

environment

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NEWSLETTER

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The graphic below is a depiction of the “Va Tapuia” principle. Designed by Micheal von Reiche from a concept by Fatu Tauafiafi.

Media Workers, Key Carriers of Environmental Messages

Central to the Samoan way of life is the fundamental principle of “Va Tapuia” or sacred relationship. The Va Tapuia governs relationships between people and the environment, that is, the land, the sea, the sky, flora and fauna. This principle if followed gives rise to other principles such as the “Va Fealoai” or mutual respect; “Tofa mamao ma le Faautautaga Loloto” or wisdom in the exercise of authority.



Getting the story from the source are John Lefale, Tilles Hosch and Mari-Jane Porter (with hat).

This was the call from Samoa’s Minister for the Environment, Hon. Tuala Sale Tagaloa Kerslake, in his keynote address to the SPREP/UNESCO Pacific Environmental and Information Network (PEIN) Workshop for Media and Environment Officials. He reminded participants that the workshop would help revive “Va

Tapuia”. This is done by improving the flow of information to decision-makers and the public leading to better-informed decisions and advocacy for the environment.

“These principles have governed our ancestor’s approach to the environment in the past, and have maintained its sustainable use for years”, he said. “Unfortunately for us, this pattern has changed and as we approach the 21st century just over the horizon so have we noticed the ever-increasing pace of environmental degradation that is in evidence today. We have a responsibility, documented in the Bible to protect our environment. We seem to have lost sight of the principle of ‘Va Tapuia’ our sacred relationship and responsibility”.

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Delays in Emission Cuts Greatly Increase Risks for Small Island States

New research backs calls by Small Island States for the strongest possible commitment to reducing greenhouse gas emissions.

The research, carried out by Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) under the auspices of SPREP suggests that human emissions up to 1995 have already built an inevitable 5–12 cm sea-level rise into natural systems. This increase would peak in about 2020–2025.

Consistent increase in emissions means that the likely rise in sea level will be considerably increased. The Intergovernmental Panel on Climate Change (IPCC) has said that if current emissions continue, sea levels will rise by 15 to 95 cm by the year 2100. The CSIRO research indicates that the longer the world waits before making substantial cuts in emissions, the greater the resulting global warming and sea-level rise will be.

Mr Gerald Miles, Head of SPREP's Environmental Management and Planning

The CSIRO states that: *By 2020 the amount of latent sea-level rise may be sufficient to increase the vulnerability of regions where impacts are currently infrequent or not particularly severe, and to increase the severity of impacts in areas currently under threat.*

The low-lying islands of Kiribati will be the first to experience the impacts of climate change and sea level rise.



Pacific artwork depicting the causes of climate change. The price of a consumerist lifestyle led by developed countries is being paid by Small Islands Developing States.



Division, said that some have argued that future technological developments will make reductions in GHG emissions easier.

“This CSIRO research shows that even if all countries met their Kyoto Protocol commitments, and if technology then made it possible to cease all human emis-

sions after 2020, small island states, some of them a mere 1.5 metres above sea level, would still face pronounced sea-level rise, from 14–32 cm, peaking in about 2050,” Mr Miles said.

Mr Miles said it was important to recognise that it took decades or centuries for warmer temperatures to be absorbed by the oceans, which then expanded with the extra warmth, raising sea levels. “This report underlines the urgent need for committed action to cut emissions to levels recommended by the world’s climate scientists,” he said. “Small islands are in the front line, and the longer countries delay committed action, the greater the risks for small island states.”

From the Director's Desk



Mr Tutangata,
Director of
SPREP

Time was, there was no rubbish in the Pacific. Anything that was discarded – food, coconut leaves, pandanus baskets – was organic, and either was eaten by livestock, used to make richer soils for crops like taro and pulaka, or else simply rotted away. In fact, some of the region's more than 1000 languages have no word for rubbish.

While Western societies spent centuries battling to reduce the rubbish that clogged streets and waterways and sparked outbreaks of cholera and other deadly diseases, less populated Pacific island countries continued to enjoy clean drinking water, clean oceans, an abundant supply of fish, seafood, coconuts, breadfruit and bananas – and no rubbish.

