assess how climate change and sea-level rise might affect their countries discussed their findings and future options.



Collecting data to assess the effects of climate change in Pacific island countries.

Representatives of 13 Pacific island countries joined international scientific and economic experts in Auckland from 23 to 27 August to plan how to cope with climate change and sea-level rise.

During the week-long workshop, scientific and technical experts detailed the extra research that is needed in a range of sectors to allow Pacific island countries to more accurately predict and

plan for their vulnerability to climate change.

Sectors considered include water resources, coastal systems, agriculture, human health and fisheries. Four World Bank representatives worked with participants helping them to refine the data they need to predict the economic impacts of climate change and sea-level rise on individual Pacific island countries.



Environmental Education Focus in Tonga



In nature, cooperation is instinctive where many fins lighten the work and the young learn from the old.

Ten teachers from six Pacific island countries improved their skills and gathered the information they needed to teach environmental issues within their existing school curriculum at a SPREP organised workshop run in conjunction with the University of the South Pacific (USP) in Nuku'alofa, Tonga at the end of August. The teachers practised how to use drama, music, song and field trips as environmental education tools.

Participants from Cook Islands, Kiribati, Nauru, Niue, Tonga and Tuvalu said that they particularly appreciated being able to share experiences and ideas with teachers from different countries and that they developed the confidence to do small things within their school and in the community to make a difference.

Workshop organiser Ms Seema Deo said it had been heartwarming to watch participants using their skills and experience to work out more detailed plans for bringing environmental issues into the classroom and into their respective country curriculum. "They

have identified the need for development of values and ethics for environmental conservation and it has been encouraging to see that participants have begun to examine their own values and attitudes in an attempt to be better role models for their children," Ms Deo said. "Participants have developed action plans for themselves and have made pledges to follow through with these. It is certainly an encouraging move forward for environmental education at the national level. We hope to be able to provide teachers involved in environmental education with all the support they require to be effective in their programmes."

The sub-regional workshop was organised by SPREP based on a request by participants attending the 1998 Pacific Regional Conference on Environmental Education and Training, coordinated by SPREP and held in Suva, Fiji. Ms Deo said it was the first of several such workshops. The activities and approaches developed during this workshop will be compiled and made available for teachers to help children throughout the region understand more about their environment and develop an awareness for its protection and conservation through sustainable development.



Pacific Initiative—Alliance between SPREP and US Peace Corps

The aim of the alliance is to work in conjunction with national officials to help communities make the most of their traditional knowledge by combining it with aspects of modern environmental management methodologies.

The signing of a Memorandum of Understanding between Peace Corps' Director, Mark Gearan and Tamari'i Tutangata, Director of SPREP in July 1999, marked the beginning of a new partnership between SPREP and Peace Corps in caring for the environment of the Pacific.

Twelve Peace Corps Volunteers, under the auspices of the Peace Corps "Pacific Initiative," began their work on environmental projects in Samoa, the Solomon Islands, Tonga, Niue, the Federated States of Micronesia and Palau through participation in the Capacity Building for Environment Management in the Pacific training workshop held in Apia, Samoa (20 September to 8 October 1999).

The Pacific Initiative reflects the Peace Corps' commitment to the Pacific islands region, where about 350 Peace Corps volunteers are currently serving. Gearan said, "We look forward to expanding the relationship between the Peace Corps, the Pacific island nations, and regional organisations such as SPREP."

Steve Nagler, Peace Corps' Pacific Initiative Director said these volunteers will be the first group to work directly with a regional organisation in the Pacific, which is crucial because of the small size of the countries and the great distances

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Action from the CBEMP/Peace Corp workshop

From the Director's Desk

Whales are not big fish...

Mr Tutangata,
Director of
SPREP



The great whales used to be a feature of the Pacific Ocean. The chronicles of the early European explorers talk about the ocean teeming with whales, turtles and other marine life. The margins of their maps include many carefully drawn illustrations of cavorting whales, further indicating how prevalent whales used to be in this part of the world.

