

environment

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NEWSLETTER

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Cleaner Days Ahead for the Pacific

SPREP's Marine Pollution Adviser, Steve Raaymakers, believes cleaner days are ahead for the Pacific Ocean following a workshop on marine pollution prevention involving 17 island nations.

Fifty government and oil industry representatives turned up for the annual Pacific Ocean Pollution Prevention Programme (PACPOL) workshop. For five days, at Samoa's famous Aggie Grays hotel, the workshop targeted methods to counter shipping accidents; in particular oil spills at sea, along coastlines and harbours.

Coordinator Raaymakers, a marine biologist, was enthusiastic about the outcomes.

A high level of training was carried out, enabling each country to produce at least a basic response capability, in dealing with marine pollution emergencies, he said.

PACPOL aims to maintain, protect and enhance the quality of coastal and marine environments in the Pacific islands region by minimising ship-sourced marine pollution.

During the talks two key problems emerged. How to get money to fund the purchase of the expensive spill response equipment, and lack of legislation giving authorities more legal grunt when dealing with offenders.

"If you're going to have a contingency plan in your country, you're going to have to have oil spillage equipment (and) it's very expensive."

SPREP is promoting the view that all island states place a marine pollution levy on international shipping. Using Samoa as an example, it was found that charging ST\$200 (US\$70.00) for each of the 250 ships docking each year, would bring in around ST\$50,000 (US\$28,000) annually for the Samoan government. Allowing those monies to compound would eventually open the door to buying the

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MARINE POLLUTION
a PACIFIC SOLUTION

For Cleaner Seas in the Pacific Islands Region



Planning Contingencies for Marine Pollution

The Cook Islands worked on some slick moves on Rarotonga's Avatiu harbour, to combat potential oil spill accidents. Dozens of sawdust sacks were dumped into the islands pristine harbour to simulate oil. A huge containment boom was then set in place, as emergency teams went through drills re-deploying the boom and containing the spread.

The cost of preventing oil spills is minimal compared with the clean-up costs after a spill has occurred.

The scenario was part of a five-day National Marine Spill Contingency Plan Workshop involving the Cook Islands Maritime Division, Mobil Oil, and PACPOL, SPREP's new Pacific Ocean Prevention Pollution Programme.

"What we are actually trying to do with PACPOL is to get the oil industry to take responsibility for their own business," says SPREP's Steve Raaymakers.

While the action on the water was happening, on land SPREP was busy assisting the Cook Islands government to get a National Marine Pollution Committee up and running and offer advice on emergency contingency plans. Oil and shipping representatives also attended.

Mobil Oil who brought over equipment from Fiji, gave the spill exercise the thumbs up.

The company's Customs Service Manager, Mr Okirua Apera, says the drills underlined the need for better equipment and communications. A suggestion to involve more emergency services in the Cook Islands next year has been taken on board. Mobil intends to repeat the exercises at Mobil depots around the region.

SPREP was invited by the Cook Islands government, more as observers and advisers, but the result was very good for everyone, says Raaymakers.

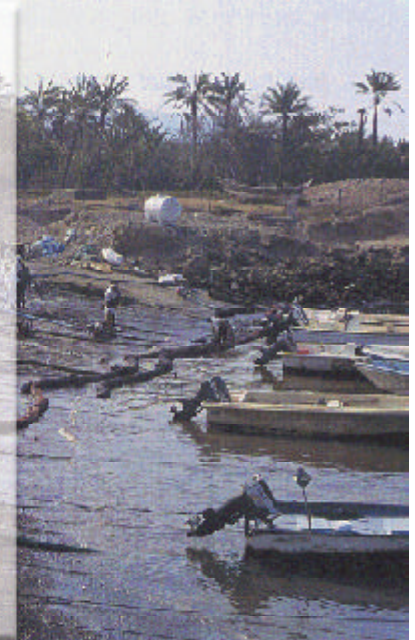
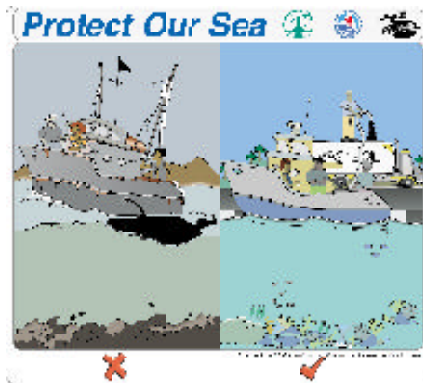


