Fifth South Pacific Conference on Nature Conservation and Protected Areas

4 - 8 October 1993

Volume 2: Conference Papers

South Pacific Regional Environment Programme

Original Text: English

Published in November 1993
by:
South Pacific Regional
Environment Programme
P.O. Box 240
Apia, Western Samoa

Printed by:
Commercial Printers
Apia, Western Samoa

P 42/93 - 3.5C

Printed with **financial assistance** from the
Global environment Facility (GEF) through the
United Nations Development Programme (UNDP)

USP Cataloguing-in-Publication Data

South Pacific Conference on Nature Conservation and Protected Areas (5th : Nuku'alofa, Tonga)
Fifth South Pacific Conference on Nature Conservation and Protected Areas. Volume 1, Conference report, 4-8 October 1993, Queen Salote Hall, Nuku'alofa, Tonga. - Apia, Western Samoa : SPREP , 1993.

vi, 49p. : 29 cm.

ISBN: 982-04-0004-X

1. Nature conservation - Oceania - Congresses 2. Conservation of natural resources - Oceania - Congresses 3. Environmental protection - Oceania - Congresses I. South Pacific Regional Environment Programme II. Title

QH77.O3S68 333.72'0995

(Front Cover Photo: SPREP

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NUKU'ALOFA, Tonga

Published in Apia, Western Samoa
November 1993

Foreword

The Fifth South Pacific Conference on Nature Conservation and Protected Areas held in Nuku'alofa, Kingdom of Tonga, on 4-8 October 1993, continued the series of conferences held in New Zealand (1975), Australia (1979), Western Samoa (1985) and Vanuatu (1989). Until the conference in Western Samoa, the series was known as the 'National Parks and Reserves' conferences. At the Western Samoan conference the name was changed to the present one, to better reflect the importance of the wider issues of biological diversity conservation to the region.

Decision-makers throughout the region are recognising the vulnerability of island environments to the rapid loss of biological diversity from growing human populations and introduction of new technologies. At the same time, it is apparent that without the integral involvement of local communities, conservation of biodiversity in the region will fail. In recognition of these needs, the theme for the Fifth Conference was "community involvement in conserving biodiversity in the South Pacific Region".

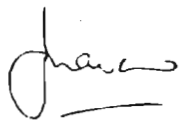
There have been a number of achievements in conserving the biological diversity of the region since the Fourth Conference in 1989, such as the coming into force of both the SPREP and Apia Conventions; the increasing number of Pacific island countries which have signed or ratified the international Convention on Biological Diversity (which came into force on 29 December 1993); and the increasing number of joint government, non-government and local community biodiversity conservation projects - many of which are described in these volumes.

In light of these major achievements, together with other regionally and locally significant events, Pacific Island countries must be commended. However there is no time for complacency. Conserving the region's biological diversity will continue to require urgent and ongoing action at all levels, from development and implementation of international conventions and agreements, through to local community involvement and control. The messages from the conference are clear - in particular the need to continue and improve the partnerships between government and non-government organisations and local communities, by building mutual trust and respect, and by giving priority to listening to local people. The challenge is to ensure that the right messages reach all people in the region, as well as encouraging support from people and organisations throughout the world.

The Conference reports comprise two parts. Part I covers the Conference proceedings, including the opening and closing sessions and resolutions, and summarises all the papers. Part II contains working papers, key issue papers, case studies and information papers presented in full.

Finally, I wish to express thanks to the sponsors of the Fifth Conference, to the Kingdom of Tonga for hosting the conference, and to the Federated States of Micronesia for offering to host the next conference.

I wish us all well in our continuing efforts to conserve the biodiversity of the region.



Vili Fuavao

Director, SPREP

Acknowledgements

SPREP gratefully acknowledges the major sponsor of the Conference: the South Pacific Biodiversity Conservation Programme (SPBCP), funded by the Global Environment Facility (GEF) through the United Nations Development Fund (UNDP). The Conference and/or its participants was also kindly sponsored by the Australian Nature Conservation Agency (ANCA), the Australian International Development Assistance Bureau (AIDAB), the Convention on International Trade in Endangered Species Secretariat (CITES), the Australian Department of Environment, Sport and Tourism (DEST), the International Union for the Conservation of Nature and Natural Resources (IUCN), the New Zealand Maruia Society, the United States Agency for International Development Biodiversity Support Program (US AID's BSP), and the World Wide Fund for Nature (WWF).

SPREP also thanks the Kingdom of Tonga for hosting the Conference.

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Introduction

The high biodiversity values of the South Pacific, with its more than 2,000 ecosystems including flora and fauna found nowhere else in the world, have been mentioned and written about again and again. So have the particular threats to those biodiversity values experienced in the small countries and territories of the region; in particular - growing populations, accelerating and inappropriate development and the inherent fragility of small island ecosystems dispersed over large areas of ocean, leading to the difficulty, if not impossibility, of restoring ecosystems and habitats once they have been damaged.

There is no doubt that there has been an enormous amount of progress made over the last few decades. The 1970s in particular was the decade of protected area establishment. The 1980s, while resulting in few protected areas 'on the ground', was a time of regional initiatives aimed specifically at stimulating their growth. 1985, particularly, saw both the Third South Pacific National Parks and Reserves Conference and the formulation of the (first) *Action Strategy for Protected Areas in the South Pacific*. 1989, of course, was the year of both the Fourth South Pacific National Parks and Reserves Conference and the review of the *Action Strategy*, resulting in the revision of the *Action Strategy for Protected Areas in the South Pacific* at that Conference.

Terminology

The terminology used in Protected Area debates has changed during this time, reflecting subtle shifts in thinking around the issues. The third conference was called the South Pacific National Parks and Reserves Conference. The change of name to Nature Conservation and Protected Areas, at the request of the IUCN at the 1985 Apia Conference, reflected the growing importance of the wider issues of nature conservation, not just national parks, to the region.

Protected area categories and their applicability to the region were a focus of discussion at the Fourth Conference. It was felt strongly that Pacific island countries needed a more flexible definition which recognised the dependence of the people on their environment and its resources for their subsistence. The delegates preferred to use the term 'Conservation Area' to 'Protected Area', considering this better defined the rationale of "management for resource conservation", or in other words, the incorporation of 'people use' into conservation thinking, which needed to occur if protective status was to be accepted on customary or traditionally owned lands in the region.

Now the more commonly used term is 'biodiversity'. This redefinition of 'nature conservation' underlines the range of both intrinsic values and human uses to be found at every level from ecosystem to gene. Use of the term is a recognition that protected areas are a means to an end - that of conserving biodiversity - not an end in itself. The terminology has become common at international level, including amongst donors, which of course leads to a parallel use of the same terminology at the level of governments and community seeking funding support. So we now have everything from a region wide South Pacific Biodiversity Conservation Programme, to national Biodiversity- instead of Botanical - Gardens.

Conventions

The status of the regional and international conventions associated with the protection of biodiversity are a good indicator of progress over the last four years.

The Convention on Conservation of Nature in the South Pacific (Apia Convention), which was completed and opened for signing in June 1976, finally received the requisite four signatures and came into force on 26 June 1990, fourteen years after its negotiation. The convention currently has five parties - Australia, France, Fiji, Western Samoa and the Cook Islands.

Unfortunately, it does not seem that many other SPREP member countries are working towards its ratification. In fact there is a general perception that the Convention is outdated. Nevertheless, until the negotiation of the International Convention on Biological Diversity, which has not yet come into force, the Apia Convention provides the only legal framework in the region for the conservation of ecosystems and their components, including marine ecosystems.

The Convention for the Protection of the Natural Resources and Environment of the South Pacific (SPREP Convention), and its associated protocols on dumping and cooperation in pollution emergencies, is an umbrella agreement designed to prevent and control marine, coastal and atmospheric pollution. Adopted in 1986, it was ratified by the required ten countries by August 1990, and has now come into force.

The International Convention on Biological Diversity (Biodiversity Convention) was opened for signature on 5 June 1992, during the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil. The objectives of the Convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. In relation to the conservation of biological diversity, the Convention covers general measures for conservation and sustainable use (such as the preparation of strategies and plans); the need for identification and monitoring of both the components of biodiversity and activities which may cause adverse impacts to biodiversity conservation; *in-situ* and *ex-situ* conservation; research and training; the need for incentives; and education and public awareness. As of July 1993 five of the fifteen Pacific Islands countries had ratified the Biodiversity Convention (Cook Islands, Fiji, Marshall Islands, PNG and Vanuatu), and another five signed it (Federated States of Micronesia, Nauru, Solomon Islands, Tuvalu and Western Samoa).

The Action Strategy

In contrast to previous conferences, countries and territories will not be making individual presentations on their progress towards the implementation of the *Action Strategy*. The intention was that suchinformation be provided to SPREP, to be incorporated into thus regional review. Many country reviews have been submitted. Participants have not been provided with a copy of these, but they can be perused at the SPREP Secretariat desk if anyone is interested.

The goals and objectives of the *Action Strategy* are listed below, together with some of the known projects and activities undertaken towards their implementation. The list draws heavily on those country reviews prepared for this conference which were submitted to SPREP prior to the completion of this paper. Activities carried out over the last 4 years are far too numerous to list in full, and in some cases only examples of the type of activities that have been occurring can be listed. In addition, some projects could be listed as achieving more than one goal or objective of the *Action Strategy*, but for the sake of brevity are only mentioned once.

There may well be omissions or mistakes in the following lists. If so, I would be very grateful to have these corrected prior to finalising this paper for the Conference Proceedings.

Action Strategy Goals, Objectives and Achievements

Goal A: *To incorporate nature conservation values and the concepts of self-reliance and sustainability into national resource management policies.*

Objective A.1 *To develop and implement where appropriate, national conservation and sustainable resource management strategies for specific countries within the region.*

The last four years have seen an impressive growth of acceptance of the concept of 'sustainable' resource development, worldwide as well as within the region. The Pacific Islands countries made a very significant contribution to the United Nations Conference on Environment and Development held in Brazil in June 1992. Pacific Island views and aspirations were documented in *The Pacific Way: The Pacific Island Developing Countries' Report to the United Nations Conference on Environment and Development.* In fact the value of the contribution from Pacific Islands was greater than the region's relatively small numbers of people and area of land would suggest. A tangible result of this effectiveness is the explicit recognition of the special needs of small islands in the form of, for example, the forthcoming conference on *Sustainable Development of Small Island States* to be held in Barbados in 1994.

National conservation and sustainable resource management strategies, in the form of National Environmental Management Strategies, are an increasingly accepted planning tool for integrating environment and development in the region. **The Cook Islands**, the **Federated States of Micronesia**, the **Republic of the Marshall Islands**, **Solomon Islands** and **Tonga** have prepared National Environmental Management Strategies with the assistance of the Asian Development Bank; **Kiribati**, **Nauru**, **Niue**, **Palau**, **Tokelau**, **Tuvalu** and **Western Samoa** with the assistance of a complementary UNDP-funded programme. All are in various stages of completion. **Vanuatu**, **Fiji** and **Papua New Guinea** have received separate funding for their NEMS processes.

These documents identify priorities for sustainable development. They have all involved a range of Government Departments and in many cases NGOs and community, and their preparation has therefore been an important educational process in itself.

Objective A.2 *To ensure national planning policies take account of population growth and increased pressure on limited land and other resources as major factors affecting nature conservation.*

SPREP has commenced a Population and Environment Project, funded by the United Nations Fund for Population Activities (UNFPA), the purpose of which is to assist the integration of population concerns in environmental management. It will help Pacific island governments and communities incorporate information about population composition, growth, and distribution into decisions they make about their environment. It also will ensure that population is well considered in SPREP's other technical programmes. The coordination of environmental and population concerns within SPREP will underscore to governments the essential nature of this partnership and provide a strong basis upon which to sensitise planners and other organisations about ways in which population and environment concerns can be integrated at all planning levels.

The Project will assist the coordination of national policy positions on population and on environment; help national environment departments by providing technical assistance; provide opportunities for nationals of the region to attend short-term training or research internships; assist research into population-environment interactions and into the progress of integrated planning; contribute to improved data collection and analysis, including the compilation of a bibliographic database; and give support to related information, education and communication activities. It will also establish an information exchange network between NGOs working to improve community-level environmental management; complement on-going community projects in areas of particular environmental stress by providing population inputs; and assist community groups apply for small loans or grants to secure long-term solutions to environment and development problems in their locality.

Solomon Islands is implementing its own national population policy.

Objective A.3 *To develop and implement processes and policies which promote self-reliance and the ability of countries and local communities to achieve sustainable resource management.*

There has been a great deal of activity towards the achievement of this fairly general objective. Institutional strengthening has been a component of most of the NEMS processes, particularly in the smaller countries. **Tuvalu**, **Tokelau** and **Niue** now have dedicated Environment Officers for the first time. **Kiribati** established an Environment Unit in 1991, and **Tuvalu** in 1992. In its newly formed Environmental Policy Unit, **Tokelau** has an Environmental Coordinator on each of its three atolls. Since 1989, the Division of Environment and Conservation in **Western Samoa** has grown from four to fourteen permanent staff, and other smaller countries such as **Palau** have also strengthened their environmental institutions as a result of the NEMS process.