Sadly, the numbers of whales, such as humpbacks, blue and sperm whales, are today but a pathetic remnant of their earlier abundance. For example, it has been estimated that before the onset of whaling, there were some 120,000 humpback whales in Southern Hemisphere waters. Of those, some 10,000 formed a group of whales whose breeding and calving ground includes the waters of Tonga. Today, the SPREP-funded South Pacific Humpback Whale Project suggests that the annual breeding population returning to Tonga is only around 500 whales.

Using this estimate a simple back calculation gives a best estimate of only 60 or so whales returning to Tonga to breed in 1966. Of these less than 15 would have been reproductively-active females.

In 1967 humpback whales were first protected by the International Whaling Commission. Humpback whales in this part of the world were clearly on the brink of extinction and the King of Tonga wisely banned local whaling in 1978.

Internationally, measures were also taken to conserve whales, most recently with the declaring of a Southern Ocean Whale Sanctuary in 1994. Now, there is a possibility that the Southern Ocean Sanctuary could be extended to the waters of the Pacific, in the form of a South Pacific Whale Sanctuary. Australia and New Zealand promoted the idea at last year's South Pacific Forum meeting, and Forum countries responded by formally supporting the development of a proposal for a South Pacific Whale Sanctuary.

The idea for such a Sanctuary has created some unease in some countries. SPREP has supported the proposal for a South Pacific Whale Sanctuary since it was first put to the South Pacific Forum. Our advice has been that development of this proposal should, in the Pacific way, involve the full participation of all

Forum members, Forum dialogue partners, Pacific island territories and other appropriate agencies. Since the International Whaling Commission is meeting in Australia in 2000 to consider this proposal, among other matters, it seems timely to outline why we believe a larger whale sanctuary than the present one would be a good idea.

There are two key scientific reasons for creating a South Pacific Whale Sanctuary. The first is the simple fact that whale numbers in our waters are a fraction of what they were before commercial whaling began. Baleen whale populations, for example, are estimated to be just four to six percent of what they were 100 years ago. In the Southern Hemisphere, these species are still highly endangered and warrant complete protection.

The second reason for extending the Southern Ocean whale sanctuary to include all of the South Pacific waters is that it is logical. Whales do not observe a sanctuary boundary drawn arbitrarily on a map. They feed in the Southern Ocean, but many migrate to the tropics to mate and give birth each year. If we agree that we should protect whales in the Southern Ocean, it makes sense to extend the same protection to the same whales throughout their migratory range.

Pacific island nations are not generally whaling nations. Few of the profits from whaling operations have ever flowed back to the Pacific. A whale sanctuary, however, could bring significant benefits in the form of tourists eager to go whale-watching. Tonga has a growing international reputation for its whale-watching, and the potential to attract more whale-watching tourists is huge: internationally, whale-watching is estimated to bring in US\$504 million each year, and this figure continues to grow. Other Pacific island countries are aware of this



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Computer skills acquired enabled Mrs Mele Lupe Vunipola from Tonga Visitors Bureau to produce the above.

Environmental Management saving the best of the Pacific's Traditional Practices

In September and October of 1999, a training workshop to develop such skills was coordinated by CBEMP and the US Peace Corps. The training involved 10 Peace Corps volunteers (who will be posted in FSM, Niue, Samoa, Solomon Islands, and Tonga) and their national counterparts including representatives from Fiji, Kiribati, Palau, and Tuvalu.

Training to develop skills on how to integrate traditional and non-traditional methods for sustainable development is one specific output of the Capacity Building for Environmental Management in the Pacific (CBEMP) project.

The training focused on skills to collect and document traditional knowledge; manage a database; develop educational materials; disseminate information on traditional knowledge; and methods to carry out community education and training.

Craig Wilson, Project Manager for SPREP's Capacity Building for Environmental Management in the Pacific (CBEMP) project said that the skills provided in the workshop will help the participants implement and achieve the objectives the CBEMP project is set-up to do in their countries. "Though the workshop had a strong technical focus, workshop sessions provided background information on income generation, gender equity, legal protection of traditional knowledge and how to implement projects on a cross cultural basis", Mr Wilson added.

