

# Report to the United Nations Commission on Sustainable Development on Activities to Implement the Barbados Programme of Action in the Pacific Region

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## **Foreword**

Pacific island countries are faced, like the rest of the world, with the challenge of balancing improved living standards against the quality of our environment. This challenge is ever-present in islands as the “environmental consequences of ill-conceived development can have catastrophic effects” for our inherently vulnerable ecosystems and economies.

Recognising the need to think globally as well as act locally, considerable effort was put into the United Nations Conference on Environment and Development (UNCED), the Barbados Conference on the Sustainable Development of Small Island Developing States and into the implementation of its outcomes. This report tries to summarise this effort and in the true spirit of regional co-operation, it has been a team effort.

At the first meeting of the Advisory Committee to coordinate and facilitate the implementation of the Barbados Programme of Action in Apia, October 10, 1995, the member countries of the South Pacific Regional Environment Programme (SPREP), other regional organisations, NGOs and representatives of the UN system, called for the preparation of this report to the Commission on Sustainable Development. This has not been an easy task in the time available and many thanks must go to the Governments of Australia and New Zealand for their timely financial and technical support.

The report has been circulated for comment to all Governments of the region and members of the Advisory Committee and their comments included in the final text. It should by no means, though, be considered as the final statement of what is being done to implement the Barbados Programme of Action nor the of wide range of activities that are necessary for sustainable development in the Pacific. New initiatives commence and some, no doubt, have been overlooked. This is a first step towards effective monitoring and reporting on progress towards sustainable development in this region.

As the Joint Secretariat for the Advisory Committee, both SPREP and the ESCAP Pacific Operations Centre look forward to being able to report in more detail in the future. Not only on those activities being undertaken to implement the Agenda 21 and the Barbados Programme of Action but also on the region’s progress towards sustainable development.

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## **Overview**

Constraints of small islands evident in the Pacific...

But much being done...

activities have not necessarily been stimulated by Barbados. Indeed the timeframe for the development of successful projects in the Pacific is such that it is unlikely that the Barbados Programme of Action has been a significant catalyst for much of what is contained in this report. But it does provide an internationally agreed framework for review.

Where investment at national regional and international levels is required...

Some gaps will exist as the response to the circulated draft was not comprehensive. For the same reasons it has not been possible for the way ahead to be clearly outlined in all Chapters.

Report called for by Advisory Committee established by the South Pacific Forum in 1994.

As you read there is an economic and social context as well as a chapter by chapter record. Each chapter highlights those activities at national, regional and international levels which have had a significant impact on the region or which provide useful lessons for the coming years. For the readers benefit, subheadings as far as possible relate to the activities contained in the Barbados Programme of Action.

## ***Economic and Social Dimensions of Sustainable Development***

### **Macroeconomic Stability**

Macroeconomic stability is a precondition for sustainable development in the Pacific region. With the benefit of aid inflows and remittances, the central banks in Pacific island countries have performed creditably in maintaining low domestic prices and balance of payments stability. In some countries, fiscal and monetary policies have worked effectively to maintain low levels of domestic prices and healthy external reserves. However, in the last four years, the need for fiscal discipline in the Pacific island countries has become evident.

The current high inflation rates, mounting balance of payments deficits, falling external reserves, and public sector deficits pose serious threats to national development. These result in disadvantaging Pacific island countries relative to their competitors. Pacific Island countries are also vulnerable to falling export prices, rising import prices and overseas interest rates, which are beyond their control.

The critical importance of macroeconomic stability for sustainable development is increasingly appreciated among Pacific island governments. Workshops on the subject have been organised for ministers of finance, central bankers, planners and ministry of finance officials. Several international and regional organisations have been active in funding and running these workshops.

### **Financial Sustainability**

Good public sector financial management is recognised as critically important in economic performance. Finance Ministers of Forum Island Countries met in February and December and highlighted key elements of budgetary practices, resource management, public sector reform and trade and investment policies for sustainable growth. Most Pacific island countries intend to reduce the size of their public service payroll, but only Niue has significant progress been made.

Several Pacific island countries continue to run budget deficits. In others, improved budget design, accounting and control systems are allowing more effective management of revenue and expenditure. The use of value-added taxes is now widespread, broadening the tax base beyond urban wage earners. However, there is still heavy fiscal reliance on trade taxes in many Pacific island countries.

External debts of Pacific island governments are, with a few exceptions, on concessional terms and do not give rise to servicing problems. Some governments are, however, running domestic deficits at levels that incur unsustainable debt-servicing costs. In those Pacific island countries with their

own currency, borrowing from the central bank, accelerates inflation and worsens the balance of payments.

Besides direct borrowing, liberal use by state-owned enterprises of government guarantees for borrowing or for deposits in national banks can lead to unexpected increases in government debt. These activities raise important questions of accountability to the legislature.

The banking system in most Pacific island countries is capable of meeting all but the largest credit needs. Most commercial banks are foreign owned, but some Pacific island countries have one or two nationally owned commercial banks as well as a development bank owned by the government.

Banking supervision in several Pacific island countries is likely to be increased following heavy loan losses in one government-owned commercial bank. Interest rates have come down in recent years and in most Pacific island countries are only one or two percentage points above Pacific Rim rates.

Several Pacific island countries have large provident or retirement funds which are the biggest repository of individual savings, and a major source of investable funds.

Financial markets in most Pacific island countries hardly exist outside of the commercial banks and a limited market in government securities. Some of the larger Pacific island countries are attempting to diversify their money and capital markets.

In Pacific island countries where bankable projects are scarce, development financing is experiencing difficulty. Financing for projects which are highly risky and where profit prospects are low is difficult to obtain. Development banks are the only institutions which will provide finance for such projects, but they often have to compromise development objectives and become more commercially oriented in order to survive., for example, the Tongan Development Bank, the Fiji Development Bank, New Caledonia BCI and the French Polynesian SOCREDO. Where funds are being made available, it is increasingly being recognised that these should encourage development that is both economically and environmental sustainable.

Credit unions were established in the 1950s and have had mixed success. They have been typically small operations dependent on the influence of their leaders and the interest of members. More recently some credit unions have become relatively large with significant assets and capital providing both provident and development assistance. Throughout the Pacific there has been a major boost in credit unions through, for example, the International Fund for Agriculture and Development (IFAD), and Hans Seidel. There is also the introduction of Grameen Bank models with good success. Fiji, Western Samoa and Vanuatu are all in the planning stage for those microcredit systems are being developed and provide a good examples of management systems.

Women's groups have traditionally been at the forefront of community welfare work. Funds are raised voluntarily by women and expended in line with the groups' welfare role. Recently, the women's ministries in PNG and Fiji launched several self-help and lending schemes for women. Other informal credit institutions include the rotation saving system, for example *karekare* (in Kiribati), death insurance schemes, savings club, community funds and open funds.

More favourable commodity prices in recent years have helped most Pacific island countries to stabilise their external position. The increased demand for consumer imports, motor vehicles and capital goods has, however, maintained pressure on external reserves. In some cases natural resource depletion is postponing an eventual decline in export earnings.

Remittance flows from Pacific island migrants in Pacific Rim countries have benefited from better economic performance in host countries, and contribute to the relative financial stability in some Pacific island countries. There is reduction in some bilateral aid transfers but no destabilising effects are noticeable as yet.

All Pacific island countries are seeking to attract more foreign direct investment to boost output and foreign exchange earnings. Apart from minerals, timber and tuna fisheries, flows of foreign direct investment remains well below hoped-for levels. Forum Member countries have now agreed to work towards implementation of an investment code along the lines of APEC's non-binding code, as a signal to potential investors of the regions serious intentions to promote investment.

## **Governance**

In most Pacific island countries, government expenditure accounts for a high percentage of the GDP, indicating that the public sector has a controlling influence over employment and the economy. However there is also growing awareness of the need to streamline governments and promote an expanding role for the private sector in the national economies.

This need is heightened by by ineffective internal systems, lack of staff confidence and political or bureaucratic dissention which handicap government performance many Pacific island countries. Some have recognised this and are trying to make improvements. Several regional and international agencies have run workshops to assist Pacific island countries in improving planning and policy coordination.

Pressure for accountability and better quality information is coming from Pacific island communities, as well as from overseas aid donors and NGOs, and there is mounting public concern about the spread of corruption at official and political levels. In some Pacific island countries, national NGOs are effective pressure groups for more accountability, and the role of

independent press and radio media is of crucial importance. However, there is a widespread perception that things have become worse in the last ten years.

Several Pacific island governments are responding by improving financial controls, but most need to improve reporting to parliament and the public. A particular problem remains with reporting by state-owned enterprises in many Pacific island countries.

The public service in a number of Pacific island countries is going through a prolonged crisis of confidence and competence, which has compromised their ability to perform their functions effectively. Improvements in budgeting in several Pacific island countries does, however, show that this crisis can be averted.

It should also be recognised that governance in the Pacific is greatly influenced by a strong foundation of community and traditional political systems.

### **Trade Development**

Pacific island countries are small and have vulnerable economies. They have a number of inherent disadvantages in international trade: small populations and land area, fragmented and dispersed islands, remoteness from metropolitan markets, lack of skilled labour and underdeveloped economic infrastructure. Despite these disadvantages, Pacific island countries must undergo export development if they wish to increase their economic growth.

Pacific island country exports consist mainly of primary commodities such as copra, cocoa, squash, coffee, fish and logs. These commodities are sensitive to the vagaries of nature, and to fluctuations in world markets. World market prices for these agricultural products have been very uneven. Together with natural disasters, this has resulted in a high level of volatility in export earnings. The production base of economies in the Pacific is small and there is only a limited capacity to adjust to such volatility.

The balance of payments (BoP) in Pacific island countries have much in common. Generally, there is balance in the current account despite the substantial trade deficits. This cannot be maintained without external inflows such as foreign aid, private remittances of, for example, growing tourism arrivals.

To reduce their dependence on foreign economic conditions, it is necessary to narrow trade deficits in island countries through sustained export growth. This will require trade policies that are directed towards improving export competitiveness. For the cyclone-prone countries, minimising loss to farmers and producers is a priority area for governments.



In January 1995, the General Agreement on Trade and Tariff (GATT) was superseded by the World Trade Organisation (WTO) following the ratification of the Uruguay Round documents by each member country. Some of the impacts of the WTO Agreements on Pacific island economies are expected to include the following:

- The preference enjoyed by Pacific exports in the industrialised countries based on the South Pacific Regional Trade and Economic Cooperation Agreement , GSP and Lome Convention will be steadily eroded, as all member countries equally benefit from reductions in tariff and non-tariff measures;
- Pacific island countries are expected to accept the multilateral disciplines in new areas such as services, trade-related investment measures, trade-related intellectual property rights and agricultural trade;
- Pacific island countries can expect to obtain greater market access for tropical products (especially for fruits and vegetables) under the liberalising agricultural trade regime based on the WTO. However, net food importers may suffer in the short term as prices of many agricultural imports rise;
- The Sanitary and Phytosanitary Measures in the Agreements on Agriculture may impede the promotion of agricultural exports in the short term;
- The Agreement on Trade-related Investment Measures requires new discipline, particularly regarding export obligation and local content requirements. This may have long-term beneficial effects on investment in Pacific island countries by establishing a more favourable business environment for foreign capital. But it implies immediate changes in the existing investment rules in most Pacific island countries;
- The Agreement on Textiles and Clothing which seeks to dismantle the Multi-Fibre Agreement over a ten year period is of relevance to Fiji, in particular, which has a significant garment Industry;
- Pacific island countries may feel the short-term negative impact from the requirement to remove import tariffs. This will threaten the yield of custom duties which is currently the main source of governmental revenue.

## ***Activities to Implement the Barbados Programme of Action***

### **Chapter 1 Climate Change**

#### ***Context***

Pacific island countries are vulnerable to the impacts of global warming. Many of the islands are atolls and rarely rise more than 5 metres above sea level. These islands may become uninhabitable because of inundation, loss of fresh water or devastation due to more violent weather. Even in the high islands, the population and agricultural activity is concentrated on the coastal fringe and is susceptible to the effects of climate change.

Climate change presents a great challenge to national planning. The effects of climate change are not immediately obvious and can be difficult to comprehend. Given the other urgent social economic and environmental priorities in this region, the level of commitment shown by the governments of Pacific Islands countries to having this issue addressed is impressive. They have taken a lead role through international and national forums, and taken what steps they can to address climate change within their national planning.

The issue of climate change has strong links with the next chapter of this report. Climate is the most important source of natural disasters in the region and this problem will be exacerbated by global warming.

#### ***National Examples***

##### **Framework Convention Climate Change**

All Pacific island countries (with three exceptions) have ratified the Framework Convention on Climate Change (FCCC) and are now taking action to ensure compliance through a coordinated series of projects. Some countries, for example, Fiji, the Republic of the Marshall Islands and the Federated States of Micronesia (FSM), are already undertaking studies of greenhouse gas sources and sinks with the assistance is being provided by the US Country Studies Program. Comprehensive and coordinated support to all Pacific island Parties to the FCCC is to be provided under the GEF-funded Pacific Islands Climate Change Assistance Project (PICCAP). This project will assist countries meet their national communications obligations under the FCCC.

##### **Vienna Convention**

Pacific island countries are progressing steadily with implementation of the Vienna Convention and Montreal Protocol. To date, however, the Convention has only been ratified by five South Pacific countries. Examples of progress include the Government of Fiji that is establishing an Ozone Depleting Substances Unit to coordinate the implementation of its country programme,

and Western Samoa that has established a team to develop methods of phasing out ozone-depleting substances.

### Policy Development

The broad strategic directions related to climate change are covered in the National Environmental Management Strategies (NEMS) of countries in the region. In some cases specific policies or strategies for climate change are being developed, and in others these are being integrated into the coastal management plans.

National workshops have been held in Vanuatu, Solomon Islands, Western Samoa, Niue and the FSM. These have focused on developing policy and planning for climate in general, not solely climate change.

### Data Collection and Management

Almost all Pacific island countries have operational data collection systems for climate (supported by Australia, New Zealand, USA and France). SPREP is developing a programme that will enable countries to hold, analyse and interpret meteorological data.