Photo reproduced courtesy of IMO/UNEP-Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)



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booms, nets, skimmers, and other equipment needed for the job.

So far no Pacific island country uses the levy system. In comparison, levying bank-rolls Australia's entire marine pollution plans, piling up close to AUD\$2.5 m dollars annually. New Zealand and the United States use a similar self-funding process.

"It's just (about) passing a very simple regulation. Some of the countries were very interested and some don't really want to know about it", says Raaymakers.

While purchasing emergency equipment is still treading water financially, putting powerful legislation against pollution in place is now a lot closer to shore.

It emerged, during the workshop session on legal aspects, that most island states have impotent marine pollution laws, or none at all. SPREP presented a Marine Pollution Act (in template form) to the meeting for perusal.

"What we have done is produce a regional model, like a legal template, and put it in generic terms. The beauty of the model is that it is of international standard, which is good for the shipping industry and provides a level playing field."

The response has been heartening. Fiji, PNG Samoa, Solomon Islands and Vanuatu have shown increasing interest.

In addition to the draft legislation, SPREP has also provided a template for national contingency plans.

A further incentive for countries to develop their contingency plans, is a US\$5000 grant to use for related purposes, once plans have been submitted to SPREP.

"The feedback from the workshop has been very positive. People realise we have got a problem. We could wake up tomorrow morning and have a dirty big oil tanker on our reef spewing pollution everywhere", says Raaymakers.

Held annually with the support of the Canadian government, the year 2000 PACPOL workshop will be held in Tahiti, whose government has willingly agreed to cover in-country costs.

From the Director's Desk

Planning for change

Pacific voyagers knew their weather. They knew the seasons, and which way the dominant winds would blow at certain times of each year. They knew from the phases of the moon when they were more likely to hit rain, and when the risk of sudden squalls was greater.



They knew that on voyages of discovery, it was a better idea to head eastwards, into the prevailing wind, so that if they didn't find land they could make a quicker trip back home with the wind behind them. Crossing thousands of kilometres of ocean in one trip, they needed all that knowledge to survive and succeed, to be able to return home with directions for another new island group just discovered.

Similarly today, as Pacific island countries make their voyage into the unknown world of changing climate and sea levels, they need the best knowledge they can get.

At a time when countries are looking to set up their economies for lasting growth in the new millennium, they should also be factoring in as much as is known about the likely impacts of climate change and sea-level rise in the region. If a new development is being planned on a foreshore, the designers of the infrastructure such as roads, sewage lines and water supply need to know if within the life of that development, coastal erosion could become a big problem; if more storms could damage expensive new roads and drainage systems; if the permanent wa-

ter supply might become less permanent as rising sea levels seep into groundwater supplies or as El Niño brings more droughts than were previously expected.

Just as the early navigators knew the difference between ocean currents bouncing off land masses, and ocean currents continuing on their way through the deep ocean, so today's economic planners need to factor in the differences between short-term weather changes and much longer-term change.

Much is already known about likely future climate and sea-level changes in the Pacific islands region. Intensive research into temperature, climate and sea-level trends began less than a decade ago in this region, while long-term trends need to be measured over a much longer period. But while all the scientific data is not yet in, all the best global models tell us that within the time-frame of most development decisions being made today, there are certain long-term changes that can theoretically be expected.