CBEMP will identify potential income generating projects at the community level using the interview and survey form

method. Information on income generation such as technical feasibility, methods of community involvement, identification of potential activities and micro credit were provided.

Mr Wilson said at the end of the workshop, participating countries gained a greater appreciation of the CBEMP project through the discussions with the other project countries. Also, the participants improved their level of skills to implement the activities that each of their countries has identified in their country work plans. The workshop also provided the opportunity for the countries to create the links to assist in cross country exchange of ideas.

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From the Director's Desk

potential: American Samoa, Cook Islands, French Polynesia, New Caledonia, Niue, Samoa and the Solomon Islands have all asked SPREP for advice and assistance in setting up similar tourist drawcards.

Tonga is a good example of the benefits that can flow from an enlightened approach to conservation and sustainable development. Nearly 20 years after bringing in the whaling ban, Tonga reviewed this management measure in 1996, based on scientific advice. This showed that even an annual kill of ten whales would not be sustainable, and in fact could cause a population decline. In addition, it was widely recognised that a

resumption of whaling would threaten Tonga's growing tourism industry. Clearly, Tonga's current whaling ban remains a vital management measure for humpback whales, for the foreseeable future.

There will always be arguments in favour of whaling, but they largely fail, particularly given Pacific island countries' greater chance of earning money from tourism, rather than from whaling. A live whale gives ongoing benefits and is more valuable than a dead one. Whaling and whale-watching are not compatible.

Tonga is fortunate in the foresight of its King who recognised early the need to

conserve whales. Without the whaling ban, Tonga's now substantial and growing income from whale-watching would never have been possible.

As a region, the Pacific is fortunate to have the time, before next July's International Whaling Commission meeting, to fully discuss the proposal for a South Pacific Whale Sanctuary, to work out details that will benefit the region as a whole.

Pacific Urged to Sign onto Hazardous Waste Conventions

The Pacific does not have the large industrial base of many developed countries, but it does have significant problems with hazardous wastes, like PCBs from transformers, outdated pesticides, hospital wastes, used oil and old batteries. In such a precious and fragile environment as the Pacific, these hazardous wastes can do great harm, both to people's health, and to the environment

Table outlining Marine Pollution Conventions in SPREP Member Countries

The Pacific's ability to stop other countries dumping poisonous or radioactive waste in the region received a boost with a visit to Samoa of an expert in hazardous waste management in August.

Mr Harald Egerer specialises in control of international hazardous waste transport, and environmentally sound management of hazardous wastes. He visited the South Pacific Regional Environment Programme (SPREP) on behalf of the Basel Convention Secretariat, to discuss how to make it easier for Pacific island countries to sign onto, and implement, two treaties which regulate hazardous waste management.

The Basel Convention, which has now been ratified by 130 countries, deals with the safe transport and disposal of hazardous wastes. The Waigani Convention specifically targets the Pacific region, and goes further than the Basel Convention in also regulating the transport of radioactive waste. It also strengthens other international agreements banning the dumping of hazardous or radioactive waste in developing countries.

	IMO	UNCLOS	MARPOL	OPRC	CLC 92	FUND 92	HNS	INTVN.	LC	LC 96 Prot.	SPREP Conv.	SPREP Dump. Prot.	SPREP Pol. Prot.
Countries													
Cook Is		x									x	x	x
Fiji	x	x	x					x			x	x	x
Federated States of Micronesia		x									x	x	x
Kiribati									x				
Marshall Is	x	x	x	x	x	x		x	x		x	x	x
Nauru	x	x									x	x	x
Niue													
Palau		x									x	x	x
Papua New Guinea	x	x	x					x	x		x	x	x
Samoa	x	x									x	x	x
Solomon Is	x	x							x		x	x	x
Tonga		x	x	x				x	x				
Tuvalu			x								x	x	x
Vanuatu	x		x	x	x	x		x	x	x			
Australia	x	x	x	x	x	x		x	x	x	x	x	x
France	x	x	x	x	x	x		x	x	x	x	x	x
New Zealand	x	x	x		x	x		x	x		x	x	x
United States of America	x		x	x				x	x		x	x	x

A key objective of PACPOL is to work towards complete filling of the above table, thereby establishing a standardised regulatory regime for ship-sourced marine pollution in the Pacific islands region.