Management plans of various sorts have been prepared for a number of areas in a number of countries. **Papua New Guinea's** National Forestry and Conservation Action Programme will lead to major changes in the way PNG's forests are managed. Forestry policies and/or updated forest inventories have been or are in the process of being developed in **Papua New Guinea**, **Western Samoa**, **Solomon Islands**, **Fiji** and **Vanuatu**. With the assistance of the strengthened South Pacific Forestry Development Programme, forestry Departments in the Pacific region are generally focusing more on native forest management and determining and implementing the harvesting of sustainable yields of timber.

Multi-faceted analyses of resource use, such as the Community Resource Conservation programme operating in some villages of **Solomon Islands**, are also starting to be carried out. In this project, local communities, with the support of outside experts, are able to make an inventory of their main natural resources and to plan their own development projects. This approach relies heavily on the philosophy that people at community level should be making their own resource use decisions in the long term, and that once they themselves are in control of their development, it will be in their interests to ensure its sustainability.

Tonga has sought funding from NZ for the preparation of a management plan for its newly gazetted 'Eua National Park. The **Commonwealth of the Northern Mariana Islands (CNMI)** is developing a 'habitat conservation plan' for the island of Rota, focussing on the endangered Marianas Crow. **CNMI** has also prepared a draft 'Wildlife Conservation Areas Management Plan', which includes inventories and management goals for each of its Wildlife Conservation Areas.

Integrated Coastal Zone Management (ICZM), which is the proposed future approach for coastal management in the region, recognises the inter-related nature of terrestrial, coastal and marine ecosystems, particularly on small islands, and the management and planning problems caused by socio-economic and development pressures and natural hazards. Current coastal programmes include management plans such as for **Western Samoa's** Palolo Deep Marine Reserve and for four islands of the **Cook Islands**; in-country workshops and training; and coastal resource surveys.

Western Samoa has passed a Watershed Management Regulation (1993), and specific management plans for each watershed are now being prepared.

Objective A.4 *To develop and implement natural resource use monitoring and review processes and, where necessary, amend inappropriate policies and practices.*

Legislation review has been a component of the NEMS process in every country, and various countries are already acting on the results. **Solomon Islands** has prepared a Wildlife Protection and Management Bill, and an integrated Environment Bill, for Government consideration. An Environmental Review carried out in **Vanuatu** in 1989/90 has resulted in the commencement of drafting of new environmental legislation. The **American Samoa** Coastal Management Program saw its rules adopted into territorial law in 1990. Countries of the region are now very aware of the need for environmental legislation, and are looking for assistance to develop their own.

SPREP now has a Legal Officer who is available to countries to assist with these legal requirements. This, together with the strong attendance at SPREP's Legal Workshop held in 1992, is an indication of the growing importance of legal issues associated with environmental management in the region.

SPREP's first two year Environment Impact Assessment programme is now completed. The primary objective was to increase the awareness of island governments and peoples of the potential benefits of environmental impact assessment as a planning and management tool for sustainable development. **Western Samoa** has a draft Environmental Impact Assessment Regulation hopefully to be passed in 1993. **Cook Islands** and **Fiji** are in the process of preparing EIA legislation, and most of the environmental legislation to be prepared as a result of legislative reviews (mentioned above) will contain EIA provisions.

Development assistance is of course a significant factor in regional development programmes, and depending on the source of such aid, projects may or may not be subjected to environmental assessments.

Of particular significance has been the decision by some of the region's major donors, such as the Asian Development Bank, to enforce an in-country requirement that any country they give assistance to must have a NEMS. This will gradually assist in the achievement of a situation where fewer and fewer donors will support environmentally inappropriate projects.

Objective A.5 *To develop and maintain the information base necessary to incorporate nature conservation values in national policies and programmes.*

Most scientists will agree that accurate information is required both to determine priorities for biodiversity conservation activities, and to provide detailed management prescriptions once priority areas have been identified and specific nature conservation activities begun.

Western Samoa's National Ecological Survey of Lowland Forests conducted in 1991 has identified priority sites for conservation. A report prepared by the Maruia Society for **Solomon Islands** identifies forest ecosystems for conservation. Multi-agency marine resource inventories and atlases have been or are being prepared for **FSM** in Kosrae, Pohnpei, Yap and Chuuk; and for Majuro in the **Republic of the Marshall Islands**. **Palau's** multi-agency survey and inventory of the South West Islands is currently being finalised. **Vanuatu** is commencing the first stage of a national heritage survey by concentrating on Big Bay, Santo, an area under threat as the result of an imminent agreement between local chiefs and logging companies. **Fiji** has also carried out (1989) a general surveys with recommendations for the establishment of a representative protected area systems. **Kiribati** carries out a biological monitoring programme to assess the marine resources of Tarawa Lagoon, and to determine appropriate management strategies to ensure ongoing sustainability.

Various countries are also carrying out or proposing to carry out surveys to establish the status and distribution of individual species; particularly marine turtles (**American Samoa**, **FSM**, **Fiji**, **French Polynesia**, **Palau**, **Papua New Guinea**, **Solomon Islands**, **Vanuatu** and **Western Samoa**) and birds (**CNMI**, **Cook Islands**, **FSM**, **Niue**, **Solomon Islands** and **Western Samoa**). Other species studied or protected are flying foxes (**Solomon Islands**), crocodiles (**Solomon Islands**, **Palau** and **PNG**), dugong (**Vanuatu** and **Palau**) and butterflies (**PNG**).

At the commencement of the South Pacific Biodiversity Conservation Programme a quick and superficial search for biodiversity-related documents found more than 70 easily available, relevant reports. It is tempting therefore to speculate that there is more information than biodiversity planners are generally aware of, and that the challenge is as much to make this existing information available and accessible, as to seek more.

The SPBCP includes a project to set up and improve databases at local Conservation Area, national and regional levels. The World Conservation Monitoring Centre, which collects and disseminates information on biodiversity, is pursuing a proposal to set up a regional centre as part of the SPBCP.

PNG is producing a Conservation Information System, as an outcome of its Biodiversity Conservation Needs Assessment project, with the aim of producing a biological diversity distributional database.

Western Samoa has commenced a project under the SPBCP to establish its own biodiversity database. The SPBCP will also benefit from this by using the same consultant to examine the possibility of setting up a similar biodiversity database in SPREP.

SPREP's Pacific Environment Assessment and Management Information System (PEAMIS) aims to strengthen environment and natural resources management information support capabilities in Pacific Islands countries and SPREP. Under this project SPREP is developing a Geographic Information System (GIS). This will ultimately provide access to more databases and GISs being developed around the region. The project is currently assessing databases around the region, with the aim of coordination and establishing agreed standards. It is also assisting with the establishment and improvement of national GISs, in cooperation with other national and regional projects.

It is increasingly becoming accepted that local people should be both a part of the process of information acquisition, and informed of the results. These 'local involvement' techniques have been incorporated into surveys such as the **Western Samoan** and **Vanuatu** surveys listed above. Local communities are both involved in the information gathering, and also apprised of the results.

Region-wide consistency is one step closer through the completion of an Ecosystem Classification which provides a common framework for inventorying and assessing the natural biodiversity of the tropical insular Pacific. This hierarchical classification covers both marine and terrestrial ecosystems.

The questionnaire approach - a reliable, cheap and rapid method of documenting known species distribution patterns and utilisation rates - is becoming more widespread. SPREP's Regional Marine Turtle Conservation Programme, for example, advocates this method as a way of quickly determining priority areas for more detailed survey. **Solomon Islands** is using this method for studies of both turtles and flying foxes.

Goal B: *To ensure the continued viability of the full range of ecosystem types and species that make up the region's natural heritage and contribute to its culture.*

Objective B.1 *To identify, develop and improve measures for the effective conservation of island ecosystems and species.*

The commencement of the South Pacific Biodiversity Conservation Programme (SPBCP) probably constitutes the greatest regional level success in biodiversity conservation since the Fourth South Pacific Conference on Nature Conservation and Protected Areas. The SPBCP is a US $ 10 million, five-year endeavour to identify, establish and initially manage a series of large, diverse 'Conservation Areas', containing as many ecologically important features of biodiversity as possible. Human activities will not be excluded, but will be guided in order to enable and ensure long-term sustainable use of the area's natural resources.

The Profitable Environment Project (PEP), a regional project which commenced in **Vanuatu** and will be extended to one or two other countries, has as its goal the conservation of priority ecosystems. The purpose of the project is to demonstrate working models of profitable commercial and community enterprises that enable the conservation of ecosystems. The project operates on the premise that profit making activities do not have to degrade the environment, and some can even enhance it. Part of the project's rationale is the premise that people will protect natural resources if the resources return value (income and other benefits) to them.

The SPBCP incorporates three species conservation programmes; the Regional Marine Turtles Conservation Programme (RMTCP); the Regional Marine Mammals Conservation Programme; and the Regional Avifauna Conservation Programme. They contain a number of components including surveys of status and distribution, education and habitat protection.

American Samoa currently has a ban on hunting flying foxes, pigeons and doves. In **Tokelau** a ban on the harvest and export of clams is observed on all three atolls. A ban on the harvest of sea turtles and the taking of turtle eggs is also observed on two atolls. In **Western Samoa** amendments have been made to the relevant ordinance banning the hunting of specific bird and fruit bat species for five years, while increasing the number of totally protected bird species. Many other countries also have temporary or permanent controls over the harvesting of species.

A number of countries are carrying out systematic assessment of potential protected areas. **Western Samoa's** National Ecological Survey of Lowland Forests has already been mentioned. **Papua New Guinea** has commissioned a Register of Protected Areas, and a Review of their Management and Status, and is commencing a Protected Areas Rehabilitation Programme. **Solomon Island's** ecological survey of A Representative Protected Forests System has already starting forming the basis of further survey work.

Western Samoa has a draft legislation amendment which will make village-driven management plans for conservation areas binding on government and other villages.

Objective B.2 *To establish a representative system of conservation areas to ensure the effective conservation of islands ecosystems and species.*

Unfortunately the first proposed activity at national level, the establishment of at least one additional conservation area in each country, has not been achieved. The reasons for this will not be new to this audience, and could be repeated exactly from the paper summarising the lack of progress in this respect presented to the 1989 Conference. However the SPBCP attempts to address many of the constraints, and provides a framework for action, at least in the field of Conservation Areas, for the next 4 years.

But there has been some encouraging activity.

The SPBCP has already agreed to support two ongoing conservation areas - the **Palau** Biodiversity Conservation Programme which comprises the Rock Islands and the Ngeremdu Bay mangrove area; and the **Pohnpei** Watershed Management Project, which has as its goal the protection of the high areas of the island for water conservation purposes.

PNG has its own Global Environment Facility-funded programme for developing pilot Integrated Conservation And Development areas (ICADs), and has also recently commenced a project to apply the Wildlife Management Areas concept to a coastal and marine situation in the Hiri East Zone Management Area.

Tonga has formally gazetted a new Protected Area - 'Eua National Park'.

Solomon Islands is directing its effort towards two proposed World Heritage areas at Marovo Lagoon and Rennel islands; and two proposed conservation areas in the Komarindi Catchment and Arnavon Islands.

While there has been no increase in protected areas in **American Samoa**, several are proposed. In addition, a lease has been signed between the Park Service and the representative of the landowners on Ofu, guaranteeing that land on that island will be leased to the US Government for the American Samoa National Park, which was established as long ago as 1986, but up until now has had no land leased for that purpose.

The landowners of Funafuti in **Tuvalu** have proposed to give the Government an islet to be used as a combined marine-terrestrial conservation area. In **Western Samoa** two conservation agreements have been signed between an overseas conservation agency and villages, to preserve rainforest areas. A local NGO has also organised the signing of an agreement with ten villages to protect their forests from logging while alternative incomes are sought through such ventures as ecotourism.

CNMI's natural resource conservation agency has acquired two conservation areas, is in the processing of acquiring seven more, and is formulating management plans for them.

Over the rest of this week the Conference will hear numerous other case studies of conservation area identification and establishment not listed here.

Two information directories have been completed, which should assist countries with conservation planning. The World Conservation Monitoring Centre has completed the *IUCN Directory of Protected Areas in Oceania* (1991). The Directory covers the protected area systems of the countries and territories of the region. Summary data are presented for all protected areas known to exist, although only a limited number of properties are described in detail.

A *Directory of Wetlands in Oceania* was prepared with collaboration between a number of agencies. This is an overview of wetland status in the region, in much the same way that the WCMC Directory does for Protected Areas in general. The document contains a series of national reports. The reports summarise the general situation of the wetlands, and provide information on the institutional and legal base for wetland conservation and research. Then follows a series of accounts of those wetlands which are known or thought to be of greatest importance from the point of view of nature conservation.

Goal C: *To promote the integration of traditional knowledge and customs into sustainable resources conservation practices and conservation areas management.*

Objective C.1 *To increase awareness of the depth and value of traditional knowledge and customs in natural resource management.*

The spiritual, not just the material and practical values of the traditional relationships of people to land and sea are an increasingly important resource management consideration. These are emphasised in documents such as *The Pacific Way*.

Countries are increasingly integrating issues of customary management and use into biodiversity projects. Traditional management and control over harvesting of species through the use of *tapu* areas or times, is again becoming a model and a precedent for local controls. The Regional Marine Turtle Conservation Programme database, for example, collects information on traditional management and use of turtles for use by countries when determining their own regulations.

