



The quarterly newsletter  
of the South Pacific Regional  
Environment Programme (SPREP)

# environment

NEWSLETTER  
Issue No. 51

## Pacific Poison Hunt Under Way

*A long-term programme to clean up stockpiles of waste chemicals and obsolete pesticides is now under way, with three environmental specialists investigating old poison dumps throughout the Pacific.*

The specialists are assessing the problems different Pacific island countries have with stockpiles of poisonous waste and obsolete pesticides, herbicides, solvents and PCBs. Once they have identified the dangers they will help countries with plans, methods and training to safely store or dispose of dangerous chemicals.

A problem they are already frequently encountering is stockpiles of chemicals remaining after commercial operations have closed down and the company concerned has left the country. Timber treatment plants appear to be a particular problem, with many sites remaining where there is obvious contamination by copper, chrome and

arsenic, the chemicals commonly used in timber treatment.

The initial assessment of the scale of the problem is the first phase of the Management of Persistent Organic Pollutants in Pacific Island Countries project. The Australian Agency for International Development (AusAID) has contributed AUD813,400 to allow this first stage to go ahead. The second and third phases of the project will involve actually disposing of waste chemicals and cleaning up contaminated sites.

The initiative is backed by the United Nations Environment Programme and

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Hazardous wastes treaties: page 15*

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Spilled poisons and the results of a clean-up exercise. The sealed drums still await removal.



Photos by Andrew Munro (SPREP)

## DID YOU KNOW THAT ...

Mangrove areas are “living” coastal barriers against the rough seas.

Mangroves root systems act as “living breathing” sieves that trap sediment runoff from poor land use practices, preventing it from suffocating corals and seagrasses.

Bark from the *Bruguiera gymnorrhiza* is used in Polynesia to make a decorative dye for tapa.

*Avicennia* leaves are used for boils and contraception in PNG while the *Bruguiera* fruits are used for diarrhoea and malaria.

Bark from the *Xylocarpus* is used by Tongans to treat internal bleeding and injuries.

Mangroves are an essential nursery habitat for a large proportion of food fish species.

Destroying mangrove areas is destroying the homes of a host of birds and animals such as oysters, prawns, and mud crabs.

Below: William Cross of the Canada–South Pacific Ocean Development Program (C–SPOD II) viewing some of the materials produced by Palau during the coral reef campaign

Below right: participants discussing follow-up activities to the coral reef campaign



# Coral reef campaign spawns Pacific successes

*There were challenges as well as congratulations when representatives of 18 Pacific island countries reviewed the 1997 Pacific Year of the Coral Reef (PYOCR).*

Fiji's Minister of Local Government, Housing and Environment, the Hon. Vilisoni Cagi-maivei, reminded those attending the review meeting that more than 70 percent of the world's coral reefs are in danger of extinction, and noted that in 1997 the Pacific was the only region in the world to stand up and take action to protect its reefs, through the PYOCR campaign.

He said the awareness campaign initiated as part of the PYOCR had, in Fiji, led to a re-awakening as to the importance of coral reefs.

PYOCR regional campaign coordinator Lucille Apis-Overhoff said the campaign spawned success stories Pacific-wide. “In Guam, Fiji and Solomon Islands, local dive operators are now teaching tourists and villages about ‘negative things not to do to reefs’ and ‘positive things you can do’.


“In FSM, Guam, Marshall Islands and Palau, students are doing beach and reef clean-ups. Cook Islands have reintroduced the use of Ra’ui, a traditional system which involves banning fishing in a particular region for a period of time, for conservation or other reasons. In American Samoa,

Samoa and Vanuatu, the use of mobile theatre/plays are proving to be a success in carrying out key coral reef messages at the village level.”

The campaign also added support to a Samoan Government Fisheries Department programme which has seen more than 40 villages decide to turn their coral reefs into marine reserves.

SPREP's Joe Reti said a major reason for the PYOCR success was the collaborative partnership between participating countries, agencies and SPREP, with most of the 1997 activities funded by New Zealand Official Development Assistance (NZODA) and Australian Agency for International Development (AusAID).

He said the challenge ahead was to turn awareness and understanding generated by the campaign into practical field actions. “The campaign may be the easiest part of conservation. Now comes the hard part of putting knowledge and understanding into action.”

Over the next three years, the Canada–South Pacific Ocean Development Program (C–SPOD II) will fund continuing activities to protect the Pacific's coral reefs. 



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## **from the Director's desk**

Three months into 1998 the year is building up to be a particularly busy one for SPREP.

Staff are already working towards the Tenth SPREP Meeting, which will be held in Apia, Samoa in September. The triennial review of staff conditions of service is also under way, and this will be presented to the SPREP Meeting.