As part of the South Pacific Sea Rise Level Monitoring project funded by Australia, gauges which monitor sea-level have been established in 11 countries.

### Assessment of Vulnerability

SPREP, with the financial and technical support of Japan, has carried out studies in twelve Pacific island countries assessing where impacts are likely to be greatest, using geographical, physical, social and economic indicators.

The South Pacific Applied Geoscience Commission (SOPAC) has assisted with studies of vulnerability to erosion in Fiji and Kiribati and has run in-country seminars in coastal monitoring in Tuvalu, Kiribati and Western Samoa.

### Strategies to Adapt to Climate Change

Little has been done to develop detailed strategies for adaptation. Ongoing work to determine vulnerability to climate change and to meet national communications obligations under the FCCC will provide the essential foundation for these strategies. These will be necessarily linked to the strengthening of integrated coastal management capacity across the region.

## ***Regional Initiatives***

### Improve Predictive Capability

SPREP and Pacific island countries participate in and contribute to international programmes including:

- the Pacific El Nino and Southern Oscillation (ENSO) Centre;
- the Atmospheric Radiation Measurement (ARM) project coordinated by the US Department of Energy;
- the South Pacific Sea Level Rise Monitoring Project funded by Australia.

The UN Department of Humanitarian Affairs (UNDHA) is also developing a programme assessing the influence of climate change on meteorological hazards and climate extremes.

### Regional Coordination

Pacific island countries have a strong sense of common purpose in addressing the causes and impacts of climate change, and a network of climate change focal points have been established in the region. SPREP continues to coordinate climate change activities, including holding regional workshops and annual meetings of meteorological service directors and climate scientists.

As mentioned above, the Pacific Islands Climate Change Assistance Project (PICCAP) will coordinate enabling activities in the region to meet national communications obligations under the FCCC.

### ***International Highlights***

- The Alliance of Small Island States (AOSIS) Protocol was submitted to the first Conference of Parties (COP) for the Framework Convention on Climate Change (see Box 1).
- The Global Ocean Observing System (GOOS) provides important baseline information for determining the impacts of climate change and sea level rise and links regional monitoring efforts.
- The second phase of the global climate change training programme CC:TRAIN, to be executed by UNITAR with GEF funding, is expected to assist at least nine Pacific island countries.

### ***The Way Ahead***

In the Pacific, the next few years will involve considerable work to:

- enable countries meet their national communications obligations under the FCCC;
- strengthen planning and meteorological capacity to assist countries develop strategies to adapt to climate change;

- develop climate change scenarios and conduct vulnerability assessments and incorporate these into national planning;
- further work to address ozone depleting substances throughout the region.

As most of those who will be making decisions about coastal development within these island countries are customary land holders, considerable emphasis will be placed on public awareness.

### **Box 1 The AOSIS Protocol**

Article 4 of the FCCC sets out the commitments of all parties to account for and reduce emissions of green house gases. Article 4.2 (a) and (b) specifies commitments which apply to developed (Annex 1) Parties of the Convention. In particular, the Convention states that these countries must take steps toward “the aim of returning individually or jointly to their 1990 levels of these anthropogenic emissions of Carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol’. The paragraph continues “this information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7”.

In the lead up to the first Conference of the Parties to the UNFCCC, many countries took the view that commitments in Article 4.2 (a) and (b) were inadequate to achieve the desired results. By the tenth session of the Intergovernmental Negotiating Committee (Geneva, August 1994) the Alliance of Small Island States (AOSIS) began drafting a protocol to the Convention to strengthen these commitments. The Convention allows for the adoption of protocols at the Conference of the Parties, as long as they are communicated to all parties at least 6 months prior to such a session. The draft text of the protocol, known now as the AOSIS Protocol, was lodged with the interim secretariat in September 1994 to satisfy the six-month criteria for inclusion at the First Conference of the Parties (COP1) to the FCCC.

COP1, held in Berlin, Germany, from 28 March to 7 April 1995, adopted Decision 1/CP.1 (FCCC/CP/1995/7 Add.1), which the parties further agreed to call the "Berlin Mandate". The COP determined that the existing commitments in Article 4, paragraphs 2(a) and 2(b) are inadequate and established an Ad-Hoc Group on the Berlin Mandate (AGBM) to negotiate new commitments. The AGBM is to elaborate and policies and measures, and targets and timetables for greenhouse gas limitations and reductions from Annex I Parties to the Convention beyond 2000.

The Berlin Mandate affirms the premise that there be no new commitments to parties not included in Annex 1, specifies objectives for the post-2000 period and, importantly, calls for the AOSIS Protocol to be included in consideration in this process. It stipulates that this work should be concluded as early as possible in 1997, with a view to adoption at COP3.

To date there have been three sessions of the AGBM. Three more sessions are scheduled prior to COP3 in 1997. So far, the AOSIS is the only formal proposal on the content of a Protocol, although a number of Annex I Parties have made informal proposals on targets and timetables, and the structure of a Protocol.

## **Chapter 2    Natural and Environmental Disasters**

### ***Context***

The islands in the Pacific are vulnerable to natural and environmental disasters. Disasters can affect human life, damage housing and physical infrastructure and have severe and longlasting economic consequences.

Weather-related disasters are closely linked to climate change, and the points raised in Chapter 1 are relevant here. Cyclones are a common feature with some countries experiencing them almost every year. With the likelihood that the frequency and intensity of weather extremes will increase with global warming, the region's ability to develop a strong productive base for sustainable development is jeopardised.

The primary threat of environmental disaster comes from the transportation of oil and other hazardous substances in the region. While the frequency and quantity of material is not high by global standards, the human health and ecological hazards associated with, for example, a major oil spill are cannot be ignored.

The isolated nature of the islands in the Pacific exacerbates the risks, impact and economic cost of natural and environmental disasters. There may be a great distance between the site of a disaster and the nearest relief. Work in the region under this chapter has been focused on trying to mitigate these difficulties.

### ***National Examples***

#### **Disaster Preparedness**

More than half of the nations in the region have disaster preparedness institutions. All but one of those which do not yet have such institutions are rapidly developing them. The one exception is Tokelau, where the small size of the nation would suggest that it may be better served from Western Samoa. Developing disaster preparedness institutions has been supported by the UNDHA and SPREP.

#### **National Disaster Planning**

UNDHA is the lead United Nations agency and has sponsored several national disaster managers to visit the Caribbean to benefit from that regions experience in national disaster planning.

A number of countries are preparing a national disaster management plans and have been involved in the preparation of oil spills contingency plans. For example, Fiji has developed a National Oil Pollution Contingency Plan which

highlights the risks of oil and chemical spills and the appropriate response actions required. However, many countries are still largely unprepared.

### Strengthening Cultural and Traditional Systems

The European Union is currently funding activities that use the traditional planting practices of farmers to ameliorate the impacts of disasters, as well as applying traditional building designs, for example, the *fale* of Western Samoa, to improve the aerodynamic soundness roofs.

Meetings to be convened by the South Pacific Commission in 1996, including the Heads of Agriculture Meeting in the Cook Islands, will be examining the strengthening of cultural and traditional systems to improve resilience to natural disasters.

SPREP has assisted some countries with programmes to strengthen local mechanisms for dealing with disasters linked to climate change.

### ***Regional Initiatives***

The South Pacific Forum Secretariat has responsibility for coordinating the policy aspects of natural disaster management at a regional level. The Forum Secretariat has assigned responsibility for the technical aspects of natural disaster management to SOPAC.

SOPAC has carried out studies related to identifying cyclone susceptibility in the Cook Islands and Niue. It also organises regional coastal protection meetings. Rapid communication links are being established for some islands (Fiji and Western Samoa) through bilateral aid from Australia and New Zealand.

The International Maritime Organisations (IMO), SPREP, the Forum Secretariat and the Australian Maritime Safety Association (AMSA) have worked with countries to produce the Strategy for Protection of the Marine Environment in the Pacific. Implementation of the Strategy is expected to commence in 1996 with assistance of the Canadian Government and the Commonwealth Secretariat.

### ***International Highlights***

- Regional and national committees for the International Decade of for Natural Disaster Reduction are being actively promoted by the UNDHA with annual regional meetings being organised by UNDHA.
- IMO is working on maritime safety including development of pollution combating centres, direct assistance in the event of serious spills, and establishing regional maritime coordination networks.

### ***The Way Ahead***

In the foreseeable future, much work is required to prepare or update national disaster plans and the national and local capacity to respond during natural or environmental disasters.

The implementation of the Strategy for the Protection of the Marine Environment in the Pacific Region, in particular, the oil spill response components will receive special attention with the assistance of the Canadian Government and the Commonwealth Secretariat.

#### **Box 2 Natural Disaster Reduction in Pacific Island Countries**

In response to the United Nations International Decade for Natural Disaster Reduction (IDNDR) a regional report, *Natural Disaster Reduction in Pacific Island Countries*, was published by SPREP, UNHHA and Emergency Management Australia.

This report analyses the vulnerability of Pacific island countries and analyses their capability to deal with emergencies. It identifies the need for a common strategy in the region and the measures necessary to implement a strategy. The report made five recommendations to the World Conference on Natural Disaster Reduction, Yokohama, 1994. These are that:

- the focus of the second half of the decade be on the implementation of disaster mitigation projects at national and regional levels;
- the High Level Council as well as the Scientific and Technical Committee be tasked to actively support fundraising for identified disaster mitigation projects;
- action be taken to support and facilitate the establishment of a South Pacific Regional IDNDR Committee;
- action to be taken to appoint a representative nominated by the South Pacific Regional IDNDR Committee of Pacific Island Developing Countries to the Scientific and Technical Committee;
- the IDNDR Secretariat intensify efforts to facilitate exchange and cooperation between regions.

### **Chapter 3 Management of Wastes**

#### ***Context***

All Pacific island countries in the region share the problems of disposal of waste and the prevention of pollution. The small size, remoteness, physical structure and rapid urbanisation of many islands have exacerbated these problems.

Disposal of solid waste is a particular problem in very small islands where there is no room or infrastructure for their disposal. Even in the larger islands recycling is often not economic and most disposal is done through landfill. Fiji is one exception to this with an active programme in place for recycling paper, metal and plastics. Niue, as one of the smallest Pacific island countries,



is also a notable exception with a well established system of aluminium can recycling.

Liquid wastes are pollutants of fresh water systems, enclosed coastal waters, aquifers and groundwater lenses. Human sewage disposal poses risks to human health while toxicity from pollution of this kind can be damaging to both human health and inshore fisheries.

In the smaller atolls, pollution of groundwater through seepage is of particular concern. For example, in Tokelau, the only freshwater sources are from rain water and the groundwater lens below the island. Rain water is the main potable source, but groundwater is used as a backup. While no water quality monitoring has been carried out, it is suspected that the groundwater in Tokelau is contaminated and may no longer be potable.

Management of toxic substances, such as pesticides, PCBs, waste oil and heavy metals, is problematic. Generally, Pacific island countries do not have the systems or physical capacity to isolate and dispose of these substances. There are concerns that toxic wastes are being disposed in the region by developed countries.

Waste and pollution from ships is a concern to the region, in particular, the potential for a major oil spill. International and regional initiatives are important to protect the area from ship-borne wastes and pollution.

### ***National Examples***

#### **Domestic Waste Management**

Recent State of the Environment Reports have identified the causes and constraints of waste disposal for each country in the region, and the National Environment Management Strategies (NEMS) contain national priorities for waste management and pollution prevention. In some countries (for example, in the FSM), there are interrelations between waste management and Integrated Coastal Management programmes. In others (for example, Western Samoa and Fiji) separate waste management strategies are being prepared.

Several countries in the region have environmental regulations covering waste management, for example, in Western Samoa and the four states of the FSM.

Methods to reduce waste include financial incentives for particular types of waste. These are being used by a number of countries in the region. For example, Western Samoa uses a deposit system for beer and soft drink bottles and the FSM have a refund on aluminium cans.

New technologies are being introduced to a limited degree. For example, biological toilets are being trialled in some parts of micronesia, including the FSM, Kiribati and Palau.

There have been some promising examples of how existing toxic waste problems can be solved. The World Health Organisation has assisted the FSM and Niue with storage of pesticides pending their removal and destruction. In the Marshall Islands, the United States of America has assisted with the removal and disposal of PCB contaminated oil.

There has been insufficient promotion of the need for good waste management, the options available and the regulatory regimes already in place. The lack of mass media and the limited financial resources for campaigns in local languages make it difficult to raise public awareness.

#### Information for Management

There is a lack of information available in an appropriate form to assist nations in simple methods for dealing with waste management problems (for example, pesticide disposal). SPREP, in collaboration with WHO, USP and SOPAC, will be assisting countries to address this during the next two years.

Very little information exists on levels of contamination and effects, especially upon streams and lagoons. SOPAC has conducted some studies in this area, notably in the Cook Islands.

#### Ship-Generated or Transported Waste

There is almost a total lack of facilities for receiving ship-borne waste in ports. The Basel Convention and MARPOL require such facilities and it is hoped that they will be included in any new port developments. Some support for this work is expected with the implementation of the Strategy for the Protection of the Marine Environment in the Pacific.

#### International Conventions

There are many international conventions related to waste management, and some overlap. Pacific island countries have ratified a number of different conventions. The FSM is the only Pacific island country to have acceded to the Basel Convention, but the corresponding national laws and regulations have not yet been formulated. A small number of other Pacific island countries, such as Kiribati, are considering accession to the Basel Convention.

#### ***Regional Initiatives***

##### Domestic Waste Management

The Regional Waste Management and Pollution Prevention Programme (coordinated by SPREP) has been compiled and agreed to by all Pacific island countries. The programme is designed to implement strategies for the prevention and control of pollution in land, coastal and marine environments. Implementation of the programme has recently commenced with the support of Australia, Canada and New Zealand, and it will involve many organisations and individuals, including WHO, UNEP, USP and the SOPAC Pacific Water and Sanitation Program.

#### Public Awareness and Education

A “twinning programme” between the USP and the University of Victoria under the CIDA funding (to be completed in June 1996) has supported staff attachments, training workshops in marine pollution, post-graduate student projects in the field of marine pollution and the position of a marine pollution scientist who is attached to the Institute of Applied Sciences (IAS) at the USP and teaches the undergraduate Marine Pollution course.