The Pacific is already experiencing large changes in weather and sea levels, and while these have not been linked defini-

Mr Tutangata,
Director of
SPREP



tively to climate change, they are the sorts of changes the best climate science tells us we can expect once global warming begins to change climate and sea levels.

Pacific sea levels rose abnormally rapidly between 1994 and 1997—on average by 2–3 cm per year in that period, which is more than ten times the global rate of sea-level rise this century. Those figures, measured by tide gauges established with Australian Government funding in 12 Pacific island countries, have been validated by satellite data.

It is thought that this extremely rapid sea-level rise is linked to the El Niño phase of the Southern Oscillation, which itself has been behaving unusually lately. Since 1976 there have been more El Niños, fewer La Niñas, the two biggest El Niños on record, in 1982–1983 and 1997–1998, and the longest El Niño on record, stretching from 1990–1995. Some highly reputable researchers have speculated that these unusual changes could be connected to global warming and longer-term changes in weather patterns.

There have been other recent changes in the Pacific's weather patterns as well. In 1977, one year after El Niño changed its behaviour, the vast belt of storms and winds in the southern Pacific, the South Pacific Convergence Zone, shifted abruptly eastwards. This change altered patterns of rainfall and sunshine in every South Pacific island country.

Surface ocean and air temperatures in the Pacific also show unusual changes, with a greater temperature rise than the global average. Over the whole planet, the world's premier climate science body, the Intergovernmental Panel on Climate Change (IPCC) estimates that since the late 19th century, global temperature has risen by 0.3–0.6°C. A joint Australia-New Zealand analysis of Pacific island weather records found that since 1920,

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Action to stop Sliding Marine Resources

The picture is becoming clear. Marine resources throughout the Pacific region are in danger of dwindling. Part of the reason lies with continuous over fishing, pollution, expanding populations and poor land use. Laws protecting fish stocks in many island states are often ignored.

"We largely take communal knowledge for granted, and we assume that villagers don't know much about conservation. But they really know more about their resources than what is in a survey. We go on about the fauna and flora, but it is people affecting those things. Don't disregard local knowledge. You just have to be careful about which one you choose."

Lucille Apis-Overhoff (Wetlands Management Officer, SPREP)

Declining marine resources need immediate attention. In response, SPREP is coordinating sub-regional workshops to try and stem the loosing resource tide

To help preserve and sustain declining marine resources, SPREP brought together nine Pacific island countries and 25 representatives to Tahiti in October 1999. Together, they looked into ways of providing their communities with skills in marine resource management.

One important management tool introduced, was the formation of community owned Marine Protected Areas (MPAs); fish reserves based in traditional fishing areas. Though small in size, the idea is to create an MPA network, allowing some to be fished, as others are replenished naturally through reproduction and migration.



Workshop organiser and Wetlands Management Officer, Lucille Apis Overhoff, says despite differences amongst Pacific island countries, there is a common affinity with the sea, its socioeconomic and cultural value.

"What we all share in common, is a strong reliance on maintaining a healthy marine environment. Coastal and ocean areas



Ms Lucille Apis-Overhoff, Wetlands Management Officer.

provide communities with food, medicine, minerals, construction materials and a host of other valuable resources", she said.

It was agreed that little can be done to encourage positive change, without community involvement and support.

The workshop mixed wide ranging talks with practical exercises. At one session participants were taken on a field trip to a local beach. There they were shown a simple monitoring method they could show to villagers at home on how to roughly gauge fish resources in their MPAs.

Another highlight, was a discussion on how Governments, non governmental organisations, and village councils could interact better, to develop real community-based resource management plans.

The general consensus was that Governments by and large, tended to base their decisions, on environmental

Traditional fishing methods still practised today.



marsh salts are now rare in Rarotonga but this area has unique spawning and breeding conditions for a number of species of fish and crab, such as *Aua* (mullet), *Koiti rau kura*, *Tupa*(crabs) and Milk Fish.