**Marine pollution is widely recognised as being one of the three major threats to the world's oceans, along with habitat destruction and over-exploitation of living marine resources.**

Two important environmental conventions—the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC) both have their fourth Conference of the Parties this year, and SPREP programme officers will provide technical advice and coordination on these, for SPREP member countries. In recognition of the importance of SPREP's technical input to member countries attending the climate change convention negotiations, the Danish Government has funded an International Negotiations Officer to make possible a more specialist focus in these negotiations.

SPREP staff are also working towards a major Environmental Education and Training Conference, to be held in Suva, Fiji at the end of June. Environmental educators often work in isolation, and this conference offers their first chance in ten years to gather together, to share experiences, problems and solutions.

Several new regional programmes are about to start up. One of these, targeting marine pollution, has been made possible thanks to Commonwealth Secretariat funding for the position of Marine Pollution Adviser. Marine pollution is widely recognised as being one of the three major threats to the world's oceans, along with habitat destruction and over-exploitation of living marine resources. The Pacific

Ocean Pollution Prevention Programme (PACPOL) will target ship-based pollution in the Pacific islands region. It will take a bottom-up approach—vital in the Pacific islands region, as elsewhere—discussing with countries their needs and priorities, and developing the programme around these.

Another important new initiative targets the increasingly urgent problem of solid waste accumulating on Pacific islands. The European Union has funded the position of project coordinator for a waste awareness programme which will run in eight Pacific island countries. This pro-

Mr Tutangata,  
Director of  
SPREP



gramme aims to minimise waste production and disposal through focusing on selected groups in each country.

In addition, three consultants are about to start work on an AusAID-funded survey of quantities of obsolete or unwanted chemicals and pesticides left in stockpiles in 13 Pacific island countries.


Following a recommendation from last year's 6<sup>th</sup> South Pacific Conference on Nature Conservation and Protected Areas, SPREP has also organised the first-ever round table meeting of Pacific conservation organisations and donors, with AusAID funding. Many of the regional and international organisations attending this meeting, held at the beginning of March, had never before sat down together to share information about what they were doing and planned to do. They discovered to their surprise that in the past five years there has been a dramatic increase in conservation work in the Pacific. The partners, including representatives of SPREP member countries, have agreed to continue to work collaboratively and will meet again just before the SPREP Meeting in September. 



Photo by Fatu Tauafifi (SPREP)

Serious discussions during the Round Table Meeting on Nature Conservation held in Apia, Samoa

# Countries draw up environmental management priorities

*National coordination committees in 11 Pacific island countries have drawn up their priority environmental management needs, after spending several months talking to a wide range of people, from government officials to traditional elders.*

**The aim is to take the best of formal and traditional environmental management systems and devise new ways of integrating them.**



While only a few of the priorities can be immediately addressed, SPREP project manager Craig Wilson said the lists show countries are acutely aware of specific environmental needs and potential remedies.

The national coordination committees were set up as part of the Capacity Building for Environmental Management in the Pacific (CBEMP) programme, which aims to strengthen countries' ability to protect their environment.

“One important aim of the project is to assist countries to move closer towards sustainable forms of development by

taking the best of formal and traditional environmental management systems and devising new approaches to integrate these systems,” Mr Wilson said. “Two other strong and necessary aims are to come up with ways of creating employment while protecting the environment, and to make sure both women and men are included in any project.”

At a regional meeting of nine national coordinators for the CBEMP project, held in Apia in February, the coordinators said they liked being able to custom-design the project to suit their country's own particular needs, and appreciated the approach of using

consultations within each country to come up with priorities.

Country recommendations were often highly specific, such as Niue's desire to create jobs while reducing the amount of solid waste, by melting down plastic waste and making bowls and buckets which could then be sold locally—or Samoa's suggestion of repairing and restocking cyclone-damaged animal sheds, and then installing an anaerobic digester to treat the animal waste, produce biogas for cooking, and use digester effluent to feed fish in a nearby fish farm. 🌱

*Country priorities are listed on pages 5, 12 and 13*

# High Priorities

*Countries involved in the CBEMP programme formed national committees to set priorities for environmental issues that needed to be addressed. The following list details those environmental management issues which national committees considered were high priority. Medium and low priority issues are not listed.*



## Fiji

- Environmental Impact Assessment (EIA): training in environmental cost accounting and sustainable development audits; training for environmental inspectors and prosecutors, and inspectors of marine pollution, ships, motor vehicles, fisheries, customs, quarantine and agricultural officers. Establishment of Environmental Legal Officer position, an Environmental Laboratory and training of environmental technicians; development of Energy Conservation Strategy and Action Plan
- Pollution and waste management: policies on integrated waste management and hazardous waste management; oil spill contingency planning and management capability
- Land, water and coastal resource management: Codes of Practice for mining, manufacturing, agriculture and tourism sectors; coral reef monitoring programme, national integrated land use planning process; training in wind, hydro and other renewable energy technologies; reduced price for energy efficient lights
- Natural and cultural heritage protection: surveys of customary fishing grounds, indigenous plant communities, national cultural heritage; establishment of National Environment Trust Fund for parks and protected areas; establishment of marine conservation areas; training for park wardens and conservation officers