Those times, sadly, are passing. The influx of Western consumer products, with all their plastic wrappings, their metal containers, is creating a mountain of solid waste that does not decay, but instead clutters formerly pristine lagoons and beaches, threatening not just the natural environment, but economies and public health as well.

Some lagoons are now ruined, turned instead into rubbish dumps. And all around the Pacific, small islands with limited land masses are finding the expanding mountain of solid waste virtually impossible to deal with.

The hope is that as people become aware of the realities of the threat which solid waste poses to their environment, their health and their economy, they will start taking action themselves to reduce their waste and stop rubbishing the Pacific.

Waterways and freshwater lenses essential for communities' water supply are becoming increasingly polluted and the growing piles of waste bring an expanded risk of disease, not least from the dengue-carrying mosquito, whose numbers are multiplying in many Pacific island countries. Mosquitos thrive in stagnant water and discarded rubbish traps water, providing ideal conditions for the dengue mosquito to breed. Outbreaks of this debilitating and sometimes fatal disease hit countries' economies, because money that could be used elsewhere has to be diverted to deal with the outbreak.

The increasing piles of solid waste – in some cases in deliberately sited rubbish dumps right on the beach – create a spiralling series of vicious circles. As polluted lagoons no longer provide enough fish and seafood to allow the communities to survive, people are forced to buy more and more cheap canned food – and

in turn create even more of a litter problem in their fragile environment.

That flows into new health problems as a formerly balanced diet is thrown out of kilter – as the accelerating rate of diabetes in the Pacific bears witness. The World Health Organization says the Pacific is now reported to have one of the highest rates of adult onset diabetes in the world.

Tourism, a key money-earner for some Pacific island countries, is also starting to be affected by the spread of litter. The region did have a competitive advantage over other tourist destinations because of the reputed beauty of its lagoons and beaches. But that advantage is shrinking under the weight of solid waste piling up around shorelines and waterways alike.

Some countries have already begun devising innovative ways of reducing the quantities of waste they must dispose of. While a new SPREP programme is about to gather details of exactly what rubbish is accumulating in the Pacific, existing data suggest that organic, biodegradable material makes up about 50 percent of all domestic waste.

In Fiji and the Solomon Islands, pilot programmes are successfully using this organic waste to generate income and improve community nutrition. Fiji's Youth Composting Project, based in Nabua and Tamavua/Wailoku, has seen young people convert organic waste into compost which they sell for community gardens.

The Solomons' Sup Sup Garden project, which started in 1986, aimed primarily to



Copies of this publication are available from SPREP by contacting Dr Suresh Raj sureshr@sprep.org.ws

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Changing Behaviour and Attitude Key to Waste Management

If we are to solve the waste crisis, we need to examine the act of wasting more closely than waste itself. It is our actions, individually and collectively, that must change.



Dr Raj (with spectacles) advocating behavioural changes as the key to waste management

This message couldn't be more clear at the recent Pacific Environmental Information Network (PEIN) workshop when the issue of solid waste was chosen as the topic the environmental and media officials will focus on in sharpening their skills on communicating environmental issues to the public.

An item really becomes waste when we decide that it should be. This implies a need to re-think our definition of waste and our use of materials. The problem of waste and its disposal include throwing resources away and littering the environment. The disposal of waste involves the production of problems of landfill gas which is made up of 60 per

cent methane and 40 per cent carbon dioxide. This can pollute groundwater.

From a sustainable management perspective of waste, our present situation is that we are turning our natural resources into rubbish at an alarming rate. Our society

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The European Union funded WASTE Programme (Pacific Regional Waste Awareness and Education Programme) aims to improve the behaviour of significant target groups in order to minimise waste production and disposal. One of the strategies for WASTE implementation is to focus on the "carriers" of the waste awareness and education messages and to build their capacity. The objectives of the WASTE programme made it ideal to combine with the PEIN workshop.

Many of the materials we throw away are not useless – they are just carelessly discarded. Wastes are misplaced resources.

According to Dr Suresh Raj, Project Coordinator for WASTE, most people say waste is "useless or worthless material" or "stuff to be thrown away". Many of the materials we throw away are not useless – they are just carelessly discarded. Wastes are misplaced resources.

Our attitudes to waste are evident in the language we use to describe it. Waste is given such names as "refuse, garbage, trash" each conveying images of filth and uselessness. Materials are waste when we have no more use for them and many things we throw away may still have use.