The IAS/USP and the region has benefitted in many ways under this programme. Several Masters and PhD projects in marine pollution in the region have been and are being supported under this CIDA programme. Several training workshops in marine pollution assessment have taken place and in February this year a training workshop on nutrient analyses for laboratory technicians was conducted at the USP. Training in the Environmental Impacts of Submarine Tailing Disposal was coordinated by Professor Derek Ellis (UVic) at the USP in May 1994. Participants included government officers, landowners, mining companies (Placer Inc). and several NGOs (Dive Operator etc).

A regional programme of targetted waste awareness and education campaigns, to be executed by SPREP with the financial assistance of the European Union, is expected to commence soon.

#### Hazardous and Ship-Transported Wastes.

A regional convention covering management and protocols for waste transported by ships, the Waigani Convention, was developed over a period of 2 years and approved in Papua New Guinea by the region’s heads of government at the South Pacific Forum in 1995. Ratification by Pacific Island countries is expected to take 12-24 months. To date, the FSM and PNG have ratified.

Both the Waigani and the Basel Convention require the establishment of regional training facilities. Under the Basel Convention, facilities are have been proposed for China and Indonesia.

#### Toxic Chemicals

Little has been achieved in this area to date. A programme is being developed by SPREP, in close consultation with an Australian Government initiative, to strengthen national capacities to manage toxic chemicals. This work will also be assist countries implement the relevant components of the Global Programme of Action for the Protection of the Marine Environment from Land Based Activities at the regional level.

### ***International Highlights***

- The UN Commission For Human Settlements and United Nations Environment Programme (UNEP) have initiated the formulation of a proposal for a global project on waste minimisation and pollution prevention on islands. Western Samoa, Solomon Islands and Kiribati have been consulted regarding urban management and environmental sanitation. A second phase will include Kiribati, the Marshall Islands and the FSM.

### ***The Way Ahead***

Much remains to be done under this chapter of the Programme of Action. Particular effort is required at the national level to strengthen the capacity of island countries to minimise and prevent pollution. Current waste disposal problems present immediate challenges to island countries, and even in the long term, environmentally sound, cost-effective disposal options are limited.

In addition to assistance with immediate disposal issues, regional and international support is expected for programmes to reuse, recycle and reduce wastes and to give effect to the Waigani Convention. These may include demonstration projects which promote technology transfer, the establishment of appropriate procedures for the transportation and disposal of hazardous wastes, the development of alternatives to current use and disposal patterns, education and awareness campaigns, and the development of appropriate legislation.

#### **Box 3 The Waigani Convention**

The Waigani Convention to ban the importation of hazardous and radioactive substances and to control the transboundary movement and management of hazardous wastes within the South Pacific region was signed by all but two members of the South Pacific Forum in September 1995. The convention will come into force 30 days after ratification by ten of the sixteen Forum Countries.

The Waigani Convention is a regional convention covering the Pacific region. It seeks to ban the importation of all hazardous and radioactive wastes from outside the Convention area. The signing of this convention is an indication of the seriousness with which Pacific Island countries are treating the problems posed by hazardous and radioactive wastes.

SPREP will act as the Secretariat for the Convention and will seek technical assistance from the Basel Secretariat and others to assist with implementation. Amongst its many requirements the Convention:

- categorises hazardous wastes using the accepted UN numbering system;
- identifies appropriate disposal or reuse methods for each category of waste;
- bans the importation of hazardous wastes from outside the region;
- requires Parties to consider becoming parties to the London Dumping Convention, the SPREP Convention and the Basel Convention;
- obligates parties to adopt waste minimisation practices;
- obligates parties to dispose of their own wastes in an acceptable manner;
- obligates parties to develop national waste management strategies;
- establishes mechanisms to strictly control the movement of hazardous wastes;
- encourages the parties to minimise to the extent possible the production of hazardous wastes.

## **Chapter 4 Coastal and Marine Resources**

### ***Context***

The Pacific island countries, with the exception of the larger Melanesian islands, are entirely coastal in nature. Therefore, coastal management means the management of the whole island and its surrounding waters. In most of the islands, the majority of the people live very close to the sea. Fish from inshore waters is the primary source of locally available protein. The major resources available for export by many Pacific island countries come from pelagic fisheries. The sustainable development of these fisheries is, therefore, a key factor in the development of many islands economies.

Every Pacific island country has emphasised the importance of the management of coastal and marine resources in their State of the Environment Reports. Issues of particular importance are:

- avoiding over-exploitation of and damage to inshore marine ecosystems;
- reducing pollution, especially within enclosed waters;
- reducing physical loss of coastal ecosystems through erosion, sedimentation or reclamation;
- management of mangroves as productive areas to avoid over exploitation, or loss;
- ensuring that extraction of sand or coral for building purposes does not exceed its renewal;
- sustainable and economically efficient management of fisheries.

Integrated Coastal Management (ICM) and the management of living marine resources are, therefore, critical issues for Pacific island countries. Improving current management regimes at the national, regional and international levels were major challenges arising from both the United Nations Conference on Environment and Development (UNCED) and the Barbados Conference that have been the focus of considerable attention in the region.

### ***National Examples***

#### **Institutions**

All Pacific island countries have a government agency responsible for fisheries management, but only a few have agencies that are mandated to also deal with coastal management. Responsibility for coastal management rests with a small number of individuals spread across a number of agencies. This is out of step with the large areas to be managed and the technical difficulties of coastal management.

#### **Integrated Coastal Management**

The National Environmental Management Strategies (NEMS) provide the strategic level for integrated coastal management in Pacific island countries. Several countries have started on the process of more detailed implementation. While progress is being made in Papua New Guinea, Fiji, Yap (the FSM), Kiribati and the US territories, other countries are at an earlier stage.

#### **Monitoring**

A major concern in the region is the shortage of data to provide a basis for effective coastal management, or for evaluating the effects of management. Some monitoring programmes exist such as those for coral reefs in the Cook Islands and Palau and a range of monitoring programmes in the French Territories. At this stage, monitoring is minimal, but is slowly improving and becoming coordinated. Assistance with coastal mapping, the estimation of fish stocks and environmental assessment is provided by regional organisations, including FFA, SPC, SOPAC, SPREP, and the USP in the Pacific.

#### **Fisheries Management**

Most countries have established national fisheries with appropriate policies generally in place. Implementation at a local (village) level remains a problem. Some countries are addressing this issue through their fisheries extension programmes, for example, Western Samoa (supported by the Government of Australia).

For the pelagic fishery the major issue is ensuring compliance with fisheries agreements. Kiribati's recent prosecution of overseas registered fishing vessels (Taiwanese) is a promising sign.

### Regional/International Treaties

The completion of negotiations towards the Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks is a significant step forward for fisheries management in the region. The Forum Fisheries Agency (FFA) provided technical support for a well coordinated effort by Pacific island countries throughout these negotiations.

### *Regional Initiatives*

#### Integrated Coastal Management

SPREP has a programme in integrated coastal management and has carried out policy/legislative analysis, and training workshops. It is assisting several countries with their programmes. SPREP's main emphasis has been to develop a flexible approach appropriate to Pacific island countries and to provide support for national programmes. On the issue of coastal protection, SPREP and SOPAC have worked closely together to provide the region with advice and technical assistance.

The International Ocean Institute Operational Centre (IOI-South Pacific) at University of the South Pacific (USP) has been involved in development and delivery of training courses focusing on coastal fisheries ocean policy and resource economics for small islands for the last two years. Participants include regional fisheries officers and government environment officials.

The Ocean Resources Management Programme (ORMP) at the USP offers undergraduate courses in integrated coastal management. The ORMP also offers distance training (a certificate course) in Ocean Resource Management through the USP Centres in the 12 USP member countries.

#### Information collection and exchange

SOPAC is conducting beach erosion studies in a number of countries.

SPREP is advocating a standard methodology<sup>1</sup> for coral reef monitoring and is training Pacific island countries in its application. With the support of UNEP, the Pacific Environment and Natural Resource Information Centre (PENRIC) has been established in SPREP to assist countries with the collection, assessment and reporting of environmental information.

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<sup>1</sup> developed by the UNEP, IOC, WMO, IUCN Meeting of Experts on a Long Term Global Monitoring System of Coastal and Near Shore Phenomena Related to Climate Change

Major networks and modes of information exchange include:

- PIMRIS (Pacific Island Marine Resources Information Service) based at the USP, Suva;
- PSDNP (Pacific Sustainable Development Network Program) based at the SPC, Suva; and,
- PEACESAT.

For many years PEACESAT has been used for information exchange among fisheries programmes in the region. Other regional programmes are increasingly using PEACESAT and, more recently, the PSDNP. These services adequately cover the needs of the region in relation to coastal and marine resources.

### Fisheries Management

Two main regional agencies are involved in fisheries management:

- Forum Fisheries Agency (FFA) deals with pelagic species management and monitoring, particularly tuna and billfish. The FFA leads development of national management and negotiating capacity. It also coordinates surveillance operations in the region .
- South Pacific Commission (SPC) also deals to some extent with pelagic fisheries (mostly scientific assessment) plus inshore fisheries. It focuses on scientific assessment, management and training.

Considerable effort is being made by the region through both these organisations to monitor fish stocks, strengthen the capacity of national fisheries, including monitoring and surveillance, and assist countries with the negotiation of fisheries agreements.

There remains the need to ensure sustainable fishing practices and to maximise returns from fisheries. In relation to this, multilateral high level discussions have been held between Pacific island countries and distant water fishing nations.

### ***International Highlights***

- The UNEP has funded the establishment of a geographic analysis laboratory at the USP as part of the PENRIC. It has also supported the development of information systems in Fiji and Samoa.
- The International Coral Reef Initiative (ICRI) was adopted during an international workshop in the Philippines (June 1994). The ICRI Pacific Workshop was held in 1995 and produced the ICRI Pacific Regional Strategy for coral reefs and related ecosystems.



- The UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, called for under Chapter 17 of Agenda 21, concluded its sixth session in 1995. It sought to define the relationship between the right to fish on the high seas and the rights, duties and interests of coastal states in relation to highly migratory and straddling fish stocks. The implementing agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks was opened for signatures in December 1995.
- The UN Convention on the Law of the Sea (UNCLOS) entered into force in 1994. This Convention establishes a legal framework covering all aspects of humankind's use of the sea, seabed and the living resources within them. The World Commission on Oceans has recently held hearings in the Pacific.
- International Oceanographic Commission (IOC), the World Meteorological Organisation (WMO), UNEP and the International Council for Scientific Union (ICSU) are collaborating to create the Global Ocean Observing System with IOC as the lead agency.
- UNESCO has established a multi-disciplinary project on coasts and small islands which will synthesise and disseminate global experience in integrated coastal management.

### ***The Way Ahead***

Integrated Coastal Management (ICM) is a long term process which needs to be both supported by the population at a village level and to have an ongoing commitment from government. Models for coastal management derived from large countries with a rich technological endowment have not worked in Pacific island countries. Despite the emphasis which has been placed on ICM at a regional and international level, there has not been the financial commitment to its implementation in the Pacific.

Training of local fishermen on sustainable use of coastal and marine resources is critical if the local community is to support government initiative in integrated coastal management. The USP Marine Studies Programme has increased its capacity to conduct training in various aspects of sustainable fisheries practice for the local fishermen.

The exploitation of intertidal areas, mangrove ecosystems and the extensive reclamation of foreshores currently underway in the region requires an urgent attention. The RAMSAR Convention on Wetlands is one treaty which may assist countries in the region deal with this problem in the future.

The sustainable management of living marine resources will depend on further work to monitor fish stocks, strengthen monitoring and surveillance in

the region, and through the negotiation of fisheries agreements that maximise returns from the region's fisheries.

#### **Box 4 - Integrated Coastal Management in Yap**

Yap State has been developing a system of integrated coastal management for a number of years. This system is sensitive to the traditional management practices of the culture and the technology and information available. It is now part way through its implementation stage.

The implementation of the Yap State (FSM) Marine Resources and Coastal Management Plan (MRCMP) has reached a critical stage. Since October 1994 there have been four key groups reviewing the MRCMP and assessing how to implement the plan. Those groups are the Governor's Taskforce, the Council of Pilung (Yapese chiefs), the Council of Tamol (Outer islands chiefs) and the Marine Resources Management Division). During this period SPREP has been providing both financial (using CIDA funds) and technical assistance. Support for this assistance ended in December 1995. The implementation process has now developed a certain momentum, but the Government still believes it requires some technical and financial support to maintain this effort.

It was initially envisaged that continued support for the implementation of the MRCMP would be possible through SPREP as part of an Asian Development Bank Regional Environmental Technical Assistance (RETA) grant for Integrated Coastal Management in the Pacific Islands Region. Unfortunately, there have been long delays with this RETA, and it is now unknown if and when it will go ahead. The alternative means of support for the project was possibly through UNDP assistance to the FSM. This project has now been delayed until 1997.

The implementation of the Yap State MRCMP is now threatened due to the short-term nature of the available funds and through delays and reticence by potential donors to fund integrated coastal management as it is an on-going process.

## **Chapter 5 - Freshwater Resources**

### ***Context***

Freshwater resources and their management give rise to many different problems in the region. Relatively few areas have enjoyed the investment, management and community support needed for problem-free water supply. In the high islands, despite high levels of rainfall, water is sometimes not available where it is needed. Balancing the water needs of hydro-electric generation, public water supply and environmental conservation can be difficult. Localised pollution, sedimentation due to uncontrolled watershed development and water wastage are common problems.

Atolls have no surface water and limited groundwater resources. For these, rain provides the only source of fresh water and the limited supply is a major constraint to survival and sustainable development.

Kiribati, Tuvalu, Niue and the Marshall Islands have no surface water. Due to poor natural filtration, groundwater is highly susceptible to contamination and water borne diseases. In Tuvalu and the Marshall Islands, rain water

provides the main potable resource and groundwater is only used for drinking in times of drought. In Kiribati treated groundwater is used.