Projects are being established to record and collect species used for traditional purposes. Surveys and studies are increasingly being carried out which, at the same time as collecting scientific data in the 'western' mode, document traditional uses of species. **Tokelau** has documented Conservation of the Indigenous Marine and Terrestrial Species and the Associated Traditional Knowledge and Customs found in Tokelau; and has documented Traditional Fishing Practices in more detail. **Cook Islands** is establishing a Medicinal Garden to collect and conserve those plants known to be of medical value. Projects carried out by the University of the South Pacific are documenting the biodiversity values, including the traditional values, of plants in general and trees specifically. The recent study involving trees included **Kiribati**, **Tonga**, **Tuvalu** and **Western Samoa**. The **Tonga** Coastal Reforestation Project as well as being community based, will emphasise traditionally useful plant species.

Objective C.2 *To assist those entitled to customary rights of ownership and/or use to continue, or revive, appropriate traditional resource management practices*

Tokelau has maintained its traditional natural resource conservation practices. The traditional *lafu* systems which prohibit the harvesting and disturbance of any land and marine resources still continue to be practiced. The *lafu* is imposed and policed by the Council of Elders, the traditional authority on each of the three atolls. In **Tuvalu** the chiefs of Vaitupu Island control fish stocks in the local lagoon.

More attention is being paid to reviving and discussing traditional uses of plants, through workshops such as the recent multi-agency workshop on 'Women and Traditional Medicine' held in **Fiji**.

Objective C.3 *To ensure that traditional knowledge and techniques that encourage sustainability are accounted for in natural resource planning and management, mindful of the sensitivities and etiquettes involved in collecting and using traditional knowledge.*

These objectives are incorporated into the International Convention on Biological Diversity, which seeks to "maintain knowledge and practices of local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity, and to promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices". A basic assumption of the SPBCP also is that traditional management practices must be built on, not superseded, in the development of Conservation Areas.

Many natural resource planning and management projects now occasionally take into account traditional knowledge and techniques. As stated earlier, traditional management and control over harvesting of species through the use of *tapu* areas or times, can again become a model and a precedent for local controls.

Goal D: *To foster positive links between tourism and nature conservation.*

Objective D.1 *To encourage appropriate village-based enterprises, such as nature tourism, to provide an incentive for the conservation of natural environments.*

Both the South Pacific Biodiversity Conservation Programme (SPBCP) and the PEP project have as a major focus the search for sustainable income generation opportunities as alternatives to activities which could potentially destroy areas of biodiversity significance. Village based tourism, nature tourism or ecotourism, at an appropriate level or scale, is often explored for its income generation potential. Small-scale tourism, which is the only scale likely to be compatible with biodiversity protection, cannot by definition be the sole panacea for national or even local economic problems, however with that proviso in mind it can often provide the basis for sustainable income generation which can then be at least partially invested back into the conservation and management of the resource.

Several national tourism strategies have been prepared over the last few years, based on the development of nature tourism - for example **Western Samoa**, **Cook Islands**, **Fiji**, and **Solomon Islands**. There is growing interest in the potential of the region to develop nature-based tourism and to cash in on the global growth of tourism. In this respect the South Pacific is well placed with its tropical scenery and high levels of biodiversity. However to develop this industry in a sustainable manner, there will be a need to protect and manage the natural assets on which it will be built.

Western Samoa has taken this concept two steps further with the preparation of a Visitors Services Plan which focuses on the tourism requirements for development of some identified priority natural areas: and the development of a project to carry out a pilot village-based ecotourism project.

The Komarindi Catchment Conservation Area project in **Solomon Islands** proposes the integration of a Conservation Area with a hydroelectric scheme. If it is implemented, it will also have components of a village-based ecotourism project.

In 1991, the Tourism Council of the South Pacific, together with SPREP and other organisations, organised a Seminar on Sustainable Tourism Development in South Pacific countries.

Objective D.2 *To improve communication between conservation, tourism and development planning agencies, affected communities, appropriate non-government organisations and tourism industry representatives.*

Western Samoa has achieved coordination between the Division of Environment and Conservation and the Visitors Bureau to the extent that they are implementing joint tourism-conservation projects. The Visitors Services Plan, for example, described above, was carried out jointly by the two organisations. One of its recommendations is the formation of a joint Environment Division and Visitors Bureau working group to form a formal link between the two organisations in general and to explore ecotourism opportunities in particular.

As part of its NEMS process, **Fiji** has conducted a survey aimed at giving the tourism industry a say in the debate about linking environmental planning with tourism. In general, respondents to the questionnaire acknowledged a significant relationship between the visitor experience provided by their businesses, and the quality of the natural environment in the immediate area.

Objective D.3 *To encourage and assist member governments to incorporate financial mechanisms to support nature conservation in national tourism policy and development plans.*

Searching for the right financial mechanism to support nature conservation in all its forms has been an ongoing process over the last four years. One could not say that a 'correct answer' has been found, however it is clear that there have been many ideas and experiments on this theme since 1989. The search for appropriate financial mechanisms one of the key issues of this Conference.

Goal E: *To achieve a level of environmental awareness and appreciation that enables individuals, communities and government agencies to participate in an informed manner, in the achievement of nature conservation and sustainable resource use goals.*

It has been difficult to categorise and separate the activities under the first two objectives in Goal E. These objectives have therefore been listed together.

Objective E.1 *To facilitate maximum possible community involvement in the development of conservation area systems and to ensure public awareness of the need for nature conservation.*

Objective E.2 *To provide opportunities for members of the public to learn about appropriate technology and traditional resource management practices relevant to nature conservation and sustainable resource use (see also objective C.1).*

Environmental education and awareness is an area that has made significant progress since 1989. Environmental education is a high priority in every country's NEMS, without exception.

Vanuatu's Environment Unit produces a fortnightly radio programme, a school newsletter, posters and stickers to disseminate environmental information. **Western Samoa** has a radio programme and a weekly newspaper article, and **Tonga** and **Palau** both have weekly environment programmes on national radio.

Environmental curriculum materials are being prepared in **CNMI**, **Kiribati**, **Western Samoa** and the **Republic of the Marshall Islands**; and teacher training for environmental education carried out in the **Federated States of Micronesia**, **Kiribati**, **Western Samoa**, **Niue** and **Tonga**.

There are uncountable numbers of posters, facts sheets, case studies, audio tapes, videos, and slide kits. Posters, particularly, have been translated into local languages - **Palauan**, **Tokelauan**, **Samoan**, **Niuean**, **Bislama** and **Pidgin**.

Community environmental awareness is being raised through arts, theatre and music, for example the Wan Smolbag Theatre in **Vanuatu**. Numerous community and NGO seminars have been held in **Western Samoa**, **Vanuatu**, **Palau**, the **Federated States of Micronesia** and **Tonga**.

SPREP has separated its environmental education and information and publications functions since early 1992, resulting in the appointment of a full-time Environmental Education Officer. One of her main tasks has been to work with countries on developing curricula and curriculum materials to incorporate concepts of conservation and sustainable development at primary and secondary school level. Other countries have also realised the importance of this task. For example **Kiribati** plans to appoint an Environment Education Officer in 1993.

A regional environmental education and awareness programme is being trialled for one year in **Kiribati**, **Western Samoa** and **Solomon Islands**. Targetted groups are NGOs, churches and other community groups such as those involving youth and women.

The region now has the regular 'One World' radio programme through Radio Australia, which concentrates on the environmental problems and successes of the South Pacific.

Almost all the countries and territories have intermittent or continuous environmental education projects on issues as varied as litter prevention, coastal protection, turtle conservation, and the dangers of the introduced brown tree snake.

Objective E.3 *To establish mechanisms that enable people to effectively participate in Government and community decision which determine the future of their environment.*

The SPBCP operates on the assumption that customary resource owners and users must be involved in all phases of natural resource planning and management; not only for ethical reasons, but to ensure the success of the project under consideration.

The Community Resource Conservation programme in **Solomon Islands**, as does an increasing number of projects in the region, relies heavily on the philosophy that people at community level should be making their own resource use decisions in the long term, and that once they themselves are in control of their development, it will be in their interests to ensure its sustainability.

Vanuatu's National Conservation Strategy is being developed on a solid foundation of public consultation and grassroots involvement. The conservation programme of **Palau** is also encouraging Palauans to become involved in defining future directions for development in their country.

The regional EIA programme has been described above. At its most effective, this process enables meaningful input from communities into proposed development projects, and allows them to express views on the appropriate mix of development and conservation.

Countries are increasingly recognising the need to involve communities in the development of conservation area systems. The results of **Western Samoa's** National Ecological Survey of Lowland Forests conducted in 1991 was presented back to the villages in 1992. The philosophy of **Solomon Islands** Community Resource Survey has already been mentioned. **Tonga's** Coastal Reforestation Project has a high level of community involvement.

Many countries such as **Western Samoa**, **Vanuatu**, **Fiji**, **Marshall Islands**, **Niue**, **CNMI**, **Tonga** and the **Cook Islands** hold a National Environment Week or equivalent. Many other countries (or Territories such as **American Samoa**) hold Environment or Earth Days.

Goal F: *To plan, develop and maintain appropriate training and education in nature conservation and conservation area management in the South Pacific.*

Again it has been difficult to categorise and separate the activities into the different objectives under Goal F. These objectives have therefore been listed together.

Objective F.1 *To improve the institutional capacity to provide appropriate education and training in natural resource and conservation area management.*

Objective F.2 *To strengthen the expertise and capabilities of existing natural resource and environmental management staff.*

Objective F.3 *To encourage the development of a greater pool of protected area wardens, technicians and local community leaders who are involved in nature conservation and conservation area management programmes.*

Objective F.4 *To encourage conservation area and wildlife managers to convene regular workshops and seminars that bring together administrators and planners from all sectors of Government to develop their understanding of the need for nature conservation and conservation areas.*

The feedback SPREP has received from many countries of the region is that regional or even sub-regional workshops and training are not necessarily the most effective mechanisms, and that in-country activities, where colleagues can work together on issues that are generally known and understood, are much more appropriate. There has not therefore been a great deal of activity in the field of formal training workshops.

Training is more likely to take place on an individual basis, in the form of formal courses, secondments or on-the-job training. In some cases support for individual appointments are made through donor organisations, such as a natural area warden in **Palau** who is funded by an international NGO.

Many in-country training courses have been held over the last four years. There have been for example EIA training courses in most countries, a course on Environmental Assessment of Marine Mining in **Solomon Islands** and a course on Environmental Assessment of Fish Processing Plants in the **Republic of the Marshall Islands**.

It is now accepted practice that 'experts' should not be brought into a country from 'outside' to carry out a project without there being a formal arrangement for transfer of knowledge to local staff. Most countries and many donors will not agree to a project without these 'counterparting' arrangements, as they are often called.

Temporary secondments are another way of transferring skills and expertise. For example SPREP's Memoranda of Understanding with ANPWS (now ANCA), NSW NPWS and NZ DoC contain provisions for secondments of Pacific Island nationals to those organisations for training. SPREP also now has a special staff classification specifically aimed at securing regional secondments, perhaps from member country Government departments. While this is a way of providing training that will hopefully then be returned for the benefit of the source country, the idea is not without its problems - foremost of which are: the need for the country to replace the officer for the term of the secondment, and the possibility that the seconded officer will not return, or not for very long, to his or her original Department.

Other training opportunities are provided such as, for example, when an fisheries officer from the Niue Department of Agriculture, Forests and Fisheries was involved in the Palolo Deep Marine Reserve Project in Western Samoa.

SPREP has a regional role in disseminating information to member countries by functioning as an information clearing house, providing a regional newsletter (which is now prepared and distributed on a regular basis), and distributing information between relevant NGOs and regional research institutions.

Goal G: *To strengthen cooperation in promoting conservation in the region and support from international agencies.*

Objective G.1 *To promote cooperation among the countries of the South Pacific to ensure effective management and protection of their natural resources.*

SPREP has gone from strength to strength in its role as the regional coordinating agency for natural resource management and conservation, as well as other environmental issues. It has developed strong relationships with a number of NGOs and other institutions, all of which are working in their various ways with the countries of the region to further the objectives of this *Action Strategy*.

SPREP has signed Memoranda of Understanding with numerous agencies. Examples are the Australian National Parks and Wildlife Service (now the Australian Nature Conservation Agency - ANCA), the New South Wales National Parks and Wildlife Service (NSW NPWS -Australia), the International Union for the Conservation of Nature and Natural Resources (IUCN), the New Zealand Department of Conservation, the University of Papua New Guinea, The Nature Conservancy, Landcare Research (NZ), the Pacific Science Association, Radio Australia and Technische Universitaet Clausthal (Germany).

The number of environment-related Non Government Organisations (NGOs) in the region is on the increase. While some of the smaller countries such as Kiribati and Tuvalu have no NGOs dealing exclusively with environment, the involvement in environmental issues of existing church, women's and youth NGOs, is also increasing. The larger countries such as **Papua New Guinea**, **Fiji** and **Solomon Islands** have quite a number of NGOs. In some territories such as **New Caledonia**, NGOs carry out activities such as species surveys traditionally the province of Government action.

Cooperation amongst Governments in the area of shared resources is on the increase. Marine turtles for example are a migratory species and hence a shared resource. Through their common involvement with the Regional Marine Turtle Conservation Programme a number of countries are accepting that it is impossible to protect such shared resources in one country alone.