## Federated States of Micronesia

- Development and integration of EIA legislation, EIA training and public awareness programmes, to include community and traditional leaders
- Review and strengthening of community-based organisation (CBO) and non-governmental organisation (NGO) operations
- Train communities in water quality monitoring
- Review of the environmental science curriculum
- Enable States to document traditional resource management systems in local languages
- Identification of elders with knowledge of traditional resource management who could be used as trainers
- Review and strengthening of community-based initiatives; integration of environmental issues; inclusion of community and traditional leaders in EIA process; public awareness training for youth and women

communities and public awareness programme on more efficient lighting for South Tarawa

- Community workshops to raise environmental awareness; development of environmental fact sheets, education resources, audio-visual aids and alternative media for awareness campaigns
- Programme to identify habitats and species which need protection and establishment of conservation regimes, including programme to conserve and manage mangroves
- Pilot study in alternative sanitation technology to improve sewage disposal systems
- Renewal of Teinainano Urban Council refuse collection tractors
- Feasibility study on establishment of national laboratory for chemical analysis of water, imported and locally produced foodstuffs, to protect public against misuse of pesticides and other toxic chemicals
- Preparation of marine pollution contingency plan

## Kiribati

- Development of marine resource profile, public awareness programme on heavily exploited fish species particularly bone fish
- Project on water demand, programme to promote rainwater conservation
- Alternative renewable energy programme including pilot trial of hybrid power generation for small

## Marshall Islands

- Enhance fresh water supply
- Improve disposal of solid and hazardous waste
- Sustainable management of marine and coastal resources
- Strengthening of environmental education programmes

*continued on pages 12 and 13*

# Demand for environmental information continues to expand

*Five years after a survey identified a dire need for resource centres to house environmental information, six Pacific island countries have set up such centres within their environment units. They are now desperately short of space to house their growing collections.*

Release of the 1993 UNESCO-funded survey of environmental information needs in the Pacific sparked the establishment of SPREP's Library Training Activities programme, which so far has supplied computers and library cataloguing software to Environment Units in Cook Islands, Fiji, Kiribati, the Marshall Islands, Samoa and Vanuatu.

Non-librarian staff are trained in setting up small technical reference libraries in their Environment Units, and SPREP librarian Satui Bentin assists in setting up a regional network to share details of their national collections, using the computers and software they have been given through the project.

The programme was funded originally by AusAID and NZODA and organised as a component part of the UNDP/SPREP Capacity 21 project. In the past four years of the programme's operation, the number of records of environmental information catalogued regionally has quadrupled. Ms Bentin

said when record-sharing first started, the region held 2600 records. "By November 1997, that figure stood at 9500, with records from Cook Islands still to be included in the regional database."

That expansion of regional information about the Pacific environment has led to space and time problems, participants at February's Environmental Information Clearinghouse Workshop said.

Environment Units are amassing substantial quantities of books, periodicals, videotapes, slides, posters and clippings, but the space for these collections has not increased proportionately. Samoa, for example, has had only two shelves available for what in November 1997 had become a collection of 1482 books and magazines.

Participants at the workshop were also unanimous that demand for environmental information is expanding

dramatically. They identified three reasons for this accelerating growth:

- The inclusion of environmental science in national curricula
- A greater need by the public to understand their own environment
- A direct result of the establishment of environmental libraries

"Once people realise there is a central point where they can find information about their environment, they use it, and the demand increases," one of the participants commented.

Ms Bentin says the growth of information about the Pacific environment, the establishment of technical libraries to manage it, and accelerating public requests for this information, have increased demands on Environment Unit staff, most of whom have other time-consuming responsibilities as well.

"Twenty years ago the available research on the oceans and countries of the Pacific would hardly fill a single bookshelf. Now, there is a vast amount of information on the Pacific environment potentially available to an organisation or an individual," she said. "But the key word is 'potentially'. To make use of information you have to know how to look for what you need and how to manage it so you can find what you want, when you want it."

February's workshop was held to fill those needs, providing officials charged with maintaining their countries' environmental information databases with an intensive three-day course in information-finding and management skills. The course was devised for people with few or no library skills or qualifications. Ms Bentin said once they were confident they could access information about the environment within their own country, they then learned how to make that information accessible to everybody, and to share it throughout the Pacific.

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Photos by Fatu Tauahali (SPREP)



## Pacific island countries prepare for climate change

Under the Pacific Islands Climate Change Assistance Programme (PICCAP), ten Pacific island countries have joined the programme, which aims to enable them to meet their commitments under the Climate Convention, and to assess how changes in sea level and climate might affect them and how they could adapt to those changes.


PICCAP is funded through the Global Environment Facility (GEF), implemented by the United Nations Development Programme (UNDP) and executed by SPREP and the United Nations Institute for Training and Research (UNITAR).