Pollution and enrichment of fresh water is a problem to varying degrees in the region. It is difficult to give a precise assessment as there is little water quality data available. The lack of water resource data in most island countries often results in major development being implemented without knowing the daily consequence on the environment. Provision of expert water quality monitoring services will always be expensive and difficult for the widely separated islands in the Pacific.

### ***National Examples***

#### **Integrated Water Management and Planning.**

At a national level, the National Environmental Management Strategies (NEMS) provide an overall strategic approach for water management and its relationship with other aspects of sustainable development.

In many Pacific island countries (for example Pohnpei and Kosrae in the FSM) freshwater management is an integral component of Integrated Coastal Management. In other islands (for example, in Western Samoa), watershed management and waste control strategies cover the major aspects of fresh water management. An EU funded project to develop a water resource master plan is under way in Western Samoa and UNESCO has supported water resource management studies in three Pacific island countries with the assistance of SOPAC.

#### **Data Availability and Management**

Monitoring of fresh water is generally inadequate throughout Pacific island countries. There is a lack of technical equipment and of trained technicians.

#### **Training and Technology Transfer**

The University of South Pacific Certificate in Earth Sciences and Marine Geology, run with the assistance of SOPAC, includes a component on water resources. This component provides the knowledge required to assist with surface and groundwater resources fieldwork.

Technical expertise related to technology transfer is available through SOPAC and the ESCAP/Pacific Operations Centre as well as in Australia and New Zealand. Advice is also obtained from the UNEP technology centre operating in Japan.

### ***Regional Initiatives***

In addition to the efforts described above, the following initiatives are being undertaken:

- The UNDP is funding until the end of 1996, a regional Water Supply and Sanitation Program executed by SOPAC. This project provides technical expertise, advice and training, fosters cooperation and experience sharing and addresses priority issues.
- UNESCO is working with SOPAC to study technical and socio-cultural aspects of water resource management in the area, with training in conducting research and applying its results.
- UNEP has engaged SOPAC to produce a source book on technology to augment fresh water resources in small island countries.

### ***The Way Ahead***

Without additional resources, regional activities in this sector cannot continue. The priorities that have been identified over a recent years as part of the Pacific Water Supply and Sanitation Project include:

- the need to establish comprehensive national water profiles, similar to that proposed by the Asian Development Bank (ADB), to allow donors to identify priority areas;
- the need to establish a regional database for all water and sanitation information activities and available training and expertise to that region;
- the establishment of a Pacific Water and Wastewater Association (PWA) will allow the sharing of expertise in the water supply industry in the region.

## **Chapter 6 - Land Resources**

### ***Context***

The islands of this region are characterised by their small size, lack of high quality agricultural land and a general absence of useful mineral resources. Exceptions are some of the larger islands such as Papua New Guinea and in the Solomon group. Some of the smaller islands are physically unable to provide food for their populations and are dependent upon imported foods. Other island countries depend on imported foods to the extent that their productive land is being used for export crops.

Land resource development has focused on market orientated cash cropping. Transnational corporations involvement has been in capital intensive

developments such as logging, mining and plantation development. Invariably, these developments relegate the local population to providers of labour and raw material. However, such developments can provide far more money to local people than their traditional enterprises. Transnational corporations often also provide or support the development of physical infrastructure (such as ports) that would otherwise not be viable.

Increasingly, concern is being raised about the environmental and social impact of large scale uncoordinated developments and the including accelerated urbanisation, reduced of subsistence production, congestion in towns, rising incidence of life-style diseases and crime in urban centres. Governments are increasingly under pressure to provide social services which are beyond the countries' financial means.

Traditional land ownership patterns and appropriate traditional land use practices are an important aspect of sustainable land use development within the Pacific. Traditional ownership and management systems generally govern resource use and decision making. These systems vary throughout the region. In some cases they have not kept pace with the demands of increased population and agricultural development. Finding mechanisms that strengthen the ability of traditional systems and which are acceptable within the cultures is a major challenge in achieving sustainable development of land resources.

### ***National Examples***

#### **Shelter and urban infrastructure**

A number of Pacific countries are recognising the central role of urban areas in the lives of their populations and are aware of the unsustainability of the current rate of growth and stress being placed on urban infrastructures. There are several activities which have developed since UNCED and Barbados which reflect this growing concern. Many of these stress the key importance of building upon existing community skills and expertise, particularly within low-income communities which are often powerless and voiceless. As these are integral to human resource development they are dealt with in more detail under that Chapter 14 below.

#### **National databases and information dissemination**

Land Information Systems and Geographical Information Systems are used more widely in the region, although the requirements for data collection and maintenance are often a significant drain on resources. In Fiji these systems are being developed on a sectoral basis. The development of a National Environment Information Database in Fiji will integrate these sectoral databases and will allow a comprehensive approach to studies, reporting, and programming of the use of resources for sustainable development.

### Preparation of land use plans

Land use plans and Integrated Coastal Management plans can be considered one and the same in most island countries of the region. In Fiji, through the Departments of Agriculture, Forestry and Town and Country Planning, and the use of their sectoral land use plans, a proposal for an “integrated” land use plan is being prepared.

### ***Regional Initiatives***

#### Regional Agreements

In response to decisions taken by the region’s leaders at the South Pacific Forum, 1994, particular efforts have been made to improve the collective management of the region’s resources. For example, more definitive rules to govern the conduct and practice of logging have been introduced. However, the main logging countries in the Pacific region have not yet become signatories to the proposed Code of Conduct for Logging.

#### Training and Capacity Building

The UNDP/FAO South Pacific Forestry Development Program has conducted a range of training activities in the forestry sector. Under this programme, the Heads of Forestry of Pacific island countries have recently decided that this program should ultimately reside with a regional organisation, SPREP.

The South Pacific Commission (SPC) has for the past 10 years worked to change people's perception of rural development from one of government-dependence to that of self-help. The SPC is working on a third Integrated Rural Development Project in Palau. This follows the first project on Mitiaro Island in the outer Cooks and the second project on North Tarawa, Kiribati. The approach has had mixed results.

Training and capacity building in the agriculture sector is supported principally by SPC (Suva) and USP (Alafua Campas), and by the FAO Pacific Office (Apia).

### ***International Highlights***

- UNCHS is working with island countries to formulate land use plans and land control instruments.
- FAO strengthening its Pacific subregional office in Western Samoa and in collaboration with SPREP will conduct a Workshop on Sustainable Agriculture, Forestry and Fisheries in Small Island Developing States, 6-9 May 1996.

### ***The Way Ahead***

It has been difficult to determine the direction the region is taking in relation to land resources. This no doubt reflects the range of interests in this sector and the fact that ultimately between 80-90% of the region's land resources remain in customary ownership. It has been suggested that the way ahead could include:

- ongoing environmental education and awareness programmes developed and implemented to address issues regarding the unsuitable use of land resources;
- the establishment of environment units in government organisations whose responsibilities affect land resources.

## **Chapter 7 - Energy resources**

### ***7.1 Context***

The cost of energy, its availability and the dependence of Pacific island countries on imported petroleum, remain major issues in the region. A secure, reliable and cost-effective supply of energy is essential to sustainable development. But energy comes at a cost, not only in terms of its direct price to the consumer and its impact on the environment, but also in terms of its ongoing requirement for scarce development capital.

In 1991, the UNDP, World Bank, Asian Development Bank and the Forum Secretariat reviewed issues and options associated with energy development in the Pacific Island countries. The four major findings of this Pacific Regional Energy Assessment (PREA) were:

- (a) Indigenous renewable energy technologies had largely failed to develop into viable alternatives to conventional approaches (based on imported petroleum, biomass and hydroelectric power). This resulted primarily from the lack of technical and economic viability of these options in the Pacific context and their unsustainable institutional support requirements.
- (b) The region will remain dependent on imported petroleum products to meet commercial energy needs. Continued use of biomass (mainly fuelwood and coconut wastes) by households appeared sustainable.
- (c) There was inadequate performance of power utilities. The main issues for both urban and rural electrification were poor management, maintenance and operation, and high costs and adequate recovery through tariffs.

- (d) Government management of the energy sector was found to be ineffective in most countries, with inadequate staffing of energy offices.

## **7.2 National Examples**

### Public education and awareness

Many island countries have often stated the importance of energy to their economies and have acknowledged the adverse impact of petroleum imports on their balance of payments, but few have focused much policy attention on the role of energy in achieving sustainable economic development and the impact it has on economic efficiency, socio-economic development and the environment.

At a local level, the UNDP-funded small diesel training programme has conducted 27 in-country courses and over 300 operators trained in the maintenance and operation of small diesel systems. The countries involved were Fiji, Tonga, Cook Islands, Tokelau, Tuvalu and Vanuatu.

### Promoting efficient energy use

Significant progress has been made in some Pacific island countries in recent years in terms of strengthening their institutional capabilities to formulate and adopt comprehensive energy policies. However, the capacity of many countries remains limited in this area, and many continue to be dependent on outside technical assistance and expertise. It is clear that this situation is not sustainable in the long term and that the energy planning and management capacities of Pacific island countries need to be strengthened over the coming years.

Appropriate energy pricing and taxation policies can encourage energy efficiency, reduce the rate of growth of energy imports, and assist in insulating countries from external shocks. Most Pacific island countries (with the partial exceptions of Vanuatu and Fiji) have generally failed to use energy pricing and taxation as effective economic policy instruments.

In the Pacific, the taxes on petroleum products are low by world standards and, on average, are about one fifth the OECD average. For most countries, electricity tariffs are generally not sufficient to cover the real costs of generation and distribution.

While many Pacific island countries are devoting considerable attention to promoting exports as the best means of achieving economic development goals and alleviating balance of payments problems, little attention is given to the significant economic contribution that can be made by reducing oil imports through increasing and end-use energy efficiency. Reductions in energy consumption of 10-20% may be readily achieved in many situations by



improved “housekeeping” and with simple, cost-effective investments in measures with paybacks of a year or less. Further savings are possible through investments in equipment and measures with paybacks of 2-3 years.

### ***7.3 Regional Initiatives***

The Regional Energy Programme administered by the Forum Secretariat Energy Division aims to strengthen the capacities of the Pacific island countries members of the South Pacific Forum to plan, manage and maintain their energy sectors. The budget for the Energy Programme in both 1995 and 1996 is in the order of US\$1.5m per year.

#### **Formulation of energy policy**

The Lomé III Pacific Regional Energy Programme (1994-1998) provides comprehensive technical assistance and training in the areas of energy policy and planning, power sector development, technical manpower development and energy efficiency and conservation.

The programme is being implemented through a combination of advisory assistance (policy formulation, managerial, technical, financial), short term training courses and workshops, training attachments, and the development of pilot projects and programmes (for example, in energy conservation). The Programme involves the eight Pacific ACP countries (Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Western Samoa).

Pacific island countries have also engaged in a critical review of their present energy policies and programmes and in the development of National Energy Policy Statements for adoption at the highest Government level.

#### **Training, information dissemination and cooperation**

The UNDP-funded Power Sector Project (1994-1996), provides technical assistance to power utilities and training for power plant operations personnel. Two major components of the project have been strategic corporate planning and demand side management. Activities include regional training courses and workshops, inter-regional consultancies, inter-utility training attachments, and the establishment of a regional referral database.

The Regional Energy Counselling Project (1994-1996), with the financial assistance of GTZ, provides technical assistance and training in rural electrification with a major focus on the design and construction of micro hydropower schemes. Countries included are primarily Vanuatu, Fiji, Solomon Islands and PNG.

An Energy Database has been established contains national energy supply and demand data in a common format to ensure compatibility for a regional data series.

## Research and policy development for renewable energy

A Small Energy Projects Programme within the Energy Division of the Forum Secretariat provides a flexible, quick-response facility to assist in meeting short-term project needs and broader regional project activities not covered by other major programmes. Regional projects include wind resource monitoring, solar crop drying, solar water heating training equipment, residential and commercial energy efficiency advisory booklets, and energy efficiency labelling and minimum energy performance standards for appliances.

Under the Lomé II Photovoltaic (PV) Follow-Up Programme (1990-1995) support was provided for the purchase of PV systems together with technical assistance and training to establish the national capability to plan, implement and maintain PV projects. The countries involved were Tuvalu, Kiribati, Fiji, Tonga and PNG.

### *The Way Ahead*

Each Pacific island country faces a host of issues that impact on the ecological and economic cost of their energy economy. There are, however, priority issues that are common to most in the region.

#### Availability of petroleum products

Pacific island countries recognise the pivotal role of a reliable and cost effective supply of petroleum products to meet their economic development requirements. Governments continue to monitor and negotiate rational petroleum pricing and supply arrangements.

#### Efficient pricing of energy commodities and energy consuming appliances

The removal of existing subsidies, cross subsidies, tax relief and other price distortions on energy commodities is essential

The application of duties and levies on energy commodity prices and energy consuming appliances provides further price incentive to consumers to weigh their energy consumption behaviour.

#### Effective power utilities

Many PICs are moving to restructure their utilities into commercially oriented and financially independent electricity corporations so as to achieve the efficiencies of the private sector.

Amongst other measures, this generally means establishing an appropriate regulatory framework within which the utility can determine its tariff movements and its longer term capital and borrowing requirements,

establishing appropriate managerial, financial and staffing procedures, and adopting least cost planning strategies.

### Rural electrification

For reasons of social equity and rural development, Pacific island countries are actively involved in rural electrification (RE). Governments recognise the poor success rate associated with some RE programmes internationally and are pursuing RE projects with some recognition of the need for them to be technically and economically self sustaining.

### Self reliance of Energy Offices

To enable the self reliant and effective planning, management and monitoring of their national energy economy, many PICs are instituting appropriate strengthening and training of their energy offices/departments.

### Energy conservation and efficiency

Energy conservation and efficiency measures can be a cost effective means of reducing energy consumption per unit of output, and may be one of the lowest cost means of satisfying energy demand. Governments are recognising the importance of household, commercial and industry conservation and efficiency programmes in their national energy programme.

## **Chapter 8 Tourism Resources**

### ***Context***

Tourism continues to play a significant role in the economics of the South Pacific island countries. Over the last five years, total tourist arrivals to the 13 member countries of the Tourism Council of the South Pacific (TCSP) increased by 17% from 693,500 to 811,395. Tourism receipts during this period increased by nearly 20%.