“Eleni” cans, Out of Sight Out of Mind?

An environmental slogan well known in the days of long chimneys past the cloud cover in industrialised countries was “out of sight out of mind”.



In 1998 alone over 9 million (9,000,000) “Eleni” cans were imported into Samoa. This means that in five years, more than 39 million (39,000,000) waste cans of eleni were discarded—

Where?

By building those chimneys so high into the sky, it was thought that whatever was in the concoction of smoke coming out of them would disappear into the sky and be lost forever. It was thought, no harm will be done to the environment where

some of our waste. We are witness to a chain of actions starting from importation beginning the process of the making of mass waste on a small island. Take the “Eleni” (tinned fish—coined from the word “Herring”) for example. A heavily

Table 1: Estimates of Tinned Fish Imports into Samoa for 1994 – 1998

Year	Cartons	Cans (48 x #Cartons)
1994	112,467	5,398,416
1995	144,396	6,931,008
1996	185,022	8,881,056
1997	182,531	8,761,488
1998	195,244	9,371,712
Total	819,660	39,343,680

Source: Central Bank of Samoa 1999

people live. However, it was later discovered that an old law (discovered by Sir Isaac Newton) is very true, “What goes up must come down”. Research unveiled that mixed with the smoke were harmful chemicals (containing sulphur dioxide and nitrogen compounds) that combined with other chemicals in the “sky” returned to earth in the form of acid rain. Acid rain did a lot of damage to the natural environment, such as the rivers, forests and to the human-made environment, such as buildings and so forth in European countries. Action was then taken to combat the problem. This is just one example.

Now, I wonder what fate awaits us in Samoa as a result of what we are burying in our soils or wherever we are disposing

demanding canned product for food and for our faalavelave (cultural expression of giving and taking). In five years (1994 to 1998), it has been imported into our country in the amounts as listed in Table 1.

Yes, we are talking millions and it makes shocking news! In 1998 alone over 9 million (9,000,000) “Eleni” cans were imported into Samoa. If all these cans were not taken out of the country again, which is highly likely, then this means that in five years, more than 39 million waste cans of eleni were discarded—Where? We don’t see them, but 39 million cans of eleni are scattered around our nation out of sight, but one thing is for sure, it should definitely not be out of mind.

Eleni cans, a typical item lining shelves in the majority of shops in Samoa.

Photo by Michael von Reiche



is now realising that the trees, sand, water and energy used to produce the products we consume are finite natural resources. Land is also a scarce and valuable resource and with the land tenure system in the Pacific, landowners are not prepared to hand over land for waste disposal facilities.

The concerns regarding the Sustainable Management of Waste translate waste into a new perspective—one of a potential resource that sees avoidance, re-use and recycling as first priority and disposal as last resort. The development of new markets is the key to increasing the diversion of wastes away from rubbish dumps.

Sustainable waste management is much more than identifying the next rubbish dump site. It is about recognising the value of our natural resources and emphasising the need to conserve resources where avoiding and reducing waste are priorities.

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The Director's Desk

help people achieve a more balanced diet by encouraging them to make compost and grow vegetables. More than 10 percent of all households in Honiara now participate in this scheme.

There are other innovative recycling programmes being started up across the Pacific, from recycling bottles and aluminium cans to investigating ways of generating energy from the waste mountain. The problem remains, however, that few countries have much idea of what sort of waste, or how much, they are generating; and few have the expertise to plan what to do about it.

A new European Union-funded SPREP initiative, the Pacific Regional Waste Awareness and Education Programme (WASTE) will soon begin the region's first comprehensive study of what exactly it throws away. This study covers eight Pacific island countries – Fiji, Kiribati, Papua New Guinea, Samoa, the Solomon Islands, Tonga, Tuvalu and Vanuatu. Once the specific details of the problem are known, the

programme will assist countries to devise comprehensive waste management plans, which can then be used to attract Government and other funding for solid waste management projects.

Options available to Pacific island countries include some forms of user-pays charges, perhaps for tourists; recycling and composting schemes – all based on the three 'R's of waste management – reduce, reuse, recycle.

For small Pacific island countries, reduction of waste is probably the most practical option, and that depends on public awareness. The hope is that as people become aware of the realities of the threat which solid waste poses to their environment, their health and their economy, they will start taking action themselves to reduce their waste and stop rubbishing the Pacific.