Resolutions from last Conference

It is appropriate at this point to summarise the action taken on resolutions passed at the Fourth South Pacific Conference on Nature Conservation and Protected Areas.

- *Resolution 1* urged Governments to ratify the SPREP and Apia Conventions. As reported above, both those Conventions have now come into force.
- *Resolution 2* requested the convening of a workshop on the implications of an International Convention for the Conservation of Biological Diversity. A Biodiversity Workshop was held in Port Vila in October 1991, with a large number of Governments and organisations in attendance. The Convention, as reported above, is now open for ratification, and has been signed or ratified by a number of South Pacific countries.
- *Resolution 3* referred to the need for increased support for the establishment and management of conservation areas. Parts of the resolution were aimed at Governments, SPREP and donor agencies, particularly in relation to funding. This paper has earlier described the disappointing lack of progress in the conservation area establishment over the last four years, however it is clear that the finances available to both Governments, and indirectly to communities, to support conservation area activity, has substantially increased.
- *Resolution 4* referred to the need for further expertise to assist with the resolution of natural resource conflicts. The two-year Environment Impact Assessment (EIA) programme just completed has resulted in a high level of awareness of the need for EIA legislation and other structures in the countries of the South Pacific. Most countries are preparing EIA legislation, or have identified EIA as a priority for activity in the immediate future.
- *Resolution 5* promoted the role of NGOs in the region. As described above, more local NGOs are being formed in the countries of the region, and the involvement of the larger regional or international NGOs in biodiversity conservation is on the increase. Governments are more likely to work in cooperation with NGOs in order to further their common goals - a number of the projects listed in this paper were carried out jointly by Governments and NGOs. SPREP now also funds small NGO projects in addition to its work with member countries.
- *Resolution 6* sought a report on commercial hard coral harvesting. As a result, draft 'Guidelines for Reef Coral Harvesting' have been completed, and final copies are currently being prepared.
- *Resolution 7* recommended that a regional marine turtle conservation programme be commenced. SPREP's Regional Marine Turtle Conservation Programme is in its fourth year, with the involvement of nine countries, and the promise of involvement from several more.

- *Resolution 8* noted the importance of conservation in mitigating global warming. While there has been no specific activity in support of this resolution, SPREP's Climate Change Programme recognises the inter-relationship between global warming and nature conservation in a number of its activities. A planned future activity is to work in collaboration with other institutions to determine appropriate available land within the Pacific for reforestation and afforestation to serve as a sink for excess CO_2.
- *Resolution 9* called for regional and world wide action towards the cessation of drift net fishing. As of August this year, thirteen Forum Fisheries Agency countries had signed the Convention for the Prohibition of Fishing with Long Drift Nets in the South Pacific (the Wellington Convention) and seven had ratified it. The Wellington Convention is now supported by a global moratorium on driftnet fishing under UN Resolution 44/225.
- *Resolution 10* encouraged Governments to establish representative systems of conservation areas. The mixed success of this resolution has already been discussed in some detail in this paper.
- *Resolution 11* thanked the Government of Vanuatu for hosting the Fourth South Pacific Conference on Nature Conservation and Protected Areas.
- *Resolution 12* thanked all the organisations which assisted and sponsored the Conference.
- *Resolution 13* expressed the appreciation and gratitude to Mr Iosefatu Reti, who was then leaving his position as coordinator of SPREP.

Conclusions

It is difficult to generalise about progress in terms of the achievement of the *Action Strategy* recommendations, most of which are very general and broad in their scope. However with the exception of what is perhaps the most important objective, the creation of conservation or other forms of protected areas, there can be no doubt that there has been solid progress in most of the areas referred to in the *Strategy*.

The resources available to the region for these activities is increasing steadily, and we can look forward to another four years of steady progress. This increase in resources will probably not last, however, as sooner or later another 'priority' issue, whether environmental or otherwise, will take over from biodiversity conservation as a favoured recipient of donor funds. We have a short, perhaps five-year, 'window of opportunity' while funds will still be available. If we miss this chance it will not come again in a hurry.

Reflecting on the various requirements for biodiversity conservation discussed in these pages, I would suggest that the most immediate and difficult issues that need to be addressed relate to turning 'understanding' into changed behaviour. Understanding, which comes about as a result of education, is a necessary but insufficient precondition. Governments can easily profess a commitment to the environment - the political will to turn the rhetoric into action is more difficult. Similarly communities, which are generally the resource owners and managers; need to reactivate their environmental ethics, and look beyond the short term to the long term sustainability of their lives and livelihoods. Governments need to assist their communities to find a path to a sustainable long term future, and communities need to push and prod their Governments into doing the same. I wish us all well in these tasks.

A Review of the Protected Areas System in the South Pacific

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Introduction

Protected area activities at the World Conservation Monitoring Centre (WCMC) were commenced by the IUCN Commission on National Parks and Protected Areas (CNPPA) in the early 1980s, and there has been a continuing close collaboration since then. WCMC maintains a global protected areas database, holding information on more than 35 000 sites.

Information is collected from official sources (those national agencies responsible for administering protected areas), and other sources through a global network of contacts ranging in profession from policy-makers and administrators to managers and scientists. Information is also obtained from published and unpublished literature, and other media.

Before presenting a brief overview of the protected areas system in the Pacific, and in order to shed some light on the process by which the protected areas database is developed and maintained, there now follows an overview of the *1991 IUCN Directory of Protected Areas in Oceania*.

1991 IUCN Directory of Protected Areas in Oceania

The protected areas database has provided the means by which a number of objectives set by previous South Pacific protected area conferences have been achieved.

The publication of the *IUCN Directory of Protected Areas in Oceania* was first identified as a specific priority in the 1985 *Action Strategy for Protected Areas in the South Pacific* (C.1.3.). Furthermore, it contributes to the 1989 *Action Strategy for Nature Conservation in the South Pacific*, namely Objective A.5 (To develop and maintain the information base) and Objective B.2 (To establish a representative system of conservation areas). The latter identifies the development and maintenance of databases of conservation areas, and periodic publication of South Pacific Regional Directories, as priority activities.

The Directory itself was launched at the XVII Pacific Science Congress in 1991, but has never been presented to a South Pacific Conference on Nature Conservation and Protected Areas.

The data in the *Directory* is managed within the WCMC protected areas database. This includes standard format descriptions of protected areas systems at the national level, covering topics such as legislation, administration and international activities. A systems review for each country summarises the coverage of protected areas with respect to habitats, and summarises the recommendations made by government and non-government organisations to extend the system. This is further supplemented with bibliographies, and lists and maps of national protected areas systems.

The bulk of the *Directory* comprises approximately 100 detailed site descriptions. These describe the precise legal status of each site, the natural features, including flora and fauna, site management, the presence and activities of people living in or around protected areas and so on. Compiling this information into a single document provides a powerful tool for both quantitative and qualitative analysis.

It is important to remember that preparation of such a publication relies heavily on the cooperation of agencies and individuals in the region, freely giving of their time and expertise. Draft accounts were prepared by WCMC and sent to the government agencies, as well as individual experts and NGOs in the region for critical review before publication. This method allowed the widest possible range of inputs to ensure that the final document was as accurate and comprehensive as possible.

Review of the protected areas network in the Pacific

Using the data gathered in the compilation of the *Directory*, and from other more recent sources, it is possible to make a number of analyses, allowing comparisons between the Pacific and the rest of the world. The purpose behind presenting this data is not only to inform, but also to stimulate debate and feedback, in order to further improve the data itself, and to suggest other statistics that may be of interest in the region.

The data presented here have been classified using the IUCN Management Category system. This allows sites with a similar management objective to be directly compared, irrespective of nomenclature. For example, protected areas might be legally designated as 'nature reserves' in one country and 'national parks' in another, whilst sharing the same fundamental management objectives. The IUCN Management Category System allows these two hypothetical examples to be classified together, to allow direct comparisons. Broadly speaking, Category I sites are the most strictly protected, through to Category V sites which are reserved on account of their harmonious interaction with man. Categories VI-VII allow varying degrees of exploitation, and are generally treated as a separate group. Data has also been included for sites that do not meet any of the established management category criteria, under the heading 'UA', indicating 'Unassigned'. In total there are 66 such sites in the Pacific that fall under this heading. It should be noted that the Categories are currently being revised in time for the 1994 IUCN General Assembly, although the principles underlying their application remain broadly the same.

Discussion

Table 1 shows a summary of the protected areas system of the world by CNPPA region.

In terms of territory contained within the more strictly protected Categories I-V, the Pacific region has one of the lowest figures (0.8% versus a world mean of 5.3%), calculated on the basis of land area. If the full extent of Economic Exclusion Zones, and territorial waters were to be included, this percentage would be dramatically reduced. However, if the Categories VI-VII, which include multiple use sites are included, the picture changes significantly, with 3.8% of the Pacific region protected, compared to the world figure of 8.2%. This change is largely due to the Category VIII sites in New Caledonia, and the very extensive Tonda Wildlife Management Area in Papua New Guinea.

Note that only sites above a certain size are included in these tables. To allow consistent comparison with other regions, and to exclude sites for which the area is not known, there is a minimum size criterion of 1 sq km for the Pacific and Caribbean, whilst for the rest of the world there is a minimum size criterion of 10 sq km.

Considering only sites of less than 1 sq km, a further 44 sites could be included in the Pacific region, although altogether these cover only 44 sq km. Although these are excluded from this regional overview, they are none the less important, including, as an example, Yadua Taba Crested Iguana Reserve in Fiji.

Table 2 shows a summary of the number of protected areas in the world according to the IUCN Management categories.

In global terms the Pacific Region has a relatively small number of protected areas (98), although it is broadly comparable with Central America (131) and the Caribbean (175).

Table 1. Summary of the protected areas system of the world by CNPPA region

	Area of Region	Area in Categories I-V designated	%	Area in Categories VI-VIII and UA	%	Total area	%
North America	23,433,902	2,560,502	10.9	94,312	0.4	2,654,814	11.3
Europe	5,105,551	460,672	9.0	44,371	0.9	505,043	9.9
North Africa and Middle East	13,118,661	440,724	3.4	36,088	0.3	476,812	3.6
East Asia	11,789,524	424,151	3.6	23,622	0.2	447,773	3.8
North Eurasia	22,100,900	237,958	1.1	0	0.0	237,958	1.1
Sub-Saharan Africa	23,927,581	1,247,997	5.2	1,153,421	4.8	2,401,418	10.0
South and South East Asia	8,866,884	487,437	5.5	351,266	4.0	838,703	9.5
Pacific	573,690	4,858	0.8	16,803	2.9	21,661	3.8
Australia	7,682,487	814,113	10.6	23,816	0.3	837,929	10.9
Antarctic/New Zealand	13,625,961	34,335	0.3	17,921	0.1	52,256	0.4
Central America	542,750	45,871	8.5	58,213	10.7	104,084	19.2
Caribbean	238,620	22,857	9.6	9,138	3.8	31,995	13.4
South America	18,001,095	1,145,894	6.4	2,465,237	13.7	3,611,131	20.1
Total	149,007,606	7,927,369	5.3	4,294,208	2.9	12,221,577	8.2

Notes: Areas are given in square kilometres
Mimimum size for inclusion is 10 sqkm, except for sites in Oceania and the Caribbean where it is 1 sqkm
"UA" indicates that no IUCN category has been assigned
Forest reserves with a nature protection function are generally included
Note that extent of protected areas may include marine components not included within the country total; this may lead to some unexpectedly high figures for percentage cover.

Table 2. Summary of the protected areas of the world by IUCN Management category (number of sites)

IUCN Management category:	I	II	III	IV	V	TOTAL
North America	70	168	228	482	462	1410
Europe	121	147	41	720	1206	2235
North Africa and Middle East	33	37	2	65	42	179
East Asia	28	19	0	1044	71	1162
North Eurasia	138	15	0	5	2	160
Sub-Saharan Africa	21	206	3	397	26	653
South and South East Asia	117	207	6	528	30	888
Pacific	16	11	1	62	8	98
Australia	73	351	1	245	64	734
Antarctic/New Zealand	35	11	5	89	0	140
Central America	8	51	7	61	4	131
Caribbean	17	46	4	81	27	175
South America	55	234	24	176	177	666
Totals	732	1503	322	3955	2119	8631

Notes: Mimimum size for inclusion is 10 sqkm, except for sites in Oceania and the Caribbean where it is 1 sqkm

Table 3 gives a summary of the total area of protected areas around the world, according to IUCN Management categories.

More dramatic differences emerge when the extent of protected areas is examined. The Pacific region has some 4 858 sq km protected, the next largest being the Caribbean with 22,857 sq km, more than four times as extensive. This may be a reflection of the limited areas of land that are available or perhaps the restraints placed on conventional methods of protected area establishment by customary land tenure in the Pacific.

Table 4 shows the very wide variation in protected areas within the region, from nations with no legally designated protected areas, through to those, such as Kiribati, which has nearly 40% of its land area protected in IUCN Management Categories I-V. If sites in the remaining Categories are included then we see that Kiribati has a remarkable 86% of its land area protected. There appears to be an unusually high incidence of countries with no legally recognised sites, although this may be due to the minimum size criterion mentioned earlier, or inadequate information in the database.