Estimated foreign exchange earnings from tourism in the TCSP member countries totaled US\$723 million in 1994, which equated to about 5% of the Gross Domestic Product (GDP) of the region. This regional aggregate conceals the importance of tourism to individual and economies. In the case of three member countries, tourism earnings contributed 16% of GDP while in the case of another 37%. Looked at from another angle, tourism contributes between 60-75% of total exports combined. These figures do not take into account the substantial indirect and induced benefits resulting from tourism.

Projected growth in international tourism trends and regional forecasts for growth into this region suggests that Pacific island countries can anticipate increases in tourist arrivals in the next decade. Recent studies on global tourism trends by the World Tourism Organisation, World Bank and the UK-

based Economics Intelligence Unit (EIU) predict visitor volumes to the Pacific region as a whole will double over this decade with a corresponding benefits for Pacific island economies.

## **8.2 National Examples**

### Integrated Plans for Sustainable Tourism

Tourism masterplans exist in many countries of the region although the links between development of the tourism sector and environmental quality are not always well established. This may be largely due to the limited contact between the tourism authorities and the environment units at a national level.

### Niche markets

Greater focus on opportunities for environment and culture based tourism is bringing with it the requirement for sound marketing so as to ensure economic viability for their products. It is envisaged that this will foster closer links between tourism offices and those involved in the establishment of conservation areas.

A growing number of examples of successful environment-based tourism ventures exist in many countries of the region, including Fiji, Western Samoa, Tonga and Vanuatu (see Box ?). The trend towards increased ecotourism also brings impacts to the natural environment. For example, Fiji is preparing guidelines that would define the acceptable levels of activity in particular environments. Fiji's new environment legislation will also require EIAs for all tourist and hotel developments.

#### **Box 5 Eco-tourism on Tanna**

Port Resolution, a village on Tanna (Vanuatu) is an excellent illustration of what communities can do to develop sustainable tourism. The village chiefs requested the help of a business development officer employed by government to help develop projects which would assist the community earn cash for necessary facilities (such as a health clinic). A small-scale tourism venture, developed in stages was agreed upon by the community. Each stage of the project is agreed upon and managed by a village committee. A yacht club was built in 1992 and quickly became popular. This was followed in 1994 by the construction of cabins (with aid from Australia, New Zealand and Great Britain). The community has rules such as the banning of the removal of shells from the reef, and all participate in decisions as to how profits are spent. Locally produced food and handicrafts are sold to the tourists and so profits remain within the community with negative impacts of the venture minimised.

### **Regional Initiatives**

In 1990, the TCSP published *Guidelines for Intergration of Tourism Development and Environmental Protection*. The TCSP has also carried out Tourism Development Plans and Sector Reviews for the various member countries. These documents outline the priority areas for enhancing or developing

tourism activities, some of which are focussed in areas of environmental importance particularly for the smaller countries.

The current focus for the TCSP is Marketing and Sustainability. As part of this focus, efforts will be made to improve human resource development and research & development, as well as to advocate sound environmental practices in the tourism sector.

A number of regional meetings have been held at which Pacific island countries have discussed environmental issues in relation to tourism planning and investment. For example, the APO Planning & Development Seminar 1993 and the UNDP/ESCAP Tourism Planning & Investment meetings 1994/95.

### *The Way Ahead*

With this expected growth in the tourism sector, particular attention will need to be paid to the links between environmental quality and the sustainability of tourism development. This was identified by countries in the Barbados Programme of Action.

Further work is required to develop strong links between both the National Tourism Offices and tourist industry and those involved in conservation activities. This will assist in identifying opportunities for environment-based tourism that will have benefits for tourism development but also for the sustainability of community-based conservation.

## **Chapter 9 - Biodiversity Resources**

### *Context*

The islands of the Pacific are renowned for their marine and terrestrial biodiversity. There are high levels of species diversity and endemism. Terrestrial biodiversity is highest in the larger high islands to the west of the region (New Caledonia, Papua New Guinea, Solomon Islands and Vanuatu). Marine biodiversity is also highest to the west with Palau exhibiting exceptionally high levels of diversity and endemism. The region has the most extensive coral reef system in the world.

People living in the region rely heavily on biological resources for their economic, social and cultural well being. Use of natural resources for food, artisanal and medicinal purposes is an essential expression of the culture of this region.

Because of the small land area and the reliance on biological resources, rules are needed to prohibit extractive use from within reserved areas. The challenge is to achieve protection of biodiversity resources within the context

of sustainable use. Biological diversity can only be protected with the cooperation of the people living in the area. There is generally considered to be a lack of financial and technical resources available on for biological diversity conservation to be effective at a village level.

The Pacific island countries (especially the small islands) are ecologically fragile. The introduction of exotic plant and animal species, unsustainable development and natural disasters can make large and rapid changes to biodiversity.

### ***National Examples***

#### **National Strategies for Biological Diversity**

The National Environmental Management Strategies (NEMS) all address protection of natural biodiversity as a key topic and provide strategic objectives at the national level. In addition some nations (for example, Western Samoa) are developing a National Biodiversity Strategy and are assessing their regulatory regime to ensure that it promotes protection of biological diversity. In other cases biological diversity is incorporated into other planning documents. For example, the FSM address marine biodiversity as part of an Integrated Coastal Management project.

#### **Ratifying the Convention on Biological Diversity (CBD)**

There are currently ten Pacific island countries that are Parties to the Convention (Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, PNG, Solomon Islands, Vanuatu and Western Samoa). Of SPREP's developed country members, Australia, France and New Zealand are also Parties. Pacific island countries have been active in following up issues under the CBD such as coastal and marine conservation. The implementation of existing strategies (for example, NEMS) and addressing new issues (for example, intellectual property rights and biosafety) are seen as urgent priorities, however, the region is constrained by the lack of financial and human resources.

#### **Programmes to Promote Community Support**

Programmes are being carried out at both the regional and the national level. Two regional meetings of conservation area support officers involved in the South Pacific Biological Conservation Programme (SPBCP) have been held. Two subregional training programmes for Conservation Area Coordinating Committee members have also been undertaken.

Under the SPBCP, funded by the Global Environment Facility and executed by SPREP, community participation is a major theme. In selected areas, communities are encouraged to identify needs and are assisted in the creation and implementation of their own community action plans. Successful examples include the Watershed Management and Environment Project in

Pohnpei (FSM) and the Marine Conservation Project at the Arnavon Islands (Solomon Islands). This approach will be used for all conservation areas. Another example is the Marine Turtle Strategy. This covers the whole of the SPREP region and is based on a network of government and non-government interests working through an agreed strategy for conserving these species.

In addition to the SPREP programme, Pacific island countries are developing programmes which develop community support for biological conservation. For example:

- Palau has developed a draft Environmental Education Strategy;
- Western Samoa is running a public awareness campaign to conserve remaining forests and bird species in the country using the endemic bird Manumea as a spearhead.
- In Fiji a non-government Turtle Action Group has been conducting turtle awareness campaigns in Fijian villages.

#### Studies and inventories of biological resources.

There are a range of activities in this area including:

- a freshwater fauna survey in Pohnpei by the University of Guam, Marine Science Laboratory;
- a marine monitoring survey of Arnavon Island (Solomon Islands) by the Nature Conservancy (TNC) and the Great Barrier Reef Marine Park Authority which examines resource use and related impacts;
- survey work as part of the conservation area development under the SPBCP.

As part of a global initiative on the sustainable use of plant resources, UNESCO, WWF and USP are establishing a Pacific People & Plants network. This will have three main components: (i) a network based on USP extension centres that will conduct rapid ethno-botanical studies; (ii) a WWF project in PNG and the Solomon Islands to preserve local knowledge of useful plants; (iii) national projects to collect, publish and apply botanical and ethno-botanical information.

SPREP is developing and maintaining the Pacific Environmental and Natural Resources Information Centre with the assistance of UNEP. This information centre includes information on species diversity, threatened species and steps taken towards conservation.

#### NGO Involvement in Conservation

While there are not a large number of environmental NGOs active in the region they are carrying out important work. Examples include:

- The Nature Conservancy (TNC) works in the Pohnpei (Watershed Management and Environment Project) and in the Arnavon Islands (Marine Conservation Project), Solomon Islands;
- Palau Conservation Society works in Palau as does TNC;
- Siosiomaga Society is the lead agency of one of the conservation areas in Western Samoa;
- Foundation for Peoples of the South Pacific (FSP) has been executing the Profitable Environment Programme in Vanuatu which supports sustainable enterprises by local communities;
- WWF is promoting resource conservation in the Solomon Islands and Papua New Guinea;
- Pacific Concerns Resources Centre has worked in Fiji on traditional medicines and related intellectual property rights
- Royal Forest and Bird Protection Society has assisted with biodiversity surveys in Vanuatu.

This list is obviously not complete but presents a picture of the range of NGOs and activities in which they are involved.

### ***Regional Initiatives***

#### **Protection of Important Sites**

This is the main emphasis of the SPBCP. Fourteen conservation areas in eleven countries are in the design or implementation stage. These include Palau, the FSM, Kiribati, Solomon Islands, Vanuatu, Fiji, Tuvalu, Western Samoa, Niue, Tonga and Tokelau.

The establishment of other protected areas is also underway in the region, for example Western Samoa's protection project in the Aopo/Sasina district and its coastal protection project in the Aleipata district.

#### **Regional Gene Bank Centres**

No activity is occurring to establish regional gene banks although some local centres have been discussed.

#### **Regional Scientific Institutions and Technical Capacity Building**

A proposal has been developed to establish a Marine Laboratory in Palau as an international coral reef study centre.



SPREP is managing an active technical capacity building programme through the SPBCP and is also providing specialist support for Pacific island countries.

The South Pacific Commission held a Pacific Biosystematic Network Formulation Workshop in Nadi, Fiji in February 1996, sponsored by the Technical Cooperation among Developing Countries (TCDC) Unit of UNDP.

### ***International Highlights***

- In developing its medium term work plan, the Convention on Biological Diversity, Conference of Parties included specific references to marine biodiversity. This was at the request of the island countries and based on the Barbados Programme of Action.
- The World Conservation Union (IUCN) and the Great Barrier Reef Marine Park Authority have developed a global system for the establishment marine protected areas.
- At the last Conference of Parties to the Convention on International Trade in Endangered Species (CITES), a resolution was passed to examine ways to assist islands. The CITES secretariat, in collaboration with SPREP, is expected to start this process with a regional workshop in 1996.

### ***The Way Ahead***

The focus for the conservation of biological resources in the region remains the establishment of community based conservation areas, targetted species conservation and the implementation of the Convention on Biological Diversity. Building upon existing programmes is a priority to ensure sustainability, as is the evaluation of training and conservation efforts before developing new initiatives.

New issues requiring particular attention include invasive species, biosafety, intellectual property rights and the conservation of marine biodiversity through, for example, the International Coral Reef Initiative and the development of a comprehensive approach to the protection of international waters for submission to the Global Environment Facility. Training programmes may also be necessary to bring Conservation Officers up to date with new technologies and plans of action being developed for the identification and management of conservation areas.

#### **Box 6 Year of the Sea Turtle**

The "Year of the Sea Turtle" was the Pacific region's first ever targetted species conservation campaign, running from March 1995 to March 1996. The slogan "Let Our Turtle Family Live!" and the national and regional campaign activities were designed by a network of

government and non-government agencies from throughout the region. Endorsed by Heads of Government from all the independent countries in the region, the campaign had the highest level of political support.

Regional activities during the year focused on media and communication initiatives and on supporting the development of national campaign plans and activities. A documentary video and a "turtle" rap music video were produced and have been aired extensively throughout the region and worldwide. News coverage of national and regional events has been extensive and proved to be an effective tool to reach many audiences in the region. Posters, stickers, buttons, T-shirts, competitions, videos and a range of other promotional material produced by SPREP and national campaign agencies combined to significantly raise awareness in the region, especially among children.

National campaign activities focused on communities currently using turtle resources, raising awareness of their migratory behaviour and the importance of this shared resource. Key campaign messages included the banning of domestic and international commercial trade in turtles and turtle products. The campaign supports cultural and subsistence harvest of turtles, but emphasised that these must be at sustainable levels to ensure that future generations have turtle resources.

The campaign was part of SPREP's regional Marine Turtle Conservation Programme which also includes research, monitoring, policy and legislation development, education and awareness raising activities at local government, non-government and regional levels. Follow-up work is now underway to consolidate the conservation awareness achieved through the campaign.

## **Chapter 10 - National Institutions and Administrative Capacity**

### ***Context***

Most Pacific island countries are aware of their reliance on the natural environment, its fragility and the need for sustainable development. To varying degrees, most have institutionalised environmental planning and management functions and have legislation that supports environmental objectives. Pacific island countries have a history of successful cooperation at a regional level and are well placed to make sustainable development an achievable goal.

NGOs play an important role in environmental management in the region and are effectively involved in a wide range of community level activities. They provide the opportunity to facilitate people centred development. This is especially important in the region due to the community's role as natural resource managers and their knowledge of the resources.

All of the activities described in the chapters in this report have included an element of strengthening the capacity of the countries in the region. This includes environmental education, community understanding and involvement and strengthening of institutions and NGOs. In this Chapter reference is made to more general programmes which have the purpose of capacity building.

## ***National Examples***

### **Strengthen institutional arrangements and capacity**

Two major activities have occurred at the national level, across much of the region, to strengthen institutional arrangements and capacity for integrating environment and development - the preparation of National Environment Management Strategies and the strengthening of capacity for sustainable development planning. These are discussed in more detail under ***regional initiatives*** and should be considered alongside the considerable effort to strengthen Government administration, including planning and budgeting, throughout the region. Some discussion of this is provided under the section on Economic and Social Dimensions of Sustainable Development.