How to Compost

Composting is nature's way of recycling. Organic waste such as kitchen and garden wastes, are converted into a rich humus (or soil) by microorganisms, insects, and earthworms. The mature compost is a natural fertiliser and soil conditioner.

What to put in

Green Material: nitrogen rich materials: food wastes, fruit peels, coffee grounds, teabags, grass and plant clippings, hair, fur, feathers, animal manure, blood and bone, seaweed, fishbones, dead flowers, and chopped weeds.

Brown Material: high in carbon and other elements: dead leaves, sawdust, wood shavings, hay, peat, vacuum cleaner dust, peanut shells, shredded paper and newspaper, egg shells, crushed sea shells, wood ash.

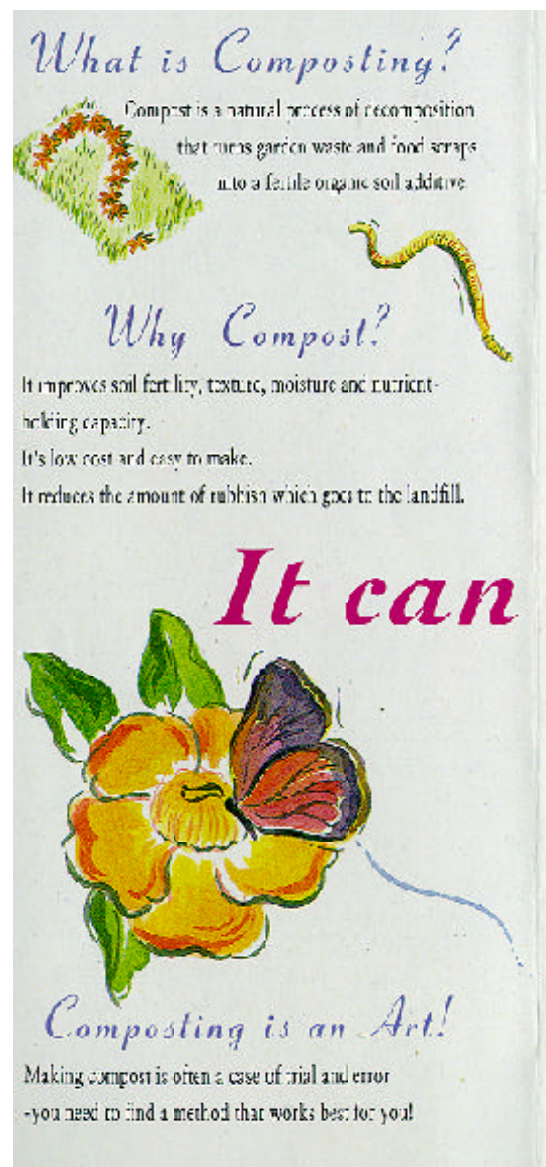
What to keep out

Meat, grease, dairy products, large bones, food packaging, plastics, treated wood products, noxious weeds, diseased plant materials, coal ash.

Layering the compost

Layering method is one way of making compost. Add organic wastes to the compost heap. Mix the types of garden wastes and kitchen wastes (green and brown materials) you add to balance nutrients, air and water.

More information is contained in the graphic below.



Promoting public awareness of environmental issues as the key to sustaining the Pacific's fragile environment, has not always been easy. This is due to the fact that environmental experts usually come from a scientific background and can sometimes have difficulty in explaining environmental issues in a language that is readily understood. The media on the other hand tend to come from an arts background sometimes lacking the confidence to extract the scientific information from a technical expert.

The opportunity to bridge the gap to enable the media workers of Samoa to improve their skills in specialised reporting and help environment officials' ability to communicate environmental information clearly to the general public, became available at the PEIN workshop.

The workshop in Samoa is the first of a UNESCO-funded series of national

The workshop in Samoa is the first of a UNESCO funded series of national workshops organised by SPREP in collaboration with national focal points.

workshops organised by SPREP in collaboration with national focal points. These workshops will benefit six Pacific Island countries: Cook Islands, Fiji, Marshall Islands, Samoa, Tonga and Vanuatu.