This is further reinforced in Table 5 which shows clearly how Hawai'i and, to a lesser extent, New Caledonia are preeminent in the Pacific protected areas network, with 60 out of 98 sites. Again, a number of nations and territories are recorded here as lacking protected areas in these more strictly protected IUCN management categories.

The South Pacific is almost unique in terms of regional Conventions as it has the distinction of having two (SPREP Convention and Apia Convention), both now in force.

On the other hand, there is only sparse adherence to the three major international conservation conventions or programmes, namely the World Heritage Convention and the Ramsar wetland convention, and the Unesco Man and the Biosphere Programme, as seen in Table 6. At present there are no Ramsar sites in the region, but there are two World Heritage sites (Henderson and Hawai'i Volcanoes) and two Biosphere Reserves (Atoll de Taiaro and Hawai'i Islands). Clearly there is scope for further development in this area.

Table 7 incorporates only very sparse data on budgets available to protected areas management agencies in the region. This lack of data is being addressed in the 'Financial Investments in Biological Diversity Conservation' project at WCMC, funded by the Commission of the European Communities. This aims to quantify how much money is being invested in biodiversity conservation in developing countries, with an analysis of donor allocations, receipt allocations and national park and protected areas budgets.

Figures 1 and 2 allow the cumulative development of the Pacific regional protected areas network to be compared with global data. Figure 2 indicates a slow development prior to about 1960, followed by a rapid rise in the number of sites, especially during the 1970s and 1980s. However, compared to the global overview (Figure 1) there is no comparable increase in the extent of protected areas. This indicates that in general protected areas in the Pacific region are small. This is confirmed by an assessment of the mean size of protected areas which shows that the mean size of protected areas throughout the world is 510 sq km, compared to 36 sq km in the Pacific.

Figure 4 highlights the lack of progressive development of Pacific protected areas, with surges of growth followed by relatively inactivity. However, even the global data set (Figure 3) tends to be erratic. For example, the establishment of the very large Greenland National Park in the 1970s produces a sudden increase in the area covered.

The Pacific region shows a number of dissimilarities with the global picture, with some differences in the extent and frequency of various management categories. Figure 5 shows that, globally, the greatest extent of protected areas is found in the Management Category II (National Parks), followed by IV (Managed Nature Reserves). This pattern changes in the Pacific region, where, compared to the global average, a much higher proportion of the entire network in found in strictly protected Category I sites. Most of these are found in Hawai'i and in the US Minor Outlying Islands. In terms of the number of sites, Category IV predominates, principally due to the preponderance of such sites in Papua New Guinea, New Caledonia and Hawai'i, whilst Category V (Protected Landscapes) are less common than in the world in general.

Table 3. Summary of the protected areas of the world by IUCN Management category (area covered)

IUCN Management Category:	I	II	III	IV	V	TOTAL
North America	19,724	1,452,628	184,705	696,293	207,150	2,560,502
Europe	30,862	53,797	3,422	66,138	306,455	460,672
North Africa and Middle East	22,958	139,429	62	232,788	45,487	440,724
East Asia	3,746	72,866	0	309,387	38,153	424,151
North Eurasia	218,493	16,444	0	1,843	1,176	237,958
Sub-Saharan Africa	25,824	758,064	189	439,090	24,831	1,247,997
South and South East Asia	73,555	176,508	211	232,493	4,670	487,437
Pacific	1,948	1,281	12	1,543	76	4,858
Australia	25,835	633,210	15	105,679	49,374	814,113
Antarctic/NewZealand	8,858	21,710	210	3,558	0	34,335
Central America	3,558	31,012	175	11,057	67	45,871
Caribbean	494	8,697	13	6,758	6,896	22,857
South America	83,896	546,325	28,076	281,189	206,404	1,145,894
Totals	519,751	3,911,971	217,090	2,387,816	890,739	7,927,369

Notes:are given in square kilometres
Mimimum size for inclusion is 10 sqkm, except for sites in Oceania and the Caribbean where it is 1 sqkm
Forest reserves with a nature protection function are generally included

Table 4. Summary of the protected areas system of CNPPA region: Pacific

	Area of Region	Area in Categories I-V designated	%	Area in Categories VI-VIII and UA	%	Total area	%
American Samoa	197	44	22.2	5	2.3	48	24.6
Cook Is	233	2	0.7	0	0.0	2	0.7
Easter Is	68	67	98.0	0	0.0	67	98.0
Federated States of Micronesia	702	0	0.0	0	0.0	0	0.0
Fiji	18,330	60	0.3	231	1.3	291	1.6
French Polynesia	3,940	135	3.4	0	0.0	135	3.4
Guam	450	13	2.8	73	16.2	85	19.0
Hawaii	16,760	2,858	17.1	8	0.0	2,866	17.1
Kiribati	684	266	38.9	321	46.9	587	85.9
Marshall Is	181	0	0.0	0	0.0	0	0.0
Nauru	21	0	0.0	0	0.0	0	0.0
New Caledonia	19,105	672	3.5	6,365	33.3	7,038	36.8
Niue	259	0	0.0	0	0.0	0	0.0
North Marianas	471	15	3.3	0	0.0	15	3.3
Palau	365	12	3.3	3	0.7	15	4.0
Papua New Guinea	462,840	295	0.1	9,571	2.1	9,866	2.1
Pitcairn Is	42	0	0.0	0	0.0	0	0.0
Solomon Is	29,790	0	0.0	26	0.1	26	0.1
Tokelau	10	0	0.0	0	0.0	0	0.0
Tonga	699	7	1.0	28	4.1	35	5.1
Tuvalu	25	0	0.0	0	0.0	0	0.0
US Minor Is	658	412	62.6	130	19.7	542	82.4
Vanuatu	14,765	0	0.0	1	0.0	1	0.0
Wallis-Futuna Is	255	0	0.0	0	0.0	0	0.0
Western Samoa	2,840	0	0.0	41	1.4	41	1.4
Total	573,690	4,858	0.8	16,803	2.9	21,661	3.8

Table 5. Protected areas by IUCN management category in the Pacific CNPPA Region

	I		II		III		IV		V		TOTAL	
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
American Samoa	1	7	1	37	-	-	-	-	-	-	2	44
Cook Is	-	-	-	-	-	-	1	2	-	-	1	2
Easter Is	-	-	1	67	-	-	-	-	-	-	1	67
Federated States of Micronesia		-	-	-	-	-	-	-	-	-	-	-
Fiji	3	56	-	-	-	-	1	4	-	-	4	60
French Polynesia	-	-	1	8	-	-	6	127	-	-	7	135
Guam	-	-	-	-	-	-	3	5	1	8	4	13
Hawaii	1	1,031	3	1,080	-	-	27	691	2	56	33	2,858
Kiribati	2	201	-	-	-	-	1	65	-	-	3	266
Marshall Is	-	-	-	-	-	-	-	-	-	-	-	-
Nauru	-	-	-	-	-	-	-	-	-	-	-	-
New Caledonia	2	226	1	11	-	-	19	424	5	12	27	672
Niue	-	-	-	-	-	-	-	-	-	-	-	-
North Marianas	4	15	-	-	-	-	-	-	-	-	4	15
Palau	-	-	-	-	1	12	-	-	-	-	1	12
Papua New Guinea	-	-	3	73	-	-	3	222	-	-	6	295
Pitcairn Is	-	-	-	-	-	-	-	-	-	-	-	-
Solomon Is	-	-	-	-	-	-	-	-	-	-	-	-
Tokelau	-	-	-	-	-	-	-	-	-	-	-	-
Tonga	-	-	1	5	-	-	1	3	-	-	2	7
Tuvalu	-	-	-	-	-	-	-	-	-	-	-	-
US Minor Is	3	412	-	-	-	-	-	-	-	-	3	412
Vanuatu	-	-	-	-	-	-	-	-	-	-)	-	-
Wallis-Futuna Is	-	-	-	-	-	-	-	-	-	-	-	-
Western Samoa	-	-	-	-	-	-	-	-	-	-	-	-
Totals	16	1,948	11	1,281	1	12	62	1,543	8	76	98	4,858

Table 7. Protected areas management agency budgets: Pacific

Country/responsible agency	Budget in national currency	US Dollar equivalent	Year	Notes	Source
American Samoa	USD				
Cook Islands	NZD				
Fiji – National Trust & Forestry Department	FJD				
French Polynesia	XPF				
Guam	USD				
Kiribati	AUD				
Marshall Islands					
Micronesia, Federated States of	USD				
Nauru	AUD				
New Caledonia	XPF				
Niue	NZD				
Northern Marianas Islands	USD				
Palau					
Papua New Guinea	PGK				
Pitcairn	NZD				
Solomon Islands	SBD				
Tokelau					
Tonga	TOP				
Tuvalu	AUD				
United States Minor Outlying Is.					
Vanuatu	VUV				
Wallis and Futuna	XPF				
Western Samoa—Department of Agriculture, Forests and Fisheries	104,000 WST	43,000	1990	Proposed budget	[1]

Sources:

[1] SPREP (1989). *Country review: Western Samoa.* Fourth South Pacific Conference on Nature Conservation and Protected Areas. SPREP, Noumea, New Caledonia. 12pp.

Country	World Heritage			Biosphere Reserves		Ramsar (Wetlands) Convention			Apia Convention		SPREP Convention	
	Date	No.	Area (ha)	No.	Area (ha)	Date	No.	Area (ha)	Signature	Ratification/ Accession	Signature	Ratification/ Accession
Australia	–	–	–	–	–	–	–	–	–	28-3-1990	24-11-1987	19-7-1989
Cook Islands	–	–	–	–	–	–	–	–	–	24-6-1987	25-11-1986	
Fiji	November 1990	0	–	–	–	–	–	–	–	18-9-1989	–	18-9-1989
France	–	–	–	–	–	–	–	–	12-6-1976	20-1-1989	25-11-1986	17-7-1990
French Polynesia	June 1975	0		1	2,000	October 1986	0	0				
New Caledonia	June 1975	0	–	–		October 1986	0	0				
(Wallis/Futuna)	June 1975	0	–	–		October 1986	0	0				
Kiribati	–	–	–	–	–	–	–	–	–	–	–	–
Marshall Islands	–	–	–	–	–	–	–	–	–	–	25-11-1986	4-5-1987
Micronesia, Federated States	–	–	–	–	–	–	–	–	–	–	9-4-1987	29-11-1988
Nauru	–	–	–	–	–	–	–	–	–	–	15-4-1987	–
New Zealand	November 1984	–	–	–		August 1976	0	0				
Tokelau–	–	–	–	–	–	–		–	–	25-11-1986	3-5-1990	–
Niue	–	–	–	–	–	–	–	–	–	–	–	–
Northern Marianas	–	–	–	–	–	–	–	–	–	–	–	–
Palau	–	–	–	–	–	–	–	–	–	–	25-11-1986	–
Papua New Guinea	–	–	–	–	–	–	–	–	12-6-1976	–	3-11-1987	15-9-1989
Solomon Islands	June 1992	–	–	–	–	–	–	–	–	–	–	10-8-1989
Tonga	–	–	–	–	–	–	–	–	–	–	–	–
Tuvalu	–	–	–	–	–	–	–	–	–	–	14-8-1987	–
United Kingdom	–	–	–		–	–	–	–	–	–	16-7-1987	–
UK Pitcairn	May 1984		13,700	–	–	January 1976	0	0	–	–	–	–
United States of America	–	–	–	–	–	–	–	–	–	–	–	25-11-1986
(American Samoa)	December 1973	0	–	–		December 1986	0	0	–	–	–	–
(Guam)	December 1973	0	–	–		December 1986	0	0	–	–	–	–
(Hawaii)	December 1973	1	92,934	1	99,545	December 1986	0	0	–	–	–	–
Vanuatu	–	–	–	–	–	–	–	–	–	–	–	–
Western Samoa	–	–	–	–	–	–	–	–	12-6-1976	20-7-1990	25-11-1986	19-7-1990