Mr Egerer said since the Basel Convention came into force, illegal traffic

in hazardous wastes had decreased, and there were fewer cases now of illegal dumping of poisonous wastes in developing countries. "However, as more countries implement these Conventions, regions like the Pacific where participation in these Conventions is low are more likely to be targeted by unscrupulous dealers looking for somewhere to dump their illegal shiploads of hazardous waste."

To date, only four Pacific island countries have ratified the Waigani Convention—Federated States of Micronesia, Fiji, Papua New Guinea, and Solomon Islands—and two, Federated States of Micronesia and Papua New Guinea, have ratified the Basel Convention. Of the developed countries in the region, Australia and New Zealand have both ratified the Basel Convention.

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Pacific Initiative

between them. "For the Peace Corps, this is the first time we have looked at development issues on a regional basis instead of a country basis," Nagler said. "We hope that SPREP will be the first of many organisations that will form partnerships for our Pacific Initiative. It will help us meet new needs particularly with regard to the environment and youth development that we could not otherwise meet."

The first project with SPREP, which will be funded by the United Nations Development Programme, will focus on increasing the capacity of Pacific island governments and grassroots communities to utilise their natural resources in a sustainable manner. The Peace Corps volunteers will serve as environmental educators, community organisers, and trainers.

Currently, nearly 6,700 Peace Corps volunteers are working in 77 countries around the world to bring clean water to communities, teach children, protect the environment, help start new small businesses, and prevent the spread of AIDS. Since 1961, more than 150,000 Americans have joined the Peace Corps.

Postgraduate Course on Climate Change

Specific details of how islands might be affected by climate change have been made into an innovative postgraduate course for the first time at the University of the South Pacific (USP).

Scientific assessment of how climate change will affect water supply, health, coastal erosion, agriculture, forestry, marine and land ecosystems, national cultures, tourism and other issues will be included into the coursework. This information will be fed into a computer model being developed which will eventually detail how specific changes in climate or sea level would affect various sectors in each country.

Course students will also learn how to assess ways of reducing or adapting to the impacts of climate change and sea-level rise. This practical assistance will be of great help to the region's policymakers and planners.

Mr Tamari'i Tutangata, the Director of SPREP said the course was developed in 1998 at the University of Waikato's International Global Change Institute (IGCI) in partnership with SPREP's Pacific Islands Climate Change Assistance Programme (PICCAP), and the United Nations Institute for Training and Research (UNITAR).

Mr Tutangata added that the course has attracted attention from international agencies and island states from other regions of the world as it is the first

serious attempt by any region to establish specific details of the effects of climate change on island countries.

Sixteen people from ten Pacific island countries attended the four month course in vulnerability and adaptation to climate change and sea-level rise, being run through the University of the South Pacific's Marine Studies Programme. Professor Patrick Nunn, Professor of Oceanic Geoscience and Professor of Geography, is the course's academic coordinator, with overall coordination by Professor Robin South, Director of the Marine Studies Programme.

The Pacific is already aware that sea levels and climate are changing. Buildings are being moved further and further inland because of coastal erosion. Agricultural practices have to be changed and moved because of salt water moving higher up into the water table. Changes in the seasonal wind and rainfall patterns, changes in ocean currents and fisheries are all showing evidence of the changing climate.

Mr Tutangata continued on to say that "This course will clarify what is happening, what is likely to happen and what needs to be done".

The course was developed in 1998 at the University of Waikato's International Global Change Institute (IGCI) in partnership with SPREP's Pacific Islands Climate Change Assistance Programme (PICCAP) and the United Nations Institute for Training and Research (UNITAR).

In Tuvalu, the motu (small islet) of Tepuka Savilivili has lost its coconut trees and its sandbanks, and the ocean is slowly moving up its remaining rock.