It is anticipated the Raui will give marine plants and animals the chance to breed and grow abundant, especially those which are traditionally harvested for food and other uses. The surrounding areas will also benefit as plants, animals and their offspring spread out from the reserve. The Ra'ui will be reviewed by the village chiefs in February of next year. In the face of the latest conservation methods, ancient practices such as Ra'ui are still functional says Ms Apis-Overhoff. A lot of the traditional practices did not disappear because they were no good, they disappeared because the Pacific islands wanted the latest technology. Like the Cook Islands, many countries are now reverting to traditional conservation practices, she said.

issues, without enough feedback from NGOs or village councils.

On the other hand delegates from the Cook Islands and Samoa described how their situation had over the years gone from one of little dialogue, to proactive cooperation.

Last year, on the island of Rarotonga, in the Cook Islands, this led to a turning point with the revival of *Ra'ui*, a traditional method of MPA, whereby access to a particular resource or area is forbidden.

Five areas of the lagoon, covering 15 percent of the total coastal area, have been designated by a formal body of *Koutu Nui* (chiefs), as preserves for two years. Their directive places an almost total ban on the killing of all marine life, and puts the breaks on jet skis and water skiing.

The *Ra'ui* was endorsed by the chiefs, because it had real historical links to the way Polynesian people had conserved their resources in the past. For years the community and the government had watched with growing concern the alarming rate at which those resources were being eroded.

The people of Aroko/ Nukupure lagoon, on the south side of Rarotonga, and a

ten minute ride from the capital Avarua, had considered alternatives to harvesting for several years. Proof of the seriousness of their situation came after village chiefs asked government to carry out surveys on the area. The results confirmed the suspected high depletion rate.

Covering 47 hectares of land, including an attractive beach, the lagoon has long been a popular area for picnics, sailing and snorkeling says the Cook Islands Ministry of Marine Resources.

“The most unique feature of this *Ra'ui* area is the tidal marsh salt consisting mainly of *kiukiu* (salt water *Paspalum* grass), *Mauku tatau tai* (sedge). Tidal

“We largely take communal knowledge for granted, and we assume that (villagers) don't know much about conservation. But they really know more about their resources than what is in a survey. We go on about the fauna and flora, but it is people affecting those things. Don't disregard local knowledge. You just have to be careful about which one you choose.”

Returning participants, have been asked to train village and community leaders to increase the numbers of people with the skills and knowledge needed. With marine resource workshops completed for Polynesia, and Micronesia, a final workshop in Papua New Guinea will be held in March for Melanesian countries.

In the face of the latest conservation methods, ancient practices such as *Ra'ui* are still functional. A lot of the traditional practices did not disappear because they were no good, they disappeared because the Pacific islands wanted the latest technology. Like the Cook Islands, many countries are now reverting to traditional conservation practices.

SPREP Headquarters near completion

SPREP's new headquarters in Samoa entered the home straight, with a special ceremony on the hills of Vailima near the capital Apia.



Officials from Samoa Diplomatic Community and Delegates from SPREP Member Countries who attended the special ceremony at the SPREP Centre site. Photo by Sue Rasmussen (Photocentre).

More than a hundred invited guests, gathered for the traditional *taualuga* (see other story on page 7), to mark the completion of the roof, covering the first building in the 670 square metre central office blocks. Work continues on schedule to meet a mid-year 2000 opening date.

Since arriving in Samoa from New Caledonia in 1992, SPREP has operated out of temporary premises in Vaitele, a five minute drive from the capital Apia, and the heart of Samoa's industrial zone. Neighbours include a meat processing factory, and the Pacific's biggest wire harnessing plant.

Following the usual religious service, Director Tamari'i Tutangata, thanked international donors for their generous support, in funding what will become a fully equipped compound.

Financial contributions include, AUD\$1.5 m from Australia, NZ\$1.25 m from New Zealand, US\$200,000 from United States of America, US\$100,000 from the People's Republic of China, US\$100,000 from France, and K\$100,000 from Papua New Guinea.