Each country involved in PICCAP has now appointed a national coordinator and a country team, and is in the process of calculating what quantities of greenhouse gases are emitted into the atmosphere from that country each year. The next step will be to identify ways of reducing their national greenhouse gas emissions.

A second aspect of the programme is to enable Pacific island countries to assess how they will be affected as the climate changes and sea level rises, and to plan ways of coping with likely impacts. To

make it possible for countries to comprehensively assess their vulnerability and options for action, the International Global Change Institute (IGCI—formerly CEARS, the Centre for Environmental and Resource Studies) at the University of Waikato in New Zealand has designed a six-month training course for two people from each country involved in the PICCAP programme.

The course begins on June 15 and includes intensive instruction, field work and practical applications. Participants will spend two months at the University of Waikato learning specialised vulnerability and adaptation approaches, and will then return to their home countries for two months to gather the data needed to compile a comprehensive assessment of the risks of climate change, and possible options that would allow them to adapt to likely changes.

They will then return to the university for a further two months to compile their data and draft their national vulnerability and adaptation assessments. 

**PICCAP—a programme designed to strengthen the capacity of Pacific island countries to prepare for climate change is now well under way.**

# Climate change could bring more El Niños and more Pacific cyclones

*New scientific research suggests the recent spate of cyclones in the Pacific may become a more regular event. Research carried out by Dr Kevin Trenberth and Dr Timothy Hoar from the United States National Center for Atmospheric Research shows a change in climate since the late 1970s, with more El Niños and fewer La Niñas compared with earlier decades.*



New Zealand's National Institute of Water and Atmospheric Research (NIWA) said in January this year that this research, reported in *Geophysical Research Letters*, reinforces the evidence that the tendency for more El Niños and fewer La Niñas is "highly unusual and very unlikely to be accounted for solely by natural variability".

SPREP's Environmental Management and Planning head Gerald Miles says if the trend continues, it means an increase in the risk of devastating cyclones for certain parts of the Pacific.

"We know that when an El Niño is under way, the eastern Pacific is hit by more cyclones than usual, with a higher number than usual reaching major hurricane strength," Mr Miles said. "This latest

research provides further evidence of a changing climate in the Pacific."


In 1982–83, when the last big El Niño was making its presence felt, a record 16 cyclones developed in the Pacific, most of them striking the Cook Islands and French Polynesia, which normally are missed by cyclones. The three cyclones that swept through the Pacific over the 1997–98 New Year period provided another parallel. The last time there were as many cyclones in the Pacific at the one time was in 1982.

NIWA figures show this latest El Niño has broken the previous record for the number of cyclones developing in the Pacific, with 17 tropical cyclones, 14 of which developed between November 1997 and April 1998. A recent NIWA study of the past 20 years of data on

While longer term it seems likely the Pacific will get more El Niños and hence more cyclones, the opposite La Niña pattern will not disappear. The latest indications from several seasonal climate prediction models are that the next La Niña may already be on the way. If so, then the next cyclone season in the Pacific is likely to mean fewer cyclones than usual. In a La Niña, cyclones tend to track more to the West, towards the New Caledonia/Australian side of the Pacific.

Pacific cyclones showed that during strong El Niño events there were markedly greater chances of cyclones affecting the Cook Islands, French Polynesia, Samoa, Tonga and Tuvalu, and the overall risk for the whole South Pacific region was higher by 28 per cent.

Mr Miles said knowing that the risk of cyclones is now increasing in many parts of the region, Pacific island countries could be expected to pressure other nations to cut back their greenhouse gas emissions as soon as possible, to minimise the damage caused by climate change.

SPREP climatologist Pene Lefale said SPREP would continue to help Pacific island countries strengthen their meteorological services. Additional support would be required to strengthen observational networks—which parties to the climate convention called for in Kyoto last year. 



# V-FILES: THE GREENHOUSE IS HERE .. SO COOL IT

*For the next generation, the Kyoto that the increase in they have to act first. The technologies are made*



*Protocol is certainly going to be a landmark document. All countries now accept greenhouse gas emissions is highly risky. The richest countries also accept that poorer countries have agreed that they could benefit if some of the new "clean" available to them.*



A commentary on the Kyoto Protocol by Ken Piddington

**Globally, there will be exponential growth in the market for proven renewable technologies: solar photovoltaics, wind, biomass, and in the efficient back-up systems which are now available for small to medium electricity plants. If there is one message from Kyoto, it is that the next century will usher in the real "sunrise" industries.**

It has taken almost a decade to get countries to cut this sort of a deal, and there can be no doubt that this Protocol has got teeth. No government will be able to ignore it. More important, no private investor will be able to neglect the cost of generating CO<sub>2</sub> or other greenhouse gases, especially when a market mechanism is put in place to create financial benefits for those who invest elsewhere.