Over the past four years National Environmental Management Strategy (NEMS) have been prepared and adopted at the highest political levels in 13 Pacific island countries. This has been accompanied by an increase in staffing levels of environment units in most Pacific island countries (see figure 1)

### **Barbara - Help! PLEASE TURN TABLE INTO BAR CHART!**

Change in staffing levels of environment units in selected Pacific island countries

<b>Country</b>	<b>1990</b>	<b>1995</b>
Kiribati	1	2
Fiji	3	7
Palau	3	6
Solomon Islands	4	5
Tokelau	1	5*
Tuvalu	0	1
Vanuatu	3	8
Western Samoa	5	12

\* includes 3 atoll coordinators

Building on the success of the NEMS process, the UNDP funded and SPREP executed Capacity 21 Project has been developed to strengthen the capacity of people and institutions in the Pacific so as to achieve sustainable development in a form suited to Pacific island circumstances.

In addition to the NEMS and Capacity 21 projects, individual nations are also making progress in this area. For example:

- Fiji is looking at ways of inter-sectoral coordination of projects and activities, including a National Council for Sustainable Development with membership from Government, private and public sectors, and is developing new legislation for sustainable development (see Box 7);
- The FSM have established a Presidents Council on Environment and Sustainable Development to coordinate and oversee activities of national government departments.

**Box 7 Fiji's Sustainable Development Bill**

In 1993 the Government of Fiji adopted the National Environment Strategy, a broad-based programme of action intended to place Fiji on the path to Sustainable Development. Cabinet has now approved the drafting of a comprehensive and integrated legislation that will give effect to the goals identified in the National Environment Strategy. The principle purpose of the new legislation which should go before parliament at the end of 1996, is to:

1. establish new legislative and administrative structures for EIA, pollution and waste management, natural and resource management and biodiversity conservation and protection.
2. implement over a dozen international conventions and agreements in the area of sustainable development, environmental protection and resource management; and
3. give effects to commitments made by Fiji at the United Nations Conference on Environment and Development (UNCED)

It has been recognised that the new legislation will establish many of the necessary legislative and administrative mechanisms to make sustainable development possible in Fiji, but that to be effectively implemented, a number of new institutions and capacities will need to be established in the public and private sectors, and at the community level. It is proposed that a strategic plan be implemented to ensure that the necessary capacity building for sustainable development is undertaken over the next 10 years.

The major sustainable development initiatives to be established include:

- a comprehensive waste management strategy
- a biodiversity, conservation and national parks strategy
- marine and terrestrial national parks management plans; and
- global warming and ozone depleting substance management strategy.

**Provide adequate resources for enforcement.**

The enforcement of environmental legislation remains a problem in Pacific island countries. This is an issue that can only realistically be addressed at a national level. Little information is currently available to reliably determine the adequacy of resources for enforcement.

### ***Regional Initiatives***

The preparation of **National Environmental Management Strategies** throughout the region was coordinated by SPREP with the assistance of the ADB, UNDP, Australia. The process included a legislative review, a state of the environment report, national seminars and, ultimately, a national environmental strategy. In some cases the programme has also resulted in an explanatory video and an education review. The process is still ongoing with Wallace, Futuna and Nauru starting their NEMS programmes.

As a result of these programmes, each Pacific island country has a top level environmental strategy in a regionally consistent format which assesses the environmental challenges and the capacity of the nation to cope with them. The strategy sets priorities for the nation and provides guidance for assistance from external agencies.

The **Capacity 21 Project** has a 30 month life span, that will be concluded in early 1997, and has four components:

- National Frameworks for sustainable development (undertaken in FSM, Vanuatu, Western Samoa). This component uses a participatory approach to produce recommendations to government on an institutional framework and coordination approach to assist in sustainable development.
- Sustainable Development Planning and Financing (undertaken in FSM, Vanuatu, Western Samoa). This component addresses harmonising the development/financial sectors with the requirements of sustainable development.
- Land and Sea Resources Management Capacity (Undertaken in Cook Islands, Kiribati and Solomon Islands). This component aims to improve governments capacity to promote land and sea management practices which lead to sustainable development.
- Contribution of land holding peoples organisations to sustainable development (undertaken in Cook Islands Kiribati and Solomon Islands). This component aims to improve the participation and capacity of those peoples organisations which are traditional Pacific islander institutions.

In addition to the NEMS and Capacity 21 projects, the South Pacific Commission is facilitating the Pacific Sustainable Development Network (PSDN). The PSDN was designed to strengthen the capacity of institutions and develop effective and efficient systems for information exchange.

Every two years the South Pacific Commission and the Forum Secretariat convene the Regional Planners Conference which provides a forum for countries to identify their capacity building needs and to exchange

information and experiences related to the sustainable development of islands in the region.

### ***The Way Ahead***

As described in the section of this report on Economic and Social Dimensions of Sustainable Development, there is much that is required to strengthen the fundamental capacity for Pacific island countries to plan, administer and finance development that is sustainable. Within this context, the integration of environment and development within national institutions and administrative arrangements will remain a priority.

## **Chapter 11 - Regional Institutions and Technical Cooperation**

### ***Context***

Pacific island countries have a long history of cooperation with each other and have joined together in recent times on taking world leadership in a number of areas such as combatting climate change and nuclear testing. With this history, it is not surprising that they have developed a well organised structure of regional organisations which are supported by contributions from the member countries.

There are eight regional organisations which are funded by member contributions. These are:

- Forum Fisheries Agency (FFA)
- Forum Secretariat
- Pacific Islands Development Programme (PIDP)
- South Pacific Commission (SPC)
- South Pacific Regional Environmental Programme (SPREP)
- South Pacific Applied GeoScience Commission (SOPAC)
- Tourism Commission of the South Pacific (TCSP)
- University of the South Pacific (USP)

The membership of these organisations varies. Even though each of the organisations has a particular focus for its activities there is some potential for confusion and duplication. For this reason the South Pacific Organisations Coordinating Committee was established to harmonise activities. The role and functions of each organisation are being regularly reviewed.

A key aspect of SPOCC's work relates to the coordination of regional programmes. The development of a Regional Strategy is providing a mechanism for the coordination of donor assistance at the regional. This will

help minimise duplication and at the same ensure that regional programmes complement national needs and priorities.

In addition to these regional organisations, a number of international organisations maintain regional offices and run regional programmes. Many of these organisations work closely with each other and with the regional organisations. However, improved coordination presents an ongoing challenge.

### ***National Examples***

Pacific island countries support the regional organisations they have established, both financially and through participation.

### ***Regional Initiatives***

#### **Formulate Regional Programmes and Strategies**

In 1995, the Agreement Establishing the South Pacific Regional Environment Programme (SPREP) came into force. This Treaty formally establishes SPREP as an independent inter-governmental organisation responsible for the “cooperation in the South Pacific region and to provide assistance in order to protect and improve its environment and to ensure sustainable development for present and future generations.” The next five year Action Plan for SPREP, 1996-2000, is currently in preparation.

#### **Improved cooperation, regional programming and technical assistance**

SPOCC has recently completed a review of mandates in the marine sector to ensure the complementarity of programmes and to avoid duplication. Members of the South Pacific Forum have also agreed to the preparation of a Regional Strategy which will provide the focus for regional programming.

UNDP, through the Special Unit for Technical Cooperation Among Developing Countries (TCDC), New York, has initiated a project aimed at creating a database of expertise and training capacity available with institutions and individuals in the Pacific region. The database is known as TCDS-INFOSIDS which stands for Information on Small Island Developing States. It is an information system designed to support the Small Island Countries Technical Assistance programme by collecting, maintaining and disseminating information on institutions and individuals with recognised expertise in sustainable development.

#### **Coordination of Environmental Law**

SPREP is currently carrying out assessment of the environmental legislation of several countries (for example, Vanuatu French Polynesia, Kiribati, Cook Islands). Draft provisions are being jointly planned with UNEP on a topic

basis (for example, model provisions for waste management are at the early stages of preparation).

Environmental law training activities are being undertaken as part of the Capacity 21 Programme in the Cook Islands (one completed, one planned) and one is planned for Kiribati. A workshop, focusing on environmental treaties and conventions and involving all Pacific island countries is also scheduled for 1996.

### ***International Highlights***

- The links between the UN system and the activities of regional organisations in the Pacific have increased. The Advisory Committee established by the South Pacific Forum to coordinate and facilitate the implementation of the Barbados Programme of Action in this region brings SPREP and the ESCAP/Pacific Operations Centre more closely together.

### ***The Way Ahead***

Further work to improve regional coordination is ongoing. Progress is expected through the preparation of the SPOCC Regional Strategy, the SPREP Action Plan (1996-2000) and the further work of the Advisory Committee. A particular focus for this work will be provided by the 1997 special session of the General Assembly on environment and development.

## **Chapter 12 - Transport and Communications**

### ***Context***

Adequate means of transport and communication are necessary for sustainable development. All the Pacific island countries are sea-locked. Air and sea transport provide the only links among islands and to the outside world. Inter-island shipping services are also essential for transport within countries (except for the 2 single island nations).

The low traffic volumes, large number of widely dispersed islands and small populations, result in costly transport services. In Tuvalu for instance, berth occupancy at the deep sea wharf is less than 10% per annum. Long term government policies are necessary to offset the cost and to enable airlines and ship owners to provide for suitable vehicles and services.

In many of the Pacific island countries inter-island shipping services are irregular and infrequent. Services to outer islands pose particular difficulties. Shipping is often unreliable and inadequate. Safety and comfort standards in both formal and informal shipping sectors operating inter island services are generally low.



In civil aviation, services and systems continue to receive modifications to meet requirements and supported by appropriate skills to enhance safety of both air and ground operations. The regional airlines have adopted amongst themselves mutually beneficial commercial joint arrangements as they continue to struggle to survive against competition from carriers of the metropolitan countries. These measures have included rationalisation of air services through seat-sharing arrangements, joint-leasing arrangements, joint-marketing and promotions, better co-ordination of development strategies with the tourism industry, reduction of seat capacity and frequency over low yield sectors. These collective measures have already returned for the airlines positive financial results providing on average a modest contribution to economic development and growth.

In general for the Civil Aviation sector and air transportation, the principles of supply and demand alone cannot provide the basis upon which operations should be based because of the unique nature of the island nations. Even the minimum recommended standards and practice of the International Civil Aviation Organisation (ICAO) continue to pose a challenge to the island nations in their endeavour to meet such minimum standards and recommended practices.

### ***National Examples***

#### **Transport Services and Facilities**

Pacific island countries are addressing issues of safety and standards of shipping through application of the South Pacific Maritime Code and the ratification of several international maritime conventions with assistance from IMO and the donor community.

In order to better plan, construct and manage coastal structures, Pacific island countries are seeking funds to prepare a *Manual for Coastal Engineering Practice in Tropical Islands* (assisted by SOPAC and SPREP). The guidelines for EIA of transport infrastructure used by the ADB, ESCAP, the World Bank and donor countries are also relevant to Pacific island countries.

Labour-based methods for maintenance of rural roads are being used in some of the Pacific island countries with assistance from bilateral donors and ILO.

#### **Communication Facilities**

For many isolated communities, communication facilities have been installed and improved dramatically in the last decade. These include telephone communication facilities with capacity to provide 24 hours' services. Radio and television broadcasting services are in operation in about three-quarters of the countries of the island region.

## ***Regional Initiatives***

### **Transport Services and Facilities**

Overall coordination of air and sea transport activities within the Pacific island countries is carried out by the Civil Aviation Division and Maritime Division of the Forum Secretariat respectively. Service providers are also actively involved through the South Pacific Ports Association (SPPA) and the Association of South Pacific Airlines (ASPA). The two bodies and the Pacific Forum Line work closely with the Forum Secretariat.

ESCAP is assisting in the development and implementation of a computerised port management information system. This system is now operational in six countries.

The donor community and international agencies such as ESCAP, ICAO, IMO, ITU, UNCTAD and UPU are expected to continue supporting the efforts of the countries to set up statutory bodies regulating private sector involvement in port operations. Assistance in rationalisation of air services has been provided under bilateral and multilateral arrangements and from international agencies such as ICAO.

### **Communication Facilities**

The Pacific Sustainable Development Network Project has spent the last 18 months establishing an effective communication network and encouraging appropriate communication technology in 3 countries.

PEACESAT is used widely in the Pacific for tele-conferencing, exchanging data and information on environmental and resource management.

The use of the INTERNET is increasing in the region through a range private and public sector initiatives but the connectivity of island countries is still limited.

## ***The Way Ahead***

In all modes of transport, there are problems related to maintenance, the availability of spare parts due to isolation, and training opportunities for technicians. In targeting development assistance, priority should be given to ensuring that existing facilities receive increased maintenance funding rather than creating new assets.

In civil aviation, there continues to be the need to improve the infrastructure in terms of new and better equipment and the provision of adequate maintenance support to ensure equipment performance are reliable in compliance with internationally accepted standards. There is need to review and update the Civil Aviation legislations with the view to the region adopting harmonised Civil Aviation technical regulations to provide the legal

framework to ratify and abide by all international aviation conventions to facilitate safe and economic operations. There is continuing requirement for human resources development tailor-made to suit island requirements.

Action is also required to ensure transport policies and strategies are developed and maintained to minimise any harmful effects to the environment. These include:

- preparation of a comprehensive assessment of transport related environmental issues;
- studies of experience in which environmental problems caused by transport have been overcome;
- seminars and workshops to create awareness and to impart training to the concerned authorities, media personnel and “opinion-makers”.

## **Chapter 13 - Science and Technology**

### ***Context***

Science plays a crucial role in guiding and monitoring sustainable development. The limited capacity of Pacific island countries to access and utilise developments in science adds another dimension to their vulnerability, and the countries are acutely aware of this.

Pacific island countries appreciate the uncertainty in science's understanding of human impact on the environment - particularly in relation to global warming and sea level rise. The current stock of scientific information, and the ability of Pacific island countries to update information and data is inadequate for the long term.

A substantial proportion of island peoples survive on traditional knowledge and its application. This knowledge is being threatened in societies increasingly driven to adopt global technologies and scientific understanding. A better integration of global and traditional Pacific knowledge is therefore required. Scientific research and the documentation of traditional scientific knowledge is sometimes further hindered by lack of guidelines for the ethical conduct of research. The scarcity of local scientists and reliance on expatriate researchers often result in the loss of research information to the countries of the researchers.