Fig. 1. Cumulative growth of the world's protected areas network

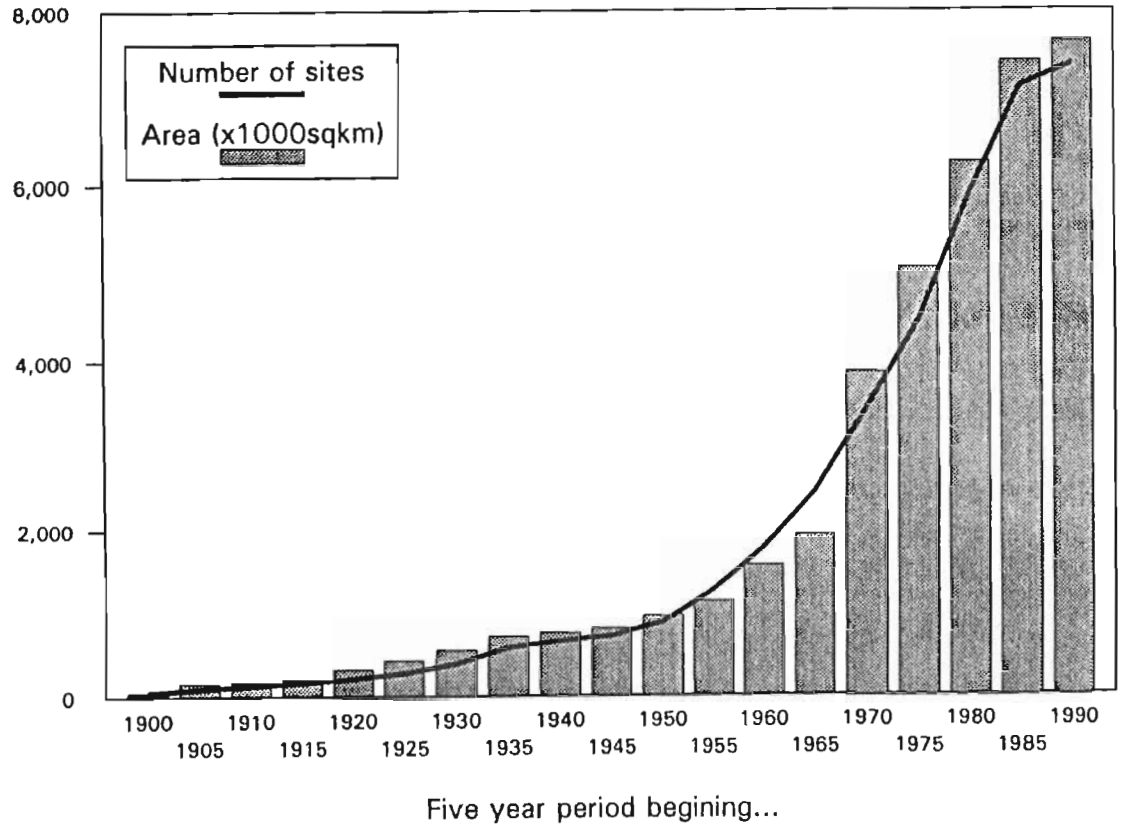


Fig.2. Cumulative growth of the Pacific protected areas network

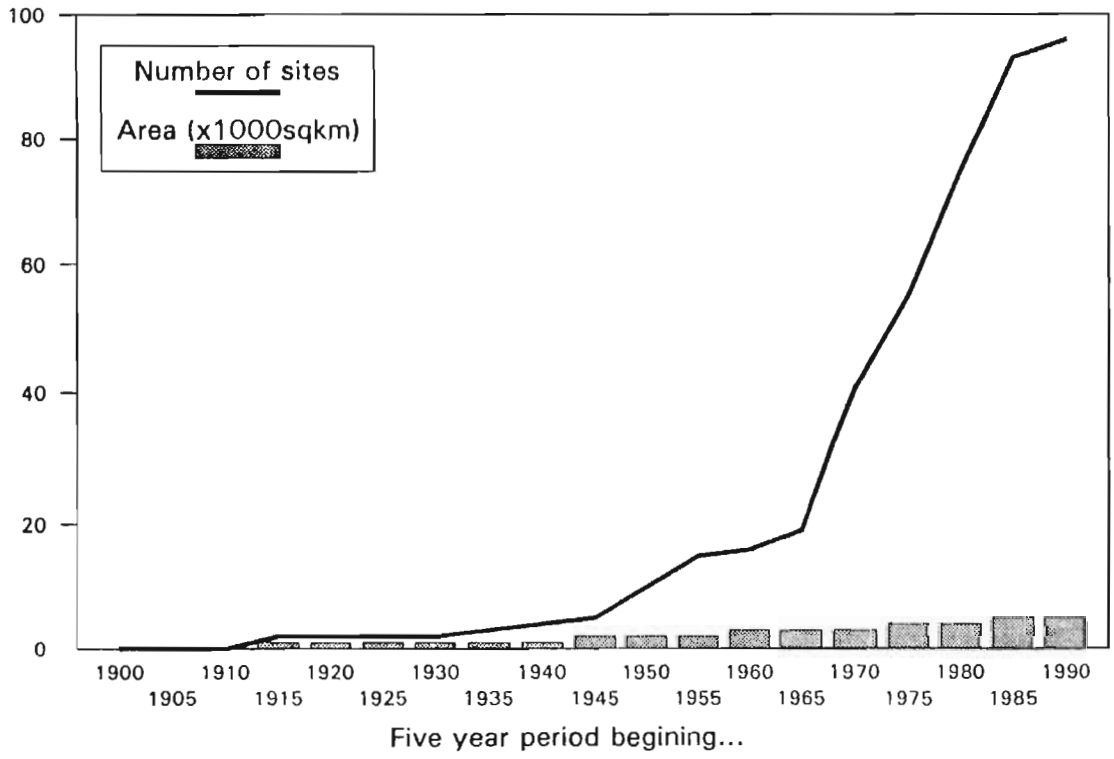


Fig. 3. Non-cumulative growth of the world's protected areas network

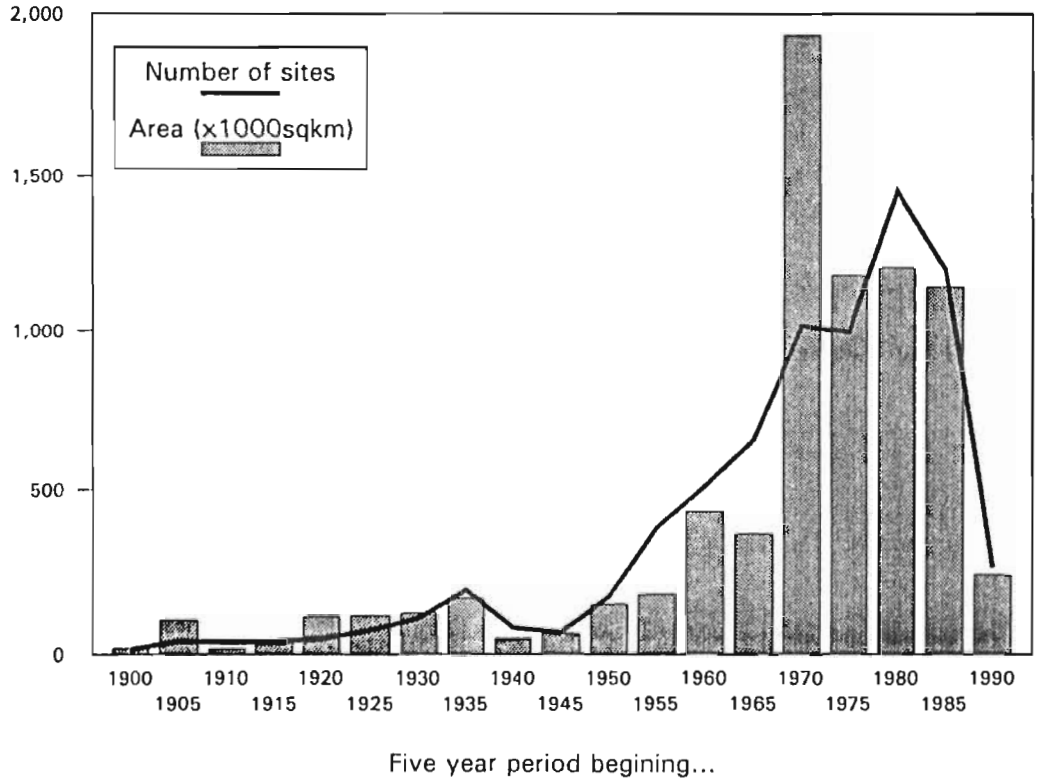


Fig. 4. Non-cumulative growth of the Pacific protected areas network

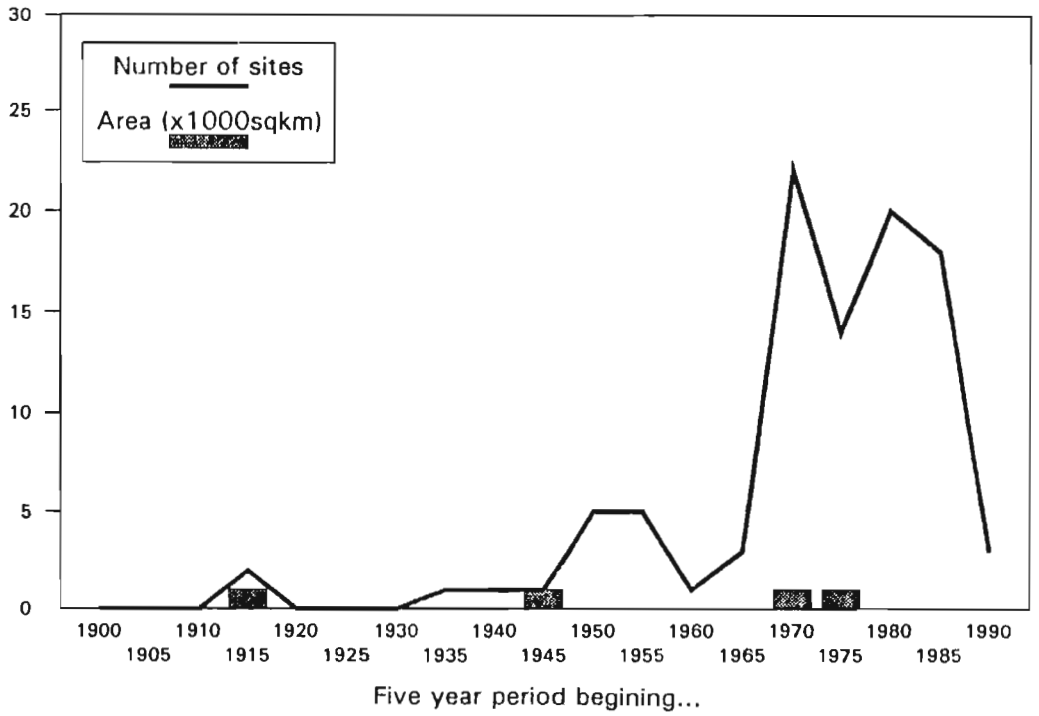
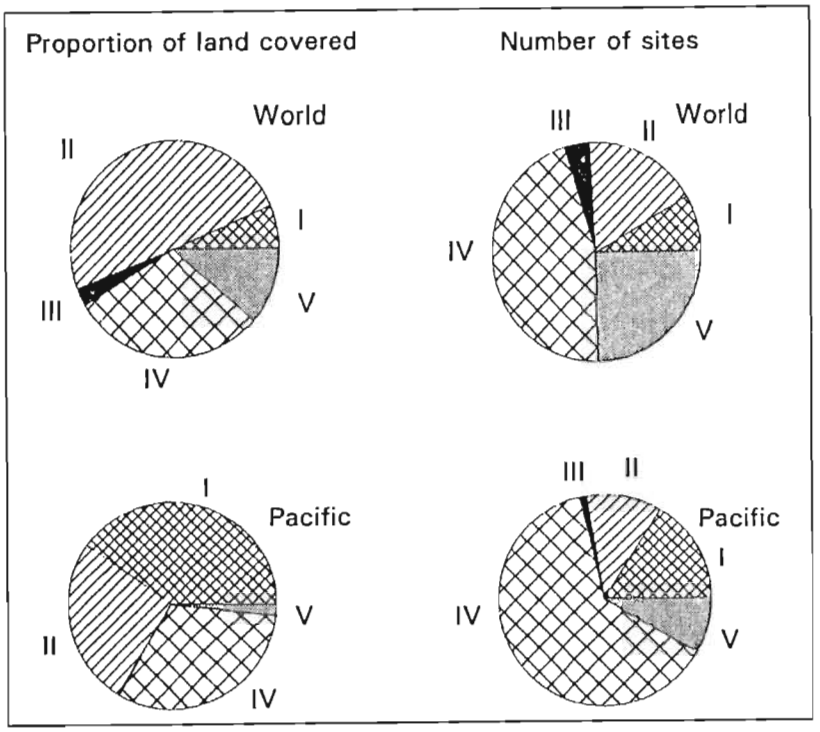


Fig. 5. Analysis of protected areas by IUCN management category; comparison of global and Pacific regional data.



Conclusion

This very brief overview is not intended to be a definitive review, but rather an opportunity to share the data that WCMC has gathered with potential users. There is a continuing need to improve and extend the data held by WCMC. WCMC and SPREP have been developing a joint project proposal, to improve the availability of information in order to support conservation activities in the Pacific.

Recommendations

It is recommended that the Fifth South Pacific Conference on Nature Conservation and Protected Areas consider the following points for inclusion in the revised Action Strategy:

1. That WCMC and SPREP explore means to collaborate in the management of conservation data in order to provide a better information service to Pacific region.
2. That the data contained with the *IUCN. Directory of Protected Areas in Oceania* be maintained by WCMC in collaboration with SPREP, IUCN and national agencies.
3. That preparations be made to publish a revised and updated version of the *IUCN Directory of Protected Areas in Oceania* at the Sixth South Pacific Conference on Nature Conservation and Protected Areas.

National Environmental Management Strategies (NEMS)

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Introduction

Over the past three years, several South Pacific island countries have developed, or commenced development of, National Environmental Management Strategies (NEMS), as a tool to assist in ensuring that economic development activities are undertaken with due regard for sustainability of the environment.

Financial assistance for these Strategies followed consistent requests over a number of years from member governments to the South Pacific Regional Environment Programme (SPREP) for support aimed at strengthening in-country environmental management capabilities and planning. In response to these requests, donor governments and organisations have acted very positively by providing assistance through two major SPREP projects, the NEMS and RETA Projects.