The smart ones are ahead of the play. At the other end of Kyoto, the Japanese mounted a massive trade fair to show what their industry leaders are doing to get green technology into the marketplace. The second biggest exhibitor was Germany, with the dramatic investment in the fuel cell by Daimler Benz holding centre stage. Just fuel up with hydrogen and drive away, with only water dripping out of the exhaust!

Next to the household names of the Japanese car industry it was good to see one exhibitor from New Zealand flying

the flag. A firm in Christchurch was showing the Converttech system—innovative Kiwi technology which will process biomass for a range of uses, including electricity generation.

Island countries in the Pacific are entitled to have very firm opinions about the line Australia and New Zealand have been taking in the negotiations so far. Many have been disappointed because they wanted to see even deeper cuts. Australia's position, on the other hand, seemed to be that they had to see the canaries actually drop dead before they would get out of the coal mine. New Zealand's variant seemed more focused on ensuring that there is a deregulated market for dead canaries before making a move.

The Alliance of Small Island States (AOSIS) are the ones who bring a real message about survival to these meetings, with dramatic appeals on sea-level rise and hurricane risks which the insurance industry now refuses to cover. Indeed, reinsurance for extreme events



Part of the new "clean" technology. Pictured are two of the 104 natural gas low-emission vehicles used during the Nagano Winter Olympics 1998 in Japan.

Source: The Nagano Games: Respect for the Beauty and Bounty of Nature. NAOE

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# Collaborative planning for the Pacific environment

*When Pacific conservation organisations and donors sat down together for the first time late in February to pool information about programmes and plans, they discovered with some surprise that there has been a recent dramatic increase in conservation work in the Pacific.*

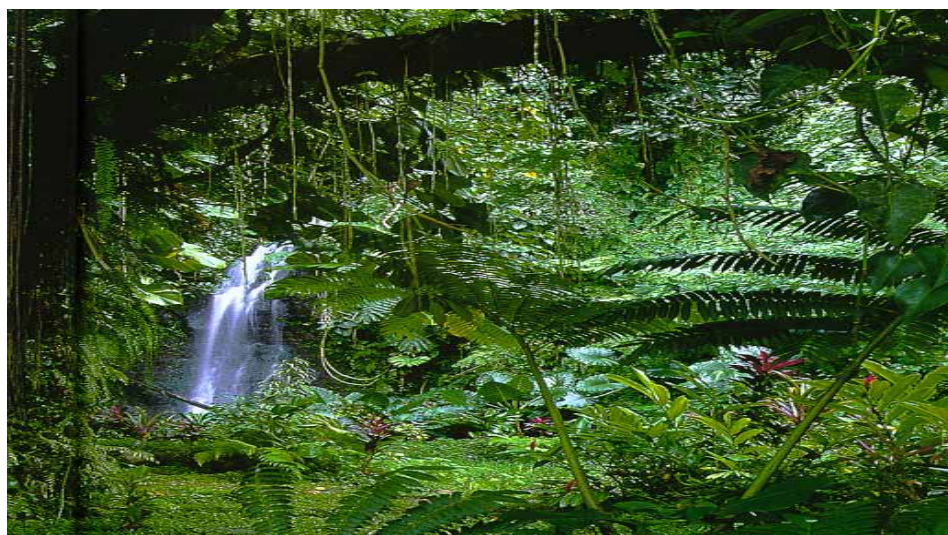
The round table meeting, organised by SPREP and funded by AusAID, was recommended by last year's 6<sup>th</sup> South Pacific Conference on Nature Conservation and Protected Areas, held in Pohnpei. Facilitator Audrey Newman, from The Nature Conservancy, said many of the regional and international organisations which took part had never sat down together before to share information about what they were doing and planned to do.

"When they did, everybody commented that they simply didn't realise the extent of the conservation work going on in the Pacific now," Ms Newman said. The meeting opened up tremendous opportunities for collaboration. "There was a real spirit of wanting to come together to pursue individual priorities, but in a collaborative way that would be much more effective."



Audrey Newman being interviewed by Televisé Samoa reporter Pili Afamasaga

SPBCP manager Joe Reti said the meeting boded well for conservation work in the region. "A meeting like this focuses organisations and lets them all work more efficiently for the betterment of the region as a whole," he said.



Biodiversity as found nowhere else on earth—Pacific rainforest

Much of the three-day meeting involved taking a hard look at the Nature Conservation Action Strategy for the Pacific, making it more focused, and tying it more tightly to the SPREP Action Plan, which reflects the conservation priorities of its 22 Pacific island member countries and territories.

People attending the meeting decided it was so useful they should meet again to continue their collaboration on implementing the conservation strategy, and identifying critical activities that as yet are not being covered. This second



Photo by Fatu Tauafi (SPREP)


meeting will take place on September 9–11, just before the SPREP meeting.

One issue that arose from the round table discussions was the real need to work on private sector partnerships. Participants also identified as a major priority the importance of integrating conservation into day-to-day business.

They said conservation had to be mainstreamed into everyday planning at all levels: local, national, regional and international.