The intimate relationships between technology choices, the development process, and the environment, will require that the management of sustainable development be science based. For this to occur, decision-makers in Pacific island countries need to possess a basic literacy in science, and the dire lack of all classes of natural scientists in our countries must be overcome.

Current reward systems within island countries neither encourage the brightest students towards careers in science, nor ensure those already within science remain. Current training in science within the Pacific islands is inadequate, both in numbers of scientists produced and in range of areas covered, for these countries to meet minimum requirements for science-based management of sustainable development.

Despite the substantial efforts made globally and within this region for development and for transfer of environmentally sound technologies, the small size and other circumstances of Pacific island countries restrict their abilities to develop endogenous technologies, and they are therefore heavily dependent on imported technologies. Often the overriding criteria is affordability. Thus they risk dumping of inappropriate and/or substandard products on their islands. Much of the technology introduced either remains unassessed or has never had a fair trial through lack of trained personnel and appropriate management infrastructure.

### ***National Examples***

The science and technology infrastructure in Pacific island countries is in general very limited. The tertiary sector comprises two universities in PNG, and a regional university, the University of the South Pacific, based mainly in Suva, Fiji, but with distance education facilities and some units in other countries. In addition there are a number of national institutions which have limited capabilities especially in science.

Coordination arrangements for science and technology vary from country to country. Two countries include science as a portfolio linked with education. Other countries, including at least one small one, make science & technology coordination the responsibility of departments like national planning or the Prime Minister's department. In a number of countries there appears to be no effective coordination mechanism at all. Because the countries are so small, S & T management approaches used in larger developing countries cannot be used, except perhaps in PNG and Fiji. One important function is screening of external researchers who wish to work in the country to ensure that national and individual interests, including intellectual and other property rights, are respected. There is minimal private science and technology research except for some NGO interest.

The production of National Environment Management Strategies throughout the region, and the work of NEMS national task teams, have served to identify many applied research and technology needs. For example in the Marshall Island NEMS, strategy 5.5 is to establish a groundwater assessment program. In Western Samoa there is a strategy item to develop knowledge and improve understanding in almost every sectoral area - under marine resources the strategy is to establish facilities to collect, analyses and disseminate marine resources information; to conduct studies to strengthen

the sustainable management of marine biodiversity; and to encourage and support research programmes on marine resources. Many more examples could be given. Overall, the NEMS provide the best starting point for identifying S & T needs and enhancing S & T capabilities in Pacific island countries.

### ***Regional initiatives***

The South Pacific Forum Secretariat represents its island member countries on the Pacific Economic Cooperation Council (PECC), a business/ government/ research body that often provides input to APEC, Asia-Pacific Economic Cooperation. The Forum was responsible for submitting a Pacific Island Nations entry to the 1995 Pacific science and technology profile published jointly by PECC and APEC.

UNDP considered science and technology for inclusion in its Capacity 21 programme in the Pacific, but this was dropped due to financial constraints before it had been satisfactorily formulated. The UNDP funded Pacific Sustainable Development Network, implemented by SPC, has potential to meet some scientific information needs in the region.

Some regional organizations besides USP and SPREP conduct scientific activities in particular fields, notably the Forum Fisheries Agency, the South Pacific Commission and the South Pacific Applied Geoscience Commission. These are detailed in other chapters.

### ***International Highlights***

Most international scientific programmes in the region support specific sectors and are detailed under the corresponding chapters.

UNESCO has a broad mandate to cover both natural and social science issues, including links to education and culture, and over many years has been a leader in promoting national and international management of science and technology. The limited funding available to the Pacific through UNESCO Office Apia, Western Samoa, is mainly focused on individual science sectors.

### ***The Way Ahead***

Due to the small scale and limited resources of almost all Pacific island countries, any attempt to impose common models of S & T management used in larger countries would be unlikely to obtain in-depth support within governments and scientific communities, and would achieve little.

The preferred approach must be to build on existing regional communities of expertise in specific application areas such as agriculture, water resources and marine science, and to mobilize the interest of science educators in broader

issues of science and sustainable development. As detailed above, and in other chapters, many existing programmes contribute to this.

The NEMS, and successor efforts to integrate environmental management with national economic and development planning, form a good basis for identifying national science needs. The advantage is that science & technology activity becomes an integral part of the development process. The danger is that in treating science at a national sectoral level, cross-sectoral and regional synergies may be overlooked. A need for research or scientific support services may be too peripheral to mention, or too costly, for a single sector in a single country. Cross-sectorally in the country, or regionally, investment to meet the need may be entirely justified. The application of GIS systems is a good example of this. Effective mechanisms are needed to identify and reach decisions on such synergetic actions. Both regional and international organizations can act as catalysts.

Certain elements, such as technology assessments, or actions to promote effective private sector application of technological developments, may still be overlooked. Nationally, periodic limited term reviews may be more effective than a standing committee for tackling such issues.

Relevant regional organizations (Forum Secretariat, SPREP, USP) and international organizations (UNDP, ESCAP, UNESCO) could collaborate to:

- define a simple framework for the conduct and follow-up of national reviews of S&T activities in small island countries, and test this in a sample of Pacific nations. The framework should take account of all sections of the population including women, children, youth, the elderly, subsistence farmers and fisher people, grassroots communities, NGOs, and the private business sector, as well as government.
- assist other Pacific island countries to adapt this framework to their specific situation, and to use it to review their S & T activities in relation to environmentally sound and sustainable development.
- assist individual countries and the region to effectively decide and implement science actions identified by these reviews.

The above actions should as far as possible be integrated with existing planning and development processes and mechanisms. The aim should be to give the national Government ministries the ability and tools to know with confidence that S&T issues in their country have been taken into account in their planning for sustainable development, and that they are not missing any important opportunities.

## **Chapter 14 - Human Resource Development**

### ***Context***

The activities in this chapter of the Programme of Action cover a wide range of different issues that have been summarised under five different headings:

- Education and Traditional Knowledge
- Impact of Urbanisation
- Population/Health Issues
- Strengthening the Role of NGOs and Women

### **Education and Traditional Knowledge**

Educational standards are inadequate in many Pacific island countries, most especially in the five Melanesian states, PNG, Solomon Islands, Vanuatu, New Caledonia, and Fiji. For example, three-fifths of Vanuatu's primary school age population do not enter secondary school, due to cost, or entry standards. Less than 1% of the age group will receive tertiary education.

Planning for formal education has not taken into account the impact of rapid population growth. Most Pacific island countries suffer from insufficient schools, teaching materials, texts and teachers.

School curricula and materials used in most Pacific island countries originate from developed countries and are not necessarily relevant to the local situation. Development of a more relevant curriculum has been a topic in a number of countries (such as the Solomon Island's "Education for What" debate nearly two decades ago).

Non formal education can help provide many of the skills needed for both urban and rural livelihoods. Rural Training Centres (RTCs) in Fiji, the Solomon Islands, Vanuatu and PNG have been doing this for up to twenty years. Growth of these centres has not, however, kept up with the population growth. Despite its importance, non formal education currently accounts for a small part of the educational budget in Pacific island countries. A considerable amount of non-formal education is being carried out by NGOs and this is focused on enhancing NGO management systems and in developing NGO capacity.

### **Impact of urbanisation**

Although Pacific towns and cities are small by world standards, most are growing in population, as well as economically and in the amount of and they require. They are facing issues of primacy, social change, overcrowding and housing density, environmental degradation and growing inequities. Pacific countries are becoming increasingly urbanised and less rural in their focus than even a decade ago. By the early 1990s only five countries (PNG,

Vanuatu, Solomon Islands, Niue and Western Samoa) had less than a quarter of their population living in urban areas, and seven countries were more than 50 per cent urban.

In most cases the growth rates for urban populations are higher than for national populations. The trends are not surprising given the nature of economic and political developments in the past decade. Migration to urban areas is a response to these developments and is a significant component of urban growth but the towns also grow due to natural increase. The 'town' for a growing number of Pacific Islanders is home to a second and even third generation.

Urbanisation trends in the Pacific are likely to continue. Decentralisation and rural resettlement schemes have been tried with varying success. Despite schemes for repatriating people to rural areas not everyone has a village to return to and thus the problems facing urban areas will continue to grow. Increasing urban poverty and environmental degradation are becoming obvious. The urban areas of the Pacific are manifesting lifestyles and conditions which were unheard of as recently as 20 years ago. Health problems related to living conditions are increasing. For example in Fiji the number of new tuberculosis cases is growing annually; in most of the Pacific dengue fever is a major problem with periodic epidemics responsible for a number of deaths. Illnesses related to water supply and sanitation are prevalent, especially in informal settlements where dwellers are living in marginal locations with inadequate waste disposal, potable water and sanitation.

### Population/Health Issues

Most Pacific island countries have populations with moderate to high rates of growth. Over the last decade, population growth rates have remained steady or increased. Population growth is a significant concern but not the only one. It is part of a complex mixture of economics, social and environmental change and government policy. Population will not be the only cause of environmental degradation but it may speed worsen the consequences of poor resource management.

There is an unequivocal link between the changing diets from traditional island foods and the incidence of life-style diseases throughout the Pacific island region. Thirty per cent of all Pacific islanders now live in urban areas, where they are compelled to eat less nutritious (generally imported) foods. Cardiac diseases, diabetes and other non-communicable diseases are the leading causes of death in the region with Guam, PNG, Nauru and Fiji leading the rest of the Pacific islands in this aspect of morbidity.

Tuberculosis and malaria, which were under control, have returned. Changing values and habits account for an increasing number of deaths from suicide and accidents, and increasing problems from excessive alcohol



consumption and crime. A handful of countries have reported AIDS cases and with the exception of four countries, there are growing numbers of HIV-positive victims.

Efforts to combat declining health have not been successful. Health services are generally inadequately equipped and staffed. Low salaries and morale are contributing to staff resignations and job-seeking elsewhere, including overseas.

### Strengthen Role of NGOs and Women

The status and position of women in Pacific island countries varies considerably among Polynesia, Melanesia and Micronesia due to factors such as culture, tradition, colonial history and stage of socio-economic development. Some Pacific women are well-educated and enjoy relatively good health and quality of life while others have limited access to basic social services and the resources necessary for survival. The illiteracy rate for women, for example, is estimated at 2% or less in most of Polynesia but is higher than 50% in some parts of Melanesia.

Generally there has been slow, but steady, progress for women in the Pacific. As more women are educated they enter the professional work force in greater numbers. More and more women are learning to use their legal rights. Women entrepreneurs are receiving assistance from special credit and training schemes. The changes come slower to the most disadvantaged and isolated women, but policies and programmes are commonly directed towards those most in need.

The church has enormous influence in the Pacific islands and some denominations have already begun liberalising their hierarchies. For example, in the Fiji and Samoa Anglican churches there have been deaconesses for some time, and recently a minister in Fiji. The Presbyterian Church in Vanuatu, has also recently ordained its first woman pastor.

Church women's groups with widespread membership have long been actively assisting women to improve the family's standard of living. Throughout Pacific island countries new non-governmental organisations are joining the traditional church women groups in working for women's development.

National Councils of Women are established in all Pacific island countries and in most countries serve as the umbrella women's organisation. They collaborate with national women ministries and other departments contributing to national policy-making on women.

## ***14.2 National Examples***

### Education and Traditional Knowledge

It is difficult to focus on environmental education when basic literacy and numeracy are at such low levels throughout much of the Pacific. Environment-specific curriculum in schools is, therefore, not common throughout the Pacific, although environmental concepts and sustainable development issues are introduced at primary, secondary and tertiary levels.

Non formal or public education is carried out at the national level through specific campaigns and more generally during “Environment Week”, an annual event in many island countries. Fiji, for example, has held Environment Week since 1988 which coincides with Global Environment Day. An Action Group ensures the Week's activities are coordinated nationwide and allows participation by both urban and rural organisations. The activities have become long term ongoing activities rather than limited to the initial week long activities.

The traditional knowledge and culture of Pacific peoples is both challenged by and contributes to sustainable development in the region. While it has not been possible to report in detail on activities in this area, some examples include

- The Fiji Ministry of Education has undertaken seminars and workshops for teachers and other trainers on the effects of developments on the environment and on traditional lifestyles. Environment education and awareness committees have also held seminars and workshops to discuss the sustainable development concept with community groups.
- The Pacific Concerns Resource Centre (Fiji) and the South Pacific Action Committee on Human Ecology and the Environment (SPACHEE) have recently convened a traditional medicines workshop.

### Impact of Urbanisation

In Fiji, an approach that addresses both socio-economic and environmental issues at the local level is Primary Environment Care (PEC). This is a process by which local communities with some external support, organise themselves and use of their own means and capacities, such as their knowledge, technologies and practices, to care for their environment while taking care of their own needs. PEC encompasses basic economic development activities including income generation. The Low Income Participatory Environment Care Project is developing ways to involve members of low-income urban communities in managing their environments better. The project, funded by UNDP and implemented by the NGO, the South Pacific Action Committee for Human Ecology and the Environment (SPACHEE) has been working in several urban and peri-urban settlements in Suva and may shortly extend its work to Kiribati. The project has been extremely successful in developing gardening and yard cleaning services, the production and sale of compost, improvement in sanitation to name a few.

Another recent success story is the Self-build Low Income Housing project in South Tarawa, Kiribati. This is operated jointly by the Kiribati Housing Corporation (KHC) and two NGOs Karikirakean Mwengaraoi Kiribati (KMK) and Kometen Toronibwai Mwengan (KTM) with British ODA and KHC providing start-up funds. The project focuses on the difficulties of urban communities in obtaining basic shelter with access to clean water, sanitation, hygienic cooking areas and power. There is a strong emphasis on community consultations and a concern that outer islands must also participate in the project to take the pressure off the already overcrowded urban area of South Tarawa.

In Western Samoa the urban youth survey funded by ESHDP, UNDP and executed by the Department of Statistics, aims to clarify the situation of urban youth by developing a statistical base for the design and monitoring of youth based projects. The data collected include health, nutrition, economic activities. The study is important in providing basic data for projects targeting urban youth who are perceived as group with special needs in the urban context.