The SPREP / RETA Project, undertaken with financial assistance from the Asian Development Bank (ADB) and the World Conservation Union (IUCN) facilitated Strategy development in five South Pacific countries, namely Cook Islands, Federated States of Micronesia, Marshall Islands, Solomon Islands and Tonga. The SPREP / NEMS Project with financial assistance from the United Nations Develop-ment Programme (UNDP) and the Australian International Development Assistance Bureau (AIDAB), is being undertaken in seven countries, namely Kiribati, Nauru, Niue, Palau, Tokelau, Tuvalu and Western Samoa. Other countries: Fiji, Papua New Guinea and Vanuatu have also developed NEMS with separate financial assistance packages from the IUCN; the World Bank and Government of New Zealand; and AIDAB, respectively. Thus fifteen (15) South Pacific countries have been involved in a process of National Environmental Management Strategy (NEMS) development.

What are NEMS?

NEMS are a statement of a country's environmental principles and a detailed plan for the realisation of that country's long-term environmental goals. The National Environmental Management Strategies (NEMS) are developed following a process of dialogue among government departments, non-government organisations (NGOs), the private sector and the community. Specifically the NEMS process includes comprehensive **planning / strategy development, institutional strengthening, training and community awareness-raising.**

*The **Planning / Strategy Development** component involves:*

- **An assessment of the state of the environment** and identification of critical environmental problems, issues and conflicting uses of resources, information for which has been synthesised from various studies and reports;
- **A review of existing legislation** identifying conflicts pertinent to environmental management, appraisal of the extent of implementation and recommendations for modifications to legislation or new laws in line with the country's environmental management and protection objectives;
- **A review of institutional capabilities** and recommendations for necessary institutional strengthening to support successful implementation of long-term environmental management activities;

- **A review of education, and community awareness-raising capabilities** and recommendations for incorporation of environmental content into the formal and non-formal education systems;
- **Development of environmental management strategies** which address the priority environmental problems and issues and which have emanated from national seminars and wide community consultation;
- **Recommendations on environmental management programmes** which would implement and support the National Environmental Management Strategies (NEMS).

*The **Institutional Strengthening** component involves:*

- **Assessment of existing institutional capabilities** to ascertain the long-term institutional needs for implementation of the environmental management strategy and general environmental protection activities;
- **Task Team/Force establishment** to ensure an inter-departmental, multi-disciplinary and community participation approach to environmental management and protection;
- **Specific Environment Unit establishment and/or strengthening** to ensure that there is a core of professional officers responsible for in-country environmental management.

*The **Training** component involves:*

- Comprehensive short-course training as an integral part of the NEMS process. This training has focused on Environmental Impact Assessment (EIA) and has adopted an inter-departmental, multi-disciplinary approach, involving participants from a broad cross section of government departments, non-government organisations and the community. EIA training has also involved awareness raising of Senior Government Officials. Other training, in accordance with a specific country's needs has been undertaken, such as Water Quality Testing.
- On-the-job-training has been provided for appropriate government officials through the attachment of outside support to help staff the Environment Unit.

*The **Community Awareness-Raising** Component Involves:*

- **Video Production** of separate videos produced in local languages in most of the NEMS countries outlining their specific environmental issues.
- **NGO project assistance** and training activities aimed at ensuring that local environmental NGOs have a strong basis for long-term ongoing activities enabling them to undertake grass-roots activities.
- **Community involvement** in National Seminars, training activities and general awareness-raising activities.

Rationale for Developing NEMS

The rationale for this support stems from the fact that South Pacific countries have:

(i) unique social and cultural characteristics;

(ii) economic dependence upon the utilisation and exploitation of natural resources;

(iii) limited land areas providing few alternative locations for development projects;

(iv) a large proportion of land and near shore coastal area which is ecologically fragile; and,

(v) a limited number of trained environmental/natural resource management personnel.

Many countries are now facing problems of increasing population, rising material expectations and demands for economic growth, and the gradual depletion or degradation of their already limited renewable natural resource base. The greatest threat to the aspirations and well-being of the people of the South Pacific islands is the failure to use these resources in ways that will ensure they are sustained. Island life and most development projects depend on agriculture, fisheries and forestry, but the potential benefits cannot be realised if the resources are not developed and managed on a sustainable basis.

Recent experience has shown that total island productivity declines as natural areas are developed and become degraded through over-use or misuse. Most of the environmental problems now faced by South Pacific countries are the result of poor resource management and unplanned development.

Whilst sound environmental management practices are increasingly being recognised as a necessary part of all development, many countries have urgently required guidance to enhance the effectiveness and efficiency of their evolving environmental management activities and to ensure that they are addressing priority environmental issues. There has also been an urgent need for in-country training to ensure the effective implementation of national environmental strategies and to ensure that existing in-country skills are further developed in relation to environmental management. The development of public awareness of environmental issues is also recognised as an integral component of environmental management programmes to assist people within the community to understand environmental problems and how they can directly contribute to their resolution.

Target Beneficiaries

The target beneficiaries have been member government officials, in particular natural resource managers and decision-makers who have received technical assistance and training to help in the development and implementation of the country's environmental management plan. Local environmental NGOs have also benefited through receipt of operational and environmental training to assist them in their work at the local level. The ultimate beneficiaries, of course, have been the people of the South Pacific as their governments produce and implement sustainable development programmes. Grassroots understanding and participation is crucial to the process. Such participation is essential as most of the fragile ecosystems are owned and managed by local land-owning groups. It is these groups that have to balance short-term economic opportunity with long-term sustainability concerns.

Principles of Implementing NEMS

The following broad principles have guided the process for National Environmental Management Strategy development.

- The emphasis within the strategies has been on development of ***practical*** recommendations which relate to priority environmental issues. The strategies have aimed to apply the insights, skills and resources already available in-country and to build on these to ensure that the final product is relevant to the country concerned.
- The ***process*** of strategy development has been most important, involving as wide as possible community involvement together with government officers and decision makers. The process has, at the same time, provided an opportunity for raising community awareness to environmental issues.
- The NEMS should continue to act as a ***catalyst and facilitator*** helping government officers concerned with the environment to convince their political leaders and especially their Ministries of Finance and Development that sound conservation practices mean sound economic development.
- The activities outlined from the NEMS process as Programme Profiles (projects) to be undertaken to implement the Strategy will be undertaken in ***partnership*** with international organisations and NGOs including churches, women's organisations and youth groups.

Status of NEMS Development

A number of the National Environmental Management Strategies have already been Cabinet-endorsed within respective countries. These include: Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Solomon Islands, Tonga and Western Samoa. In other countries the NEMS are in various stages of development with pre-cabinet endorsed strategies developed for Kiribati, Niue, Palau, Papua New Guinea and Vanuatu, while Nauru, Tokelau and Tuvalu are currently undergoing the process of draft Strategy development.

Relationship Between NEMS and Biodiversity Conservation

The *Legislative/Policy/Institution Reviews* undertaken in each of the countries to assist the process of NEMS development have clearly shown that there is a need for comprehensive nature preservation legislation and even where such legislation does exist, there is a need for enforcement. As well, the Reviews highlight the need for strengthened institutional structure with trained staff to oversee protected area and species conservation and for the need for more open participatory mechanisms to involve traditional land-owners in protected area management.

The *Education/Community Awareness Reviews* undertaken in many countries in support of the NEMS process have also shown a dearth of relevant resource material to educate the community both through the formal and non-formal education systems.

During the process of National Environmental Management Strategy development, each country has identified:

(i) Strategies; and

(ii) Programme Profiles (specific projects) which will serve to put the strategy into action.

The Programme Profiles have been incorporated into SPREP's Work Programme for which funds are being actively sought. A brief analysis of the Strategies and Programme Profiles for each of the countries concerned, shows a **strong emphasis on biodiversity conservation, especially involving community participation**. Below is a country-by-country breakdown of specific Strategies and Programme Profiles which clearly shows a large number of specific activities aimed at nature and species protection.

Conclusion

The National Environmental Management Strategy (NEMS) process has shown that member governments and their constituents in the community are cognisant of the need to produce strategies and plan for protected area development and nature conservation. The importance placed on this is well reflected by the strong emphasis evident through the identification of a large number of specific Programme Profiles aimed at ensuring there are adequate resources available to undertake biodiversity conservation in each of the NEMS so far developed. It is hoped that donor organisations will heed the concerns expressed by people of the South Pacific and will provide adequate assistance in support of these activities.

Annex:

Strategies and Programme Profiles from NEMS Related to Nature Conservation and Protected Areas

Cook Islands (Cabinet-endorsed NEMS)

Strategy 2.2: Preserve traditional knowledge management systems

- Upgrade documentation of traditional environmental knowledge and practices.

Strategy 3.2: Support sustainable use of marine resources

- Development of policies and procedures to minimise over fishing of reefs and lagoons

Strategy 3.4: Establish and manage protected areas

- Development of tourism-based conservation areas.
- Application of traditional knowledge to resource conservation.

Federated States of Micronesia (Cabinet-endorsed NEMS)

Strategy 4: Improve environmental awareness and education

- Development of a "grass-roots" community education programme.
- Documentation and application of traditional knowledge and management systems.

Strategy 5: Manage and protect natural resources

- Resource Information System development.
- Reef and lagoon resources survey for Chuuk State and the Outer Islands of Yap and Pohnpei States.
- Nan Madol Master Plan.
- Endangered species and habitat action plan.
- Participation in regional and international biodiversity programmes.
- Programme to preserve traditional forest knowledge and raise landowner awareness of forest values.
- Total species marine preserve pilot project.
- Conservation programme for marine turtles.

Kiribati (Draft NEMS)

Strategy 5: Development and Protection of the Resource Base

- Protection of special habitats and species.
- Conservation and management of mangroves.
- Review and improve conservation arrangements for the Phoenix and Line Islands.
- Establishment of an arboretum of traditional cultural and medicinal plants of Kiribati.
- Training workshops on the conservation and management of reefs and marine living resources in Kiribati.

Marshall Islands (Cabinet-endorsed NEMS)

Strategy 6: Managing Marine and Coastal Resources for Sustainability

- Developing marine resource conservation regulations.
- Developing marine biodiversity conservation programme.
- Promoting giant clam and trochus mariculture.

Strategy 8: Protecting special areas and species

- Developing nature conservation legislation.
- Establishing network of protected areas.
- Creating interagency conservation body.
- Developing eco-tourism.

Strategy 9: Protecting Cultural Values and Practices

- Developing cultural resource management plans.
- Developing cultural resource regulations.
- Establishing historic site register.
- Developing cultural resource education programmes.
- Assessing modern applications of traditional knowledge.
- Documenting cultural resources.
- Establishing network of cultural preservation officers.

Niue (Draft NEMS)

Strategy 5: Strengthening the resource database

- Ecological surveys of terrestrial vertebrate fauna.
- Systematic botanical survey.
- Marine resource survey.
- Computerised resource database.

Strategy 6: Protecting areas of high ecological, wilderness and cultural values

- Development of a conservation area system for Niue.
- Identification of areas of conservation significance.
- Development of a model conservation area with full landowner participation.
- Participation in regional and international biodiversity programmes.
- Population survey of birds and other species of fauna.
- Study of costs and benefits of biodiversity conservation in Niue.
- Establishment of conservation areas on customary lands.

Strategy 8: Sustainable use and management of land resource

- Community forestry awareness and traditional knowledge programme.
- Development of government forest police and awareness programme.
- Expanded reforestation programme.
- National tree planting programme.

Strategy 9: Sustainable use and management of marine resources

- Impose seasonal sanctions on endangered reef resources.

Palau (Comprehensive Conservation Strategy)

- Development of a National Conservation Law Enforcement Programme.
- Documentation of natural resource habitat needs and establishment of core Preserve Areas.
- Support for the Palau Wildland and Forest Management Act.
- Assistance to States to designate Preserve sites under the Natural Heritage Reserve System Act.
- Continuation of work to support the concept of Bioreserve Planning for specific sensitive areas with The Nature Conservancy (TNC).
- Development of a management and enforcement framework for existing and planned Reserves (incorporating local involvement in the planning and management of reserve areas).
- Utilisation of traditional and local knowledge.
- Baseline studies and research on endangered species and endemic plants.
- Marine resource stock assessment.
- Terrestrial resource status assessment.
- Enforcement support for traditional management systems.

Papua New Guinea (Strategic Plan)

Programme 9: *Conservation*

Objective 1: To build effective systems for accumulating, storing and using knowledge of the natural, historical and cultural resources of PNG so as to identify conservation needs.

Objective 2: To build effective systems for accumulating, sorting and using knowledge of the way natural, historical and cultural resources are used by local communities so as to identify appropriate methods.

Objective 3: To examine existing conservation methods and experiment with new conservation methods so as to discover those most suitable for Papua New Guinea and its peoples, seeking in particular methods which are grounded in local tradition and/or which foster participation by local communities and landowners in conservation management.

Objective 4: To create an effective system for identifying conservation opportunities in the field, and to deliver the follow-up actions required to get new areas and/or resources into the conservation system.

Objective 5: To improve management of the existing conservation areas, strengthen protection of the protected species and increase the Division's capability to undertake all the other conservation roles and responsibilities entrusted to it.

Objective 6: To build up a strong network of co-operative working relationships with Government agencies at all levels, with NGOs both national and international, with universities, with donor agencies and with any other groups or individuals who can help achieve the Programme objectives.

Objective 7: To put mechanisms for conservation advocacy in place in order to ensure that conservation options will be considered whenever significant planning or resource management decisions are being made.