Photo by Peter Bennett.





Community Enterprises for Conservation in the Pacific

Skills for Conservation Enterprises targeted

Using natural resources in business enterprises while still preserving them is the way to a sustainable business and a sustainable use of natural resources.

This was the focus of a ten-day workshop held in Apia, Samoa which benefited 22 community and conservation area workers of the South Pacific Biodiversity Conservation Programme (SPBCP). The participants were from the 17 SPBCP-supported Conservation Areas established in 12 Pacific island countries with funding assistance from the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP). AusAID and NZODA have also contributed support.

SPREP in collaboration with the Samoa Small Business Enterprise Centre (SBEC) organised the eco-enterprises workshop. The aim of the workshop is to learn the skills to assist local communities and small operators to identify potential income generating activities and develop natural resource-based conservation enterprises on sound business principles.

Francois Martel, SPREP's Socio-economics Officer said the workshop placed a strong emphasis on practical exercises and field trips. "These will give trainees the skills they need to help communities and small

operators understand the concepts and issues of conservation enterprises, and develop successful income-generating activities that are based on their natural resources." Mr Martel said.

Part of the training involved a field trip studying a range of eco-enterprises in Samoa including: a coconut oil production process that uses a direct micro-exPELLING technique to obtain oil; coffee and kava production operation; and ecotourism enterprises based on Samoa's taga blowholes; the Falealupo forest canopy walkway; and the Saleaula women's project which offer tours of the lava field ruins on the island of Savai'i.

Another part involved working through a series of case studies from participants' own Conservation Areas which are catered to be self-sufficient after GEF/UNDP support ends in 2001. Mr Martel added that, "... it was encouraging to see the extent of innovative ideas from participants, about ways they can develop business enterprises which have a low impact on the environment, benefit the community and use precious resources in a sustainable way".

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Hope for Disappearing Polynesian Birds

Realistically, about a dozen birds in Polynesian countries now face extinction and there are another 20 species that are also dangerously close to going out the back door. The accelerating rate of extinction of bird species signal broader threats to the Pacific Environment.

A chance to save the birds of the Pacific is at hand in the bird conservation programme which recently started at SPREP. A workshop held in Rarotonga in April and organised by BirdLife International and SPREP set the priorities for conserving the birds of Polynesia.

Generally, the top priority will be to establish which birds are endangered, how many still survive, and what chance of success any recovery programme might have. The plan is to establish a core group of highly trained professionals who will work with local people and train them as the work proceeds.

Dr Greg Sherley, SPREP's Avifauna Officer, says at least three bird species from Polynesian countries have dwindled to such low numbers that extinction is virtually inevitable. The Samoan moorhen may already have vanished, while in French Polynesia, the Polynesian ground dove and the Marquesan imperial pigeon will be lucky to survive. At least another nine bird species are endangered, and will probably also join the slide into extinction.

The key to the bird recovery programme lies in involving the local people who have acted as custodians of their birds for centuries. The application of modern wildlife management techniques in combination with the involvement of local communities has born results. The Cook Islands successful Kakerori Recovery Programme has been running for 12 years now. In that time, Kakerori numbers have increased from just 29 in 1989, to 165 in 1998.

Three major landowning groups own the Takitumu Conservation Area, where the Kakerori's core breeding grounds are found. They have taken over the management of the programme from the Cook Islands Environment Service, giving hope that the programme will survive in years to come.

Photo by Rod Hay



The Kakerori



Reproduced from UNEP's "The Law of the Sea and South Pacific" by Killfoti Etenati.

A chance to save the birds of the Pacific is at hand—through SPREP's bird conservation programme. The key however, lies in involving the local people.

Dr Sherley said, "Birds are pretty much at the top of the rung in the food chain. If they're in trouble, that's an indication of huge disruption on the lower levels. For example, particular bird species play a vital role in dispersing the seeds of trees, particularly the big timber trees which Pacific island communities use for medicine, timber, carving and building. Without the birds, the trees cannot propagate, so you start seeing your trees disappear as well".