#### Strengthening NGOs/Women

In 1995, six countries in the Pacific region (Fiji, Cook Islands, Niue, Western Samoa, Papua New Guinea and Vanuatu) ratified the Convention on the Elimination of all forms of Discrimination Against Women. At the recent Beijing Conference, all countries produced a country paper and all are working on a National Platform of Action.

All Pacific island countries' governments have a "Women's Office" (generally a division or department within a larger ministry). The role of these offices is changing from providing welfare programmes to providing strategic advice and policy. For example, the 1995-1997 Corporate Plan of Fiji's Department for Women and Culture specifies providing policy advice to Government as a primary role. The Papua New Guinea Government is also main-streaming gender issues by providing gender awareness training to various government departments and community groups throughout the country. They have produced a National Policy on Women and a programme on human resource development.

#### ***Regional Initiatives***

In 1995, Ministers of the region adopted the Suva Declaration on Sustainable Human Development which provides a sound platform for people-centred sustainable development. The Declaration contains 15 priority areas of action to be carried out by Pacific Island Countries covering:

- Enhancing the productivity of the Rural and Subsistence Sector
- Promoting Participatory and Community-Based Development

- Improving Access to Land
- Expanding Employment and Livelihood Opportunities in the Rural and Subsistence Sector
- Addressing Inequality and Emerging Poverty
- Overcoming Disparities Due to Geographic Locations
- Promoting the Advancement of Women
- Ensuring Youth Involvement and Development
- Supporting Population Policies and Programmes
- Supporting Environmental Regeneration
- Promoting Preventative and Primary Health Care
- Ensuring the Relevance of Formal and Non-Formal Education
- Establishing Effective Governance
- Financing Human Development
- Monitoring Human Development

#### Education and Traditional Knowledge

At the regional level a number of agencies are involved in providing assistance towards building the technical capacity of Pacific island countries in the area of economic and financial management, policy formulation as well as development planning. The World Bank has been active through EDI and the USP in providing short-term training courses in the economic and financial management areas. The World Bank regional and sectoral studies have become useful inputs into the improvement of the development strategies in the region. The Pacific Finance Technical Assistance Centre has provided assistance in key areas of budget reform, taxation, banking and finance and balance of payments statistics. UNDP has provided technical assistance and training during fourth cycle of the UNDP Pacific Regional Programme. ESCAP/POC (Short-Term Advisory Services/STAS) and the Forum Secretariat's Short Term Advisory Service have provided rapid short-term technical assistance in any area considered critical for the development of individual countries

The University of the South Pacific offers an undergraduate Bachelor of Science in Environmental Studies degree which is an interdisciplinary programme. Student roll in this programme has increased substantially in the last two years. The demand for an equivalent Bachelor of Arts in Environmental studies degree has prompted the development of the courses several other degree, non-degree, post-graduate courses in environmental studies are being taught at the USP. Several of these are offered through the Extension Centre and available from the USP Centres in the 12 USP member countries.

The SPREP Environmental Education Programme has held priority setting workshops in eleven Pacific island countries. Training programmes have been developed to implement these priorities addressing the needs identified by the country. For example logging in the Solomon Islands and marine resources in Vanuatu.

The UNESCO-UNDP-UNICEF-AusAID Basic Education and Life Skills (BELS) programme executed by USP is working to strengthen basic education, including literacy, in the region. At the request of the region, UNESCO and USP have led the formulation of a Science Education in Pacific Schools proposal. This would extend the BELS work to give all Pacific school children a basic understanding of science in relation to their own situation and culture. Both projects aim at supporting teachers and communities to achieve real progress in educating children for a sustainable future. This is fundamental to overcoming present human resource shortages in science based disciplines.

Non formal education activities are supported by a variety of UN agencies, regional organisations, national government agencies, and NGOs. The activities range from ESCAP's initiatives in human resource development and ILO's Start/Improve Your Business (SYB/IYB) programmes to the Foundation for the Peoples of the South Pacific's (FSP's) introduction of Participatory Rural Appraisal (PRA) and Profitable Environment activities in Vanuatu, to the Republic of Nauru's expansion of its youth activities to include small business training.

An Australian initiative is seeking to raise awareness about non-formal education and its capabilities in Melanesia. This began this past year with a survey, a workshop (in Port Vila in April) and support for follow-up activities at the national level (for example, coordination for curriculum development).

UNESCO, with the support of SPREP and UNDP, has developed a proposal for a Pacific Environmental Information Network to improve media dissemination of environmental messages. UNESCO's Vaka Moana programme also supports regional activities in the preservation and application of traditional knowledge and culture.

### Impact of Urbanisation

Low-income groups in urban areas are also one of the target groups of the regional water and sanitation programme executed by UNDP, and implemented by SOPAC. The rapidly expanding requirements of industry and growing urban populations puts large demands on water and sanitation services. In some places excessive groundwater use is also causing saline contamination of freshwater lenses and aquifers. The programme aims to improve access to safe water supply and sanitation in disadvantaged communities, develop institutional and individual capacity etc. It has been successful in producing water and sanitation plans for Marshall Islands,

Kiribati and Tuvalu where local communities, including unemployed youth, have participated in developing water and sanitation facilities for their own household and communities.

Through UNDP and UNCHS the Pacific is also producing a regional report for the United Nations Conference on Human Settlements (HABITAT II) City Summit to be held in Istanbul in June 1996 in which the state of human settlements and urbanisation in the Pacific Islands will be presented, along with an example of 'Best Practices' for each country. The Best Practices highlight successful and innovative solutions to urban problems. It is intended that the best practices will provide positive building blocks towards achieving sustained improvements in the quality of life and living environments of people.

### Population/Health Issues

The South Pacific Commission is the main organisation active in technical-assistance delivery and in support of national efforts in health. It continues to provide timely support as with outbreaks of cholera and dengue fever in some countries. It also monitors HIV and AIDS throughout all 22 Pacific island countries and conducting anti-AIDS campaigns and awareness programmes.

The South Pacific Commission (with UNDP, UNICEF and WHO), also implements programmes in nutrition, household food security, environment health and epidemiology.

### Strengthening NGOs/Women

The Pacific Platform of Action, emanating from the Conference on Women and Sustainable Development held in Noumea, New Caledonia, May 1994, highlighted 13 key issues to be addressed:

- Health,
- Education and Training,
- Economic Empowerment,
- Agriculture and Fishing,
- Legal and Human Rights,
- Shared Decision Making,
- Environment,
- Culture and the Family,
- Mechanisms to Promote the Advancement of Women, Violence,
- Peace and Justice,
- Poverty,

- Indigenous People's Rights.

The UNIFEM Pacific Main-streaming project, *Mainstreaming Gender Concerns Among Indigenous Institutions*, has commenced in four pilot countries.

Seminars for have been run women politicians in the Pacific island countries.

The South Pacific Commission has been instrumental in networking throughout the region; coordinated the region's preparations to the Beijing Global Conference on Women and mounted three subregional workshops for all Pacific island countries.

The Equitable Sustainable Human Development Programme (UNDP, Suva) has micro-credit schemes in Vanuatu and Western Samoa which enable women to obtain small loans with little collateral.

The SPC Media programme and the UNESCO Communication Programme assist in building media infrastructure and in training journalist and technicians for the print and broadcast media.

### ***International Highlights***

- The Beijing Global Conference on Women in 1995 provided the impetus for the ratification by some Pacific islands of the Convention on the Elimination of all forms of Discrimination Against Women.

### ***The Way Ahead***

Human resource development is one the most critical pillars of sustainable development for the Pacific region. The range of activities required to strengthen education, foster traditional knowledge, ameliorate the impacts of urbanisation and empower NGOs and women, defy any succinct listing of priorities. Broad regional positions on human resource development have been elaborated recently, for example, the Suva Declaration on Sustainable Human Development. However, the way ahead is best described by strategies developed at the national level.

## **Chapter 15 - Implementation, Monitoring and Review**

### ***Context***

Effective implementation, monitoring and review of the Barbados Programme of Action are integral to the sustainable development of Pacific island countries. For the range of activities identified within the Programme of Action to be implemented, it was agreed in Barbados that special attention should be paid to finance, trade, technology transfer, legislation, human resource development and a vulnerability index for island countries. As a number of these have been dealt with sufficiently in earlier chapters, only the

issues of financial resources, the vulnerability index and institutional arrangements for reporting are examined in this section.

### ***Financial resources***

It has not been possible to determine the extent of access to or mobilisation of financial resources necessary for the implementation of the the Barbados Programme of Action in the Pacific. In terms of the approaches outlined under this section of the Programme of Action, some progress has been made.

At a national level, there are indications that a greater proportion of national budgets have been mobilised for environmental management and sustainable development. For example, staffing levels of environment units have been increased in all Pacific island countries (see Figure 1) at a time when government indebtedness is high in some countries and when there is pressure to reduce employment in the public sector. The use of economic instruments in relation to environmental protection is being examined, note regional dimension

At a regional level, support for environment-related initiatives has continued to strengthen. The total expenditure of the region's environment programme, SPREP, has doubled since 1991 to USD6 million.

At the international level, particular attention has been focused on the Global Environment Facility in accordance with the Barbados Programme of Action. To date, Pacific island countries have been recipients of GEF assistance during the pilot phase (USD10 million for biodiversity conservation) and are awaiting final approval for USD3.3 million from the replenished GEF for climate change "enabling activities" (PICCAP and CC:TRAIN referred to in Chapter 1). Additional resources will be sought for the implementation of a Strategic Action Plan for the protection of international waters that is currently in preparation.

### ***Vulnerability Index***

A Vulnerability Index has been compiled by the ESCAP/Pacific Operations Centre to measure relative unsustainability of Pacific island countries. Trial computations have been run for some countries using selected indicators of openness to external economic conditions, remoteness and insularity, proneness to disasters and financial dependence. With the expected improvement in the collection of data and statistics from Pacific island countries and, particularly, indicators on ecological fragility, it might be possible to produce a reasonably refined vulnerability ranking for countries in the region.



## ***Institutional arrangements, monitoring and review***

### The Advisory Committee

In accordance with paragraph 132 of the Programme of Action, heads of Pacific governments at the 25th South Pacific Forum, 1994, agreed to establish a regional mechanism to **coordinate and facilitate the implementation of the Barbados Conference** outcomes.

The Forum further agreed that such a mechanism should consist of a support unit, utilising the resources and services of SPREP and the ESCAP Pacific Operations Centre (ESCAP/POC), and an **advisory committee composed of senior policy officials**. In response, the Seventh SPREP Meeting, October 1994, recommended the modalities to the 26th South Pacific Forum. The third session of ESCAP's Special Body on Pacific Island Developing States, April 1995, has called on the ESCAP Secretariat, in collaboration with SPREP, to develop a mechanism along these lines to effectively perform the monitoring role it has been assigned.

### Activities Database

At the heart of the mechanism is a database of activities to implement the Programme of Action for the Sustainable Development of Small Island Developing States. This will ultimately include measures of ecological sustainability, currently under development in SPREP with the assistance of UNEP, and indicators of social and economic sustainability of Pacific island countries by the ESCAP/Pacific Operation Center. The Regional Monitoring Information System (RMIS) based at ESCAP/POC in Vanuatu, will consist of:

1. a network of end-users for the information;
2. a system and procedures for collecting data by governments, aid agencies and regional organisations;
3. sifting and entry of data and information into RMIS databases;
4. data and information analysis and packaging conclusions for dissemination to PICs policy makers.

In line with the decision to proceed step-by-step, ESCAP/POC has begun collection of performance indicators in a few selected economic and social sectors.

The state of data collection in the Pacific island region is generally poor. Only in a very few countries, data collection and analysis is satisfactory in terms of consistency and frequency of reporting. This calls for training not only in the types and form of data to be collected but also, more crucially, in incorporating would-be collectors into a region-wide system or computer network that routinely generates and exchange data and information. Some

progress in this area has been achieved by the UNDP/SPC Sustainable Development Network (SDN) in Suva and, in particular, the computer network PACTOK.

### Regional Reviews

The frequency of Advisory Committee meetings will be determined as considered appropriate and necessary and in conjunction with the Barbados review schedule.

### **Conclusions**

It is difficult to summarise a summary except in the broadest terms. It is clear that the Pacific region is faced with a number of fundamental social and economic challenges that are inseparable from the environmental issues that have received much attention in recent years. The region must deal with macroeconomic issues including high inflation rates, mounting balance of payments deficits, falling external reserves, and public sector deficits pose serious threats to national development. Pacific island countries must ensure good public sector financial management, maintain credible banking systems, improve planning and policy coordination, ensure accountability and take strategic decisions concerning trade development with the globalisation and liberalisation of trade and the advent of the World Trade Organisation.

**[Pacific Island governments need to give high priority to achieving lasting financial equilibrium as a key condition of sustainable high quality social and economic development. This requires an effective public sector whose size is influenced by the countries' stage of development. An appropriate revenue base has to be created by an effectively administered broad based tax system to underpin fiscal stability. An adequate legislative system and appropriate institutional arrangements have to be in place to allow for the preparation of strategic development plans that identify pertinent objectives for each major sector of society and the economy and the linkage of the latter to the budget process so that resource allocation to agencies is consistent with policy priorities; clear accountability has to be established for budget execution, through appropriate budgeting, accounting, expenditure control and personnel management systems, with the latter ensuring recruitment and retention of qualified staff; appropriate institutional arrangements and procedures have to be in place for the corporatization and eventual privatisation of commercial operations in the public sector and for setting appropriate performance objectives for public enterprises and the monitoring of their implementation.]**

**Effective financial intermediation to support a sustainable development process has to be facilitated by a banking system based on appropriate bank licencing, regulation, and supervision systems, removal of impediments and creation of a favorable environment for the operation of credit cooperatives and the development of a diversified capital market.]**

While these challenges are formidable, the region has clearly taken what steps it can, both nationally and regionally, and with the support of the international community to implement the Barbados Programme of Action.

Significant progress is being made in the areas of climate change, waste management, energy resources, biodiversity conservation, national institutions and administrative arrangements, and regional cooperation. These priorities are benefitting from the commitment of Governments and the financial assistance of development partners.

More effort appears to be required in the areas of natural and environmental disasters, coastal management, freshwater resources, land resources, tourism resources, transport and communication, science and technology and, essential to all of these, human resource development.

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