Other activities include:

- Establishment of a Conservation Resource Centre (CRC) to achieve an immediate "capacity boost "
- Conservation Needs Assessment to assess biological resources of PNG and taking into account factors including biodiversity and threats to conservation, prepare guidelines for identifying priority areas and resources for inclusion in the Conservation System.

Solomon Islands (Cabinet-endorsed NEMS)

Strategy 4: Improving environmental awareness and education

- Documentation of traditional knowledge and management systems.
- Application of traditional knowledge and management systems.

Strategy 5: Strengthening the resource base

- Ecological survey of terrestrial vertebrate fauna.
- Systematic botanical survey.
- Dugong survey.
- Reef, estuary and lagoon resources survey.

Strategy 6: Protecting area of high ecological wilderness and value

- Development of a conservation areas system.
- Participation in regional and international biodiversity programmes.
- Identification of areas of conservation significance.
- Development of a model conservation sea with full landowner participation (Komarindi Conservation Area).
- Nature sites development.
- Proposed World Heritage Sites: Lake Te Nggano and Marovo Lagoon.
- Regulation and monitoring of wildlife trade.
- Population survey of parrot species currently subject to trade.
- Costs and benefits of conservation of biological diversity in Solomon Islands.

Strategy 9: Sustainable use of forest resources

- Customary landowner forestry awareness and traditional knowledge programme.

Strategy 10: Sustainable use of marine resources

- Conservation of marine turtles.
- Crocodile population monitoring.
- Creation of marine reserves.

Strategy 11: Coastal environment management

- Mangrove case study and community education.

Tonga (Cabinet-endorsed Action Strategy)

Strategy 7: Improve and update basic data on natural resources.

- Develop a national resource information system (TONGRIS).
- Natural resources and ecosystems survey.

Strategy 8: Protect the Kingdom's' biological diversity

- Strengthen wildlife management capability in the Kingdom.
- Replanting traditional, medicinal and culturally important plants.
- Management planning for protection of 'Eua National Park.
- Preservation of key natural and cultural sites in Vava'u.
- Royal Memorial Botanic Gardens.
- Pilot programme for the control of rate and feral cats on selected outer islands.

Vanuatu (National Conservation Strategy)

National Conservation Goal 3.1: Change the way Vanuatu values natural resources.

National Conservation Goal 3.2: Improve community understanding of environmental processes.

National Conservation Goal 3.5: Ensure biological resources are used sustainably.

Western Samoa (Cabinet-endorsed NEMS)

Target Environmental Compotent 3: Protection of the sea and marine resource.

- Coral Reef / Mangrove Ecological Monitoring.

Target Environmental Compotent 7: Conservation of Biological Diversity

- Ecological Survey of Midslope and Upland Forests.
- Conservation and sustainable management of mangroves and environs at Saanapu-Sataoa.
- Protection and sustainable use of the lowland forests of Aopo-Letui-Sasina. Planning for Protection and sustainable use of the lowland forests and islands of the Aleipata District.
- Development of a National Biodiversity Garden.
- Establishment of a Biodiversity Database.
- Birds survey and conservation.
- Compilation and publication of a Flora of Samoa.

South Pacific Biodiversity Conservation Programme: Its Concept and Scope

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Background

The tropical South Pacific region is renowned for its high levels of species diversity and endemism. Species endemism and diversity appear to be highest on the larger islands of the western Pacific (Papua New Guinea, New Caledonia, Solomon Islands and Vanuatu), declining east from the continental masses, and south and north from the equator.

The region has the most extensive coral reef systems in the world, with vast and complex marine ecosystems. Virtually all of the islands in the South Pacific region are entirely coastal in character. That is, all parts of the island influence, or are influenced by, processes and activities occurring on coastal lands and in nearshore waters. The countries and territories of the region are classified as 'small island nations'; that is, they are coastal-oriented with large coast to land ratios. The lack of an inland economic base and the highly concentrated populations along the coast points to the fact that the economies of the countries of the region are heavily dependent on the coastal resources. The only clear exception is Papua New Guinea which would be considered among the 'larger island nations' which are also coastal-oriented but have a more dispersed population and economic base.

People of the South Pacific rely on the biological resources for their subsistence and for their economic, social and cultural well-being. The culture of all island societies is inextricably linked to the diversity of living species which characterise the different island environments. Island biological diversity and its component species are among the most critically threatened in the world. Island systems are fragile because of their generally small size; a large proportion of the land, its inhabitants and the adjacent sea are likely to be affected by disturbances that might be only minor regional events on a larger land mass.

Recognition of the significance and value of biological diversity is growing within the region and the present inadequate status of the protected area system is widely acknowledged. The implementation of policies to conserve fauna and flora in the region remains difficult because of financial and manpower constraints and also the particular constraint imposed on governments by customary ownership, complicating negotiations for the establishment of protected areas and the financial or other compensation of the landowners.

The South Pacific Biodiversity Conservation Programme (SPBCP)

Dr Randy Thaman had this to say about the value of biodiversity to Pacific societies: "For most Pacific island societies, biodiversity is not just a matter of scientific, economic, recreational or ecological value. It is a capital inheritance which has been passed on, relatively intact or sometimes enhanced, by past generations to current and future generations of Pacific islanders. Biodiversity is not income that can be spent and replaced; it is capital needed for development and maintenance of Pacific societies and upon which subsistence affluence and almost all income (both cash and non-cash) is derived. It is the basis for their ecological, cultural and economic survival in the modern world. Hence, whereas the predominant focus for most developed-country motivated biodiversity conservation programmes include uniqueness or endemism, scientific importance, research values and other technical discoveries, for the South Pacific region, the focus must lie in biodiversity's central role as the basis for ecological, cultural and economic survival".

The above explains the SPBCP; a five year US$10 million endeavour to establish and initially manage a series of large, diverse Conservation Areas (CAs), in which human activities will be guided to protect important ecological features and to enable sustainable use of the area's natural resources. Ancillary activities will be concerned with supporting the same objectives through provision of information, species protection, regional policy analysis and educational programmes.

The SPBCP is funded by the GEF (Global Environment Facility), a joint effort of the World Bank, UNDP and UNEP, and will provide technical and financial assistance for biodiversity conservation activities in the following countries of the region: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Western Samoa. Other member countries of SPREP may participate in SPBCP-supported activities although they will not be able to receive support from the GEF.

The SPBCP Concept

The intimate involvement of local land-owning groups is particularly important in the Pacific Islands context and is fundamental to the success of the SPBCP. Hence, the establishment and management of CAs under the Programme (SPBCP) will involve working very closely with local communities and land-owning groups. Representatives from these groups are expected to work together with government officials, NGOs, and others, through CA Coordinating Groups or similar management structures, in the planning and implementation of CA work plans and management strategies.

The SPBCP will also provide technical assistance to participating countries of the region to promote the conservation of regional biodiversity. This assistance will be provided within a regional programme framework and through the provision of funds and technical assistance coordinated at the regional level. SPBCP outputs will have, and achieve both national and regional objectives. For example, the conservation of priority representative areas at the national level will contribute to the goal of achieving a regional system of representative conservation areas. Similarly, rapid ecological surveys at the national level will provide valuable information on the priorities for conservation at the national level and will add substantially to knowledge of the region's ecosystems.

Conservation Area Philosophy

For the purpose of the SPBCP, a Conservation Area is a large, diverse area which contains important features for the conservation of the biological diversity of the region or country, and in which human activities are guided to protect these features and to enable the sustainable use of the area's natural resources in the long term.

Conservation Areas are therefore not National Parks or Nature Reserves but areas in which sustainable development practices are undertaken which respect and enhance critical habitats, while providing for the economic well-being of the local land-owners and communities. These practices will be developed by in-country working groups of biodiversity experts, relevant government officials, land-owning groups and appropriate local authorities. Once these sustainable practices are developed and implemented, it is hoped that they might be replicated in other similar areas.

As indicated earlier, the involvement of local land-owning groups in biodiversity conservation efforts in the Pacific Islands is particularly important. The unique patterns of customary ownership of land and marine resources, which in effect place these resources under communal and/or private ownership depending on the context, dictate that there must be close cooperation and dialogue with the rural communities of the island countries if conservation efforts are to be understood and succeed.

Criteria for the selection of CAs

To qualify as a CA under the SPBCP, a site must meet all criteria listed below under Category I and/or, as many as possible of the criteria listed under Category II.

Category I (essential):

- must contain nationally or regionally significant examples of one or more ecosystems of global conservation concern, such as tropical rainforest, mangroves, wetlands, lagoons and coral reefs;
- must have a high degree of commitment and support by landowners, residents, resource users and other potential partners to the objectives of the SPBCP and the establishment and management of the local CA project.

Category II (desirable):

- is sufficiently large and complex to encompass a wide range of the interactions between people and natural resources prevailing in the country;
- contains high levels of biological diversity and ecological complexity, represented by a number of major environments, diversity of ecosystems, and/or large numbers of genera and species of plants and animals;
- is important for the survival of endemic species, or of species that are rare or threatened nationally, regionally or globally; and/or
- is threatened by destruction, degradation or conversion.

Relationship with other on-going conservation efforts

The South Pacific Regional Environment Programme (SPREP), the executing agency for the SPBCP, has a specific implementation mandate from its member governments for biodiversity conservation in the region through the *Action Strategy for Nature Conservation in the South Pacific Region.* Also, the SPREP is responsible for two regional conventions with biodiversity components which have been formally ratified by its member governments and are now in force. These are (i) the Convention for the Conservation of Nature in the South Pacific (the Apia Convention); and (ii) the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (the SPREP Convention).

Within the framework of these two legal instruments, there have been, and are ongoing broad-scale efforts such as Geographical Information Systems (GIS) surveys, land use surveys and forestry mapping exercises that identify critical habitats. These efforts, while useful, have produced information in scattered unlinked forms that cannot be easily used by others involved in related biodiversity activities. Several specific areas have been identified or proposed as possible CAs; these may contain habitats critical to the survival of threatened or endangered species. To date however, only two conservation areas along the lines contemplated by the SPBCP have been established.

On the marine side, the SPREP Regional Marine Turtle Programme funded by ICOD (International Centre for Ocean Development) undertakes country-specific tagging and census gathering activities. There is also a database and a turtle conservation bibliography, and conservation management plans for marine turtles in various countries. The concept of a Regional Marine Mammals Programme has also been endorsed by an Intergovernmental Meeting (IGM) of SPREP in 1990 and an initial programme draft formulated but no funding has been received for further work. These programmes have now benefited from the SPBCP.

The SPBCP hopes to bring together in a much more coordinated manner ongoing and planned conservation activities in the region. It will complement, and where appropriate, support or jointly finance biodiversity conservation efforts of international and regional organisations working in the region. The SPBCP will also cooperate with scientific and research organisations based in the Pacific Islands. However the emphasis of the SPBCP is action, not academic studies. Hence, research activities supported by the Programme will be encouraged to concentrate on areas which can be used to improve the selection or management of CAs, practical aspects of sustainability, or provide information directly to improve national or regional biodiversity policies.

NGO Participation

One of the best ways of reaching local communities, land-owning groups and those outside government involved in conservation in the countries of the region is through the use of local NGOs which operate widely, and often very effectively, at the grass roots level. NGOs are often much more effective than government agencies in rural communities and, in some cases, are appropriate agencies to help establish and manage CAs and train local groups. The SPBCP is fully aware of this potential within the NGOs and will therefore undertake to ensure the full participation of local NGOs in the Programme. To this end, the CAs envisaged under the SPBCP will not necessarily be government initiatives, as NGO-managed CAs will also be considered.

Current Status of the SPBCP

The Project Formulation Framework (PFF) was endorsed by a number of South Pacific countries in 1990. It was then approved by the GEF partners in 1991 and this has given impetus to the work that followed. The Preparatory Assistance (PA) phase (the design phase) commenced in January 1992 and finished in October of the same year.

The purpose of the PA was to:

- refine the Programme design culminating in the Project document;
- define the relationship of the GEF with other programmes of SPREP and other regional organisations;
- gather detailed information on potential conservation areas and species from the countries covered by the Programme and where possible, those outside the scope of the Programme;
- consult with member countries of the Programme and assist with the design of country specific conservation area implementation strategies;
- begin where appropriate, site specific activities for areas that already have plans designed for them; and,
- coordinate with other conservation efforts and agencies in the region.

To date, the following progress has been made:

- The Programme design was completed in October 1992 and the project document signed between SPREP (on behalf of member governments) and UNDP in April 1993.
- Consultation with participating countries has been underway since 1992 and is continuing.
- A large number of national, regional and international organisations have been consulted and many more will be consulted in the course of Programme implementation.
- National biodiversity overviews have been commissioned for most of the countries covered by the Programme to ensure that implementation efforts benefit from the most up-to-date information available within the region.
- Two conservation areas have received financial assistance and a few conservation area concepts/proposals are under review.
- A regional workshop was held to explain the objectives of the GEF and to inform countries of the launching of the SPBCP.
- A few Programme staff have been recruited and a few more will be recruited shortly.

Expected End-of-Project Situation

The GEF, through the SPBCP, provides a unique opportunity for assisting current and planned efforts in the South Pacific to protect its biodiversity for the benefit and enjoyment of present and future generations. The threatened and endangered species of the region are direct beneficiaries of the Project. Local land owning groups and other concerned community groups who live in or near by conservation areas will benefit directly as their