Samoa's Environment Minister, Hon. Tuala Sale Tagaloa says despite working under difficult conditions in temporary facilities, SPREP had persevered, achieving a lot in the past eight years.

Once complete the main structure will comprise four office blocks, a management block plus a reception and registry office. Other buildings include a staff facility, workshop, and guardhouse.

Two further additions could also be included shortly. A feasibility study of an Education and Training Centre is underway by the Japanese government. Final details are now being discussed with the Samoan government and SPREP. SPREP is also hopeful of a green light from the European Union for the building of an Information Resource Centre.

Set on a prime ten acre hill location, SPREP has been given a 60 year renewable lease arrangement.

"After such a long wait for something to be happening on this site that was so generously gifted by the Samoan government to our region's environment organisation, one can be excused for saying 'Seeing is believing'" says Tamari'i.

Australian architects Bowden Design Associates, and Group GSA, together with local company C.A.R.E Ltd, are confident of finishing the project on time.

"The site is developing very well", says SPREP's Finance and Administration Head, Ray Wright.



"The government of Samoa are upgrading all the service facilities, including roads, water, new power lines and phone links to the tune of ST\$300,000. It is a beautiful site. I think SPREP will be in a far better environment, to be working for the environment."

The Tauluga



The “Tauluga” or roof of the current SPREP Centre. The project is on schedule to finish by June 2000.

Photo by Sue Rasmussen (Photocentre).

The passing of either event is a cause for celebration.

“The completion of the roof on prominent structures, in particular churches or meeting houses, symbolises the belief that the collective effort and needs of the community, is more important than the individual”, says a local builder.

Every new structure is the source of much pride to the village, given the amount of collective sacrifice and labour involved. And while the people of Vailima only have informal links to SPREP, the sense of community remains tangible.

Nowadays the notion of *taualuga* has evolved to include any building of commercial or social significance.

Although the *tufuga* (craftsman) may be the main man on site, his wife frequently gets more when the final presentation of traditional gifts, consisting of fine mats, boxes of tinned food, and money is made.

The rationale is, that those offering moral support to an event, be it the building of a house or going to a war, are as important to a successful outcome as the participants themselves.

Samoan custom defines *taualuga* (roof) as the completion of an event being close at hand

Samoan custom defines *taualuga* as the completion of an event being close at hand.

SPREP Director, Tamari’i Tutangata, told the gathering the main reason for the dedication was to acknowledge that tradition.

“We consider it appropriate to honour the customary practice of Samoans at

this stage of the construction before the construction process goes too far”.

Most often the word refers to a village *taupou* (maiden) when performing the traditional siva Samoa (dance) as a grand finale during festivals or ceremonies.

The generic connection arises as *taualuga* can also mean, the ridge part of a roof, that being its highest point.

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From the Director’s Desk

the surface air temperature rose by 0.6 – 0.7°C in New Caledonia and the Cook Islands. Over a much broader area served by 34 weather measuring stations, surface air temperatures in the Pacific Ocean region increased by 0.3 – 0.8°C. A separate study confirmed similar increases in surface ocean temperatures throughout the South Pacific.

These temperature rises may seem small, until you consider that between the last ice age and the present day the global temperature change was just 5°C, spread over several thousand years. Their po-

tential impact on climate may also seem negligible, until you consider that climate change, once started, takes decades or centuries to stop.

Pacific planners looking to put in the infrastructure that will underwrite their countries’ economic growth cannot afford to assume that all current changes are short-term. Variability around certain limits is a very different matter from embedded, long-term change. It is one thing to plan for one drought every five years, but quite another to include in your planning the possibility that changing weather patterns could bring five droughts in a decade. Climate change

presents very serious concerns to the region as its countries develop new infrastructure investment and livelihoods.

The best scientific advice tells us that human pollution is already having a discernible effect on climate. That advice, from the IPCC, also gives quite precise details of the sorts of changes we might expect, as the planet warms and the climate changes. National planners and policymakers need to be aware of this best-available advice, if their voyage to a brave new economic world is to succeed.