Hands on training using an environmental issue was the base used to improve the participant's technical skills in television/video, radio and print. This method enabled the participants to put the theory of better communication through understanding of and writing about an environmental issue. Solid waste was the environmental issue the participants of this workshop learnt and wrote about.

A special "Editorial Conference" to which senior media staff, government

officials, and regional and international agency representatives were invited to discuss the following issues: the difficulty in reporting environmental issues and possible solutions; the editor's role; issues of balance and bias; common problems and options for solutions. This was an important component of the workshop as it fleshed out the main constraints from the media and environment officials' points of view at the senior level. It is hoped that at the senior level of the media, more consideration and coverage will be given to environment issues in Samoa. At the same time, senior environment officials will make relevant information easily accessible to the media.

Choosing a Compost Bin

You can compost by making a free standing pile, but you may prefer to purchase a compost bin. Bins are a practical means of containing a compost pile, making it easier to manage. You can make a bin using fence wire and pieces of wood. Commercial bins come in a variety of shapes, sizes and prices. Here is just one example.

Serve It Up

Depending on your compost ingredients and how you "cook" or maintain your pile, the compost will be ready in one to six months. Finished compost is rich and earth-smelling. Screen out any chunks, such as twigs.

Chop & Add

Chop or shred your "greens" and "browns", this will help them to break down faster.
Layer "greens" and "browns" in equal portions.
Sprinkle the pile with water, just until moistened.

Stir Occasionally

Circulate air by turning the pile once or twice a week, or every few days depending on what material is in your pile.
Turning will help to eliminate odours.

Enjoy The Fruits Of Your Labour!

Composting Tips

- Keep the flies away - compost piles should be kept covered with material (e.g. a piece of carpet).
- If at first your compost pile doesn't heat up, add more "greens" such as food scraps or grass clippings.
- If your compost is too wet, it may smell. Remedy the situation by adding a few dry leaves and twigs.
- Turn the pile occasionally to improve aeration.

be this simple!

China Supports the Environment Centre of the Pacific



H.E. Wang Xinyuan and Mr Tutangata

The People's Republic of China officially handed US\$100,000 to the South Pacific Regional Environment Programme (SPREP) in the beginning of March to help build its Centre complex.

This decision by the People's Republic of China is significant as it is the first direct funding to SPREP activities from China; and the first confirmed contribution to the SPREP Centre from a country that is not a member of the Pacific's intergovernmental environmental agency.

During the official signing ceremony, H.E. Wang Xinyuan (Ambassador Extraordinary and Plenipotentiary) said, "This [contribution] shows the growing

relationship between China and SPREP". His Excellency went on to say that this also shows the importance the Chinese government places on its relation of friendship and cooperation with Pacific island countries. He highlighted one common problem shared by the Pacific and the People's Republic of China which is the issue of climate change.

"China sympathises with Pacific island countries on their unfavourable situation on the issue of climate change", he said.

"China is also adversely affected, as it has long coastlines with many low lying lands and therefore is highly vulnerable to the effects of climate change."

The SPREP Centre will be built on land provided by the Government of Samoa in its capital Apia. This gives SPREP a permanent base in Samoa and helps ensure that its activities for the betterment of the environment are efficiently implemented.

WMO establishes Sub-regional Office for the South West Pacific

A World Meteorological Organization Sub-regional Office for the South-West Pacific has been based in Apia, Samoa since April, following the signing of an agreement between the Government of Samoa, SPREP and WMO.



Mr Al-Majed with Tamari'i Tutangata discussing final details of the Sub-regional Office to be located at the SPREP Secretariat.

The WMO Sub-Regional Office is hosted by SPREP and will work closely with SPREP, serving all WMO member countries in the South-West Pacific region. The WMO representative of the new Office is Mr Eisa H. Al-Majed. He is also WMO's Regional Director for Asia and the South-West Pacific. Mr Henry Kwai Taiki, the former Director

of Vanuatu Meteorological Service, is the sub-regional office's new Programme Officer and will be based at SPREP while Mr Al-Majed is based in Geneva. The main functions of the sub-regional office is to focus on technical cooperation, with particular emphasis on identifying members' needs and on mobilising resources. These goals will be achieved through the

establishment of closer contacts and liaison with relevant bilateral and multilateral development agencies and financial institutions, UN agencies and regional organisations in the region.