The meeting also reaffirmed the participants' commitment to:

- community-based conservation
- strengthening the ability of communities and Pacific island countries to conserve their own land and marine resources
- building partnerships

"The more partners you have with different skills, the better your chances of success," Ms Newman said. 

Round table participants broke frequently into small groups to discuss particular issues. Here, from left, Sue Miller and Joe Reti (SPREP) talk to Wren Green (IUCN) and Sarah Titchen (UNESCO)

# Volunteer Roses—Justin and Carolyn

*The day before we left Australia to begin our adventure as AVAs we found ourselves caught in the biggest traffic jam of our lives. Each metre we inched forward we became more convinced that going to live on a small Pacific island was a very smart move. Then we arrived in Apia, set out for SPREP's headquarters and found ourselves inching forward in a traffic jam.*



Justin and Carolyn Rose, new AVAs on Kosrae

**W**e later discovered that Apia's traffic jam only lasts for about 15 minutes as everyone hits the roads to take their children to school at 8am, and get themselves to work at the same time. And we still think going to live on a small Pacific island is a smart move.

Although recently married, we're not going to Micronesia for a two-year honeymoon. We are both looking forward to working for the Development Review Commission in Kosrae.

Justin is an environmental lawyer who has worked for both the Commonwealth and Queensland Environment Departments in Australia, developing policy and legislation in the area of waste management and pollution prevention. Carolyn also worked for the Queensland Government, as an environmental educator in waste minimisation and recycling with communities and schools.

A four-day briefing at SPREP has been an ideal introduction to the Pacific way

of protecting the environment. All the staff we have spoken to have been very helpful and informative, and we are departing Samoa with renewed energy and confidence.

As well as contributing to the programmes of the Development Review Commission, we are keen to involve ourselves in the Kosrae community. We know that we will learn a lot from Pacific island people, and we hope that we can share something of our own experience with them. One thing we are hoping is that we won't be experiencing any more traffic jams for a couple of years! 🌍

*A four-day briefing at SPREP has been an ideal introduction to the Pacific way of protecting the environment.*

*continued from page 6*

## **Demand for environmental information**

Those attending the workshop said the training was invaluable, but although funding constraints limited the course to three days, they recommended a longer course next time to allow them more time to become familiar with all the available software, and with techniques for accessing and sharing information via the Internet. 🌍

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## **V-Files: The Greenhouse is here—so cool it**

is already a problem for the industry worldwide.

The good news from Kyoto is that no more time will be wasted while lay people try to debate complicated scientific interactions. The new focus of the international community is on risk and risk management. There will be a large effort to help Pacific island and other developing countries get the power they need without adding to risks.

Globally, there will be exponential growth in the market for proven renewable technologies: solar photovoltaics (PV), wind, biomass, and

in the efficient back-up systems which are now available for small to medium electricity plants. If there is one message from Kyoto, it is that the next century will usher in the real "sunrise" industries. An energy revolution is already under way. The Protocol therefore creates opportunities as well as challenges. Not the least of the benefits is that clean energy is going to be the best buy. 🌍

*Ken Piddington was the first Director-General of New Zealand's Department of Conservation and served as Environment Director at the World Bank until 1992. He attended the Kyoto Conference as part of the Climate Action Network, an international alliance of NGOs.*

## High Priorities



Countries' high-priority environmental management issues. Medium and low-priority issues are not listed.

- Strengthening of environmental legal instruments
- Protection of species and habitats
- Protection of cultural values and practices
- Sustainable management of agricultural resources
- Planning to anticipate environmental emergencies
- Planning to enhance the social and built environment

### Niue

- Strengthening coordination of environmental programmes to minimise duplication, increase awareness, permit integration of programmes, monitor gaps and shortfalls and ensure involvement of local people in development and review of projects
- Strengthen the National Coordination Committee's role in liaison between donor agencies, regional and technical groups; ensure a consistent administrative process for initiating projects
- Recycling and waste management: feasibility study on economics and environmental impacts of recycling/mulching/composting organic domestic waste including the option of using compost as an alternative to some imported fertilisers; legal and policy review to identify obstacles to waste minimisation and proper waste management; feasibility study on recycling imported waste products, including consideration of possible job creation through re-use of recycled materials; public awareness campaign on waste minimisation
- Effluent disposal and management: feasibility study on ways of using effluent as fertiliser, topsoil or forestry/agriculture nutrient source;

- improvement of waste storage and management, particularly household septic tanks
- Development of environmental resource information including traditional knowledge; database to improve development of management and monitoring of baseline resource surveys; resource information for schools
- Integrated approach to environmental policy and planning which includes all relevant sections of public and private sectors, and local communities
- Human resources: extra staffing and staff training in the Environment Unit to deal with biodiversity issues and project management
- Establishment of a central unit to coordinate sustainable development decision making, resource use policy coordination and resource information
- Marine and fisheries: baseline data on inshore marine ecology and deep sea (ocean bottom) fisheries data and research; training in data collection, analysis and monitoring
- Agriculture and forestry: project to investigate degraded soil areas; soil fertility and rejuvenation programmes; training in physical soil assessment and management, use of indigenous tree species for plantations and regeneration projects; research and feasibility analysis of potentially high-value indigenous crops (eg Nonu)
- Water supply and quality: training in field techniques for water quality monitoring, alternative plumbing/sanitation techniques, best practice water supply techniques; water supply and environmental assessment, environmental engineering, water quality management and hydraulic design alternatives, Niue-specific modelling for sustainable catchment yields

## Palau

- Palau's National Coordinating Committee has delayed identifying other priorities until a central environmental information database is established. The committee reported that there was an immediate need for a centralised database to permit information-sharing among all organisations concerned with environmental issues and activities.

## Samoa

- Environmental education for sustainable development: review of current environmental education to identify strategies and methods for improved delivery; national seminar to analyse present constraints, identify available technical information, strengthen networks among relevant organisations; produce relevant educational materials and resources; training workshop for trainers
- Capacity building for non-governmental organisations: take improved environmental education programme to the grassroots level with the full cooperation of well-equipped NGOs; workshop to assess needs of NGOs
- Eco-technology: ensure ecological security through income-generating projects. Identify economically viable, environmentally benign and socially equitable eco-technologies which would create "eco-jobs"; workshop on eco-technology to review information on eco-technology projects in field of waste management and agriculture

## Solomon Islands

- Training in development of a Code of Practice for timber harvesting
- Documentation and application of traditional environmental management systems and knowledge
- Population survey of parrot species
- Development of coastal protection and management plan
- Development of environmental policies and legislation
- Survey of culturally important national sites
- Strengthening the capacity to monitor mining activities

## Tonga

- Pollution
- Waste disposal
- Problems of low-lying areas
- Lack of public awareness
- Use of chemicals in farming
- Unplanned settlement
- Too many cars
- Develop a coastal management plan for Nuku'alofa, Nei'afu and Pangai
- Develop an environmental management plan for Nei'afu harbour
- Implement natural disaster mitigation measures for eroded coastal areas especially at Kanokupolu and Ahau villages
- Establish a national tree planting programme for protection of crops and properties from sea spray and coastal erosion and for the protection of watershed areas

## Tuvalu

- Environmental protection legislation: development and strengthening of environmental legislation covering endangered species, protection of biodiversity, use of resources, EIA, pollution control and waste management
- Water supply/storage: establishment of water management authority responsible for monitoring and maintenance of efficient and sufficient water storage

## Vanuatu

- Improvement of environmental and planning legislation
- Job creation and sustainable livelihoods: Ni-Vanuatu Business Development Centre; Natangura Jewellery; survey of palm trees with horticultural value; Ringi Te Suh Marine Conservation Area; South Pacific Community Eco-forestry project; North Efate Communities
- Forest management: reduced impact logging; Nokon Tarimanduran community rural development in natural resources; Mangaliliu community forestry project; traditional agroforestry
- Education, training and human resource development: Wan Smol Bag (theatre group) core funding; Wan Smol Bag turtle monitoring programme; Wan Smol Bag satellite theatre groups; environmental protection, education and awareness; provincial level project proposal and drafting training 

# SPREP retreat targets coordination and cooperation

SPREP's annual staff retreat, held for two days in February 1998, aimed to come up with ways of increasing SPREP's effectiveness through improved coordination and cooperation.



SPREP coordination personified

The retreat was held at two locations: the Sinaiei resort for a day of intensive discussions; and then Lalomanu for the next day, divided into further discussions in the morning, and team-building exercises in the afternoon.

The agenda covered cooperation in the ways staff can work together, and in improving the work environment. Group sessions considered coordination between programme staff, and between administration staff. Recommendations were divided into those where there was consensus on proposals, and those that needed further work before consensus could be reached.

*continued from page 1*

## Pacific Poison Hunt Under Way

the UN Food and Agriculture Organization (FAO) which have raised serious concerns about the dangers of persistent organic pollutants (POPs). SPREP's Waste Management and Pollution Prevention Officer, Andrew Munro, said the two UN agencies were leading international action to reduce or eliminate emissions and discharges of dumped chemicals or chemicals that were being stored because they were no longer needed.

"It's a high priority to locate these unwanted chemicals because once some pollutants get into water or food they stay there," Mr Munro said. "So if you eat food or drink water that's been contaminated by a persistent organic pollutant, that poison could make its way to the fatty tissues of your body and stay there."

Terrie Burns, one of the SPREP consultants involved in Phase 1 of the project, said many older pesticides were more toxic than the ones being used today. "Some persistent organic poisons can cause illness if they are eaten, while others have longer-term effects," she

said. "Some may cause cancer and some can be passed on to babies through breast milk."


Ian Wallis, another consultant working on the project, said people in the Pacific were more at risk than people in developed countries because in the Pacific, people live close to where the pesticides are used. "Chickens and pigs live in the gardens and the vegetables are grown for immediate use, so if a dangerous pesticide is being used, there is a higher chance it'll get into your food. A lot of these pesticides break down if they're left exposed to air and rain for a month or so but in the Pacific they may not have time to decay, before the food is eaten."

The three experts also raised concerns about poisonous pesticides getting into people's water supply. Bruce Graham said particularly on some of the smaller islands, the water supply was close to the surface, making it easy for rainwater to seep through, carrying pesticides or other poisons. "There's also the danger of pesticides washing off the land into the ocean," Dr Graham said. "Seafood is a big part of people's diet in the Pacific

but often they don't know their seafood could be contaminated by pesticides."

Andrew Munro said the problems Pacific island countries faced in managing dangerous chemicals were particularly difficult because of:

- Lack of information about the types and volumes of chemicals being stored
- Poor understanding within the wider community of how to use and store chemicals
- Limited knowledge of the potential dangers of certain chemicals
- Absence of appropriate disposal options
- Government and community commitments directed to other priority areas

The POPs management project is being carried out in Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. 



SPREP staff brave the sun for a group photo at Lalomanu.

Recommendations with consensus ranged from holding programme officer meetings that focus on a particular country rather than specific programme areas, and reviewing existing administration and staff resources, duties and levels; to addressing bad light levels



Collaborating on improving efficiency—the strength of SPREP is its close happy family environment

and toxic fumes from photocopiers and printers, and advising all staff when a visitor to SPREP is expected in the office.

At the end of the retreat, staff agreed to set up a Retreat Working Group which would address issues raised, ensure action was taken where needed, address non-consensus issues that arose and organise the following year's retreat. 🌐



Filming retreat proceedings for a video on SPREP is Yaminisasi Gaunavou of the Secretariat of the Pacific Community (SPC), Suva

## International Treaties Target Hazardous Chemicals

International progress in reducing the risks of dangerous chemicals has been made in two areas: international agreement has been reached on regulating international trade in hazardous chemicals, and talks will begin soon on another treaty that would limit the release of Persistent Organic Pollutants (POPs) like DDT and PCBs into the environment.

The Prior Informed Consent (PIC) Convention, known as the Rotterdam Convention, was agreed in March 1998. Ratifying countries exporting dangerous chemicals and pesticides agree they must tell developing countries about the risks of these chemicals. SPREP's Waste Management and Pollution Prevention Officer Andrew Munro said this would mean people living in the Pacific have a better chance of knowing if they or their children could be poisoned by the chemicals they use.

“Many developing countries have reported acute poisoning and fatalities among farmers because pesticides were not being handled safely,” Mr Munro said. “If they have better information, that will help overcome the problems.”

He said the Rotterdam Convention would establish a legal obligation for exporting countries to tell the destination countries how dangerous specific chemicals are and how they should be handled. After the convention has entered into force, countries which have ratified it will be obliged to comply with these requirements.

“It is important for Pacific island countries to be aware of this convention because it will make it easier for them to control which potentially toxic chemicals they are importing,” Mr Munro said.

The second treaty, on Persistent Organic Pollutants, for which negotiations begin on 29 June 1998 in Montreal, aims to complement the Rotterdam Convention by reducing or eliminating releases and emissions of hazardous chemicals into the global environment. UNEP executive director Klaus Töpfer says an international convention is needed because Persistent Organic Pollutants circulate globally, either through trade or through the natural world, in air, water and animals. POPs remain in the environment and make their way to regions far from their original source through the “grasshopper effect”—POP released in one part of the world can, through a repeated and often seasonal process of release and deposit be transported to all parts of the globe.

Initially the POPs treaty negotiations will consider 12 Persistent Organic Pollutants—aldrin, chlordane, DDT, dieldrin, dioxins, endrin, furans, heptachlor, hexachlorobenzene, mirex, PCBs and toxaphene. More will be added later. The POPs treaty negotiations are to be completed by the year 2000. 🌐

# SPREP in focus



Yaminiasi Gaunavou of SPC conducting a broadcasting skills workshop for Samoan media, held at SPREP headquarters



Group photo and an active discussion group at the Nature Conservation Round Table on Biodiversity in Apia, Samoa



European Development Fund Committee during a briefing at SPREP headquarters



CBEMP's environmental management coordinators meet in Apia, Samoa for the first time.



Joe Reti of SPREP talking about biodiversity to students at St Joseph's College of Samoa



PICCAP coordinators discuss preparing for climate change



First regional meeting of PICCAP coordinators in Apia, Samoa



Alan Hilton of NOAA providing a special briefing on El Niño at SPREP headquarters



Neva Wendt (SPREP) and Kenneth MacKay from the Canadian government sign off on a new coastal conservation project, while project coordinators James Aston and Lucille Apis-Overhoff look on.



Teamwork in action at the 1998 SPREP staff retreat at Lalomanu.