Sharing of Gifts

Like a bride and groom waiting on the dawn of their wedding day, so has the world been on tiptoes eagerly anticipating the new millennium. Yet, to my mind our world appears to have become increasingly inebriated, even intoxicated with the apparent opportunities to celebrate the advent of the new millennium and the demise of the old. So I find myself asking: do we really have anything to celebrate, as we now walk the new millennium and farewell the old?

In my short time with SPREP, I have become better acquainted with the extent of the environmental issues facing each one of us in our respective countries, our region and the world at large as well as the possible scenarios facing us, and our successors into the new millennium.

It appears that the real hope for the Pacific's environment lies in marrying new technology with traditions of wisdom and adaptation laid down hundreds of years ago, involving the individual, the community and the environment. This is the gift of learning.

Samoans speak of this as the *Va Tapuia* meaning sacred relationship. The notion is one held in similar vein throughout the Pacific. The *Va Tapuia* has for generations governed the relationship between people, as well as people and the environment. Such a relationship, like information technology, are constant and all-embracing.

Unlike modern information technology, the *Va* has an intrinsic spiritual element that those who work the land will tell you is almost tangible. The concept has guided Samoan/environment relationship. This is the gift of identity and self confidence.

As we start our journey in the new millennium it appears that environmentally and socially we, as people of the Pacific, might usefully reflect more on our *Va Tapuia*. Why?

Because the environment is critical.

The reality is, the environment is a matter of life and death, particularly here in the Pacific. Communities rely much more directly on their environment for the food we eat, the water we drink. If you have no safe water to drink, if your ocean and land no longer provide you and your family with food for your bellies, you sicken and you die.

But they do not always, or even often, have the information they need to realise WHY.



Designed by Michael von Reiche based on a concept by Fatu Tauafiatu

Communicating that information is the responsibility of everyone. Too often environmental information is not accorded the importance it deserves.

We also hope that Treasury and Planning officials will be persuaded that the bottom line is, without a healthy environment, it's impossible to have a healthy economy that is sustainable. This is the gift of common sense.

Within SPREP, we believe that a synthesis of ideas and practical applications between traditional and new technologies; the young, the not so young; developed and developing countries to be the way ahead in finding solutions to the serious environmental concerns we all face. This is the gift of sharing.

Sure, developing island countries may not have the financial clout to acquire some of the new technologies, but like so many Pacific island villagers this just gives us more reason to think and work harder, be innovative, and learn how to improvise. This is the gift of self-empowerment. It requires us to be assertive, confident, and supportive of one another. On the island of Aitutaki we have a term *Viliti*—of being small-minded. No doubt the term has many local applications. The point being that empowerment can only work if *viliti* is put to the side for the common good.

We have also been blessed with a donor community which has willingly helped in areas where we lack in capacity. This is the gift of giving.

Through greater integration of our many gifts, our hope is that the end result is to give the villages, the schools, officialdom,

politicians and people in all walks of life, the information they need to protect and conserve something they know is of real value to them. This is the gift of enlightenment.

Now, I realise that the moment has arrived for us to take responsibility for the challenges that are threatening our ancestral lands, the ocean we share, and our own special way of life.

I no longer wonder how long will mankind continue to enjoy God's bounty in the new millennium, I now know that the gifts we share will help us all to sustain our environment. You and I—Pacific islanders and residents of our global village will need to work at it—hard! Yes we do have celebrations to attend to in this millennium.

The guests are gone, the last friends have said their goodbyes; the gifts lie unwrapped; the last wine savoured. This is the vintage gift of wisdom with age.

The newlyweds, the developed and the developing world, look in each other's eyes—they find love, they share hopes and dreams—and the commitment to live happily ever after.

Ed's note: This article was written by Tamari'i Tutangata especially as a vision for the Environment as we enter the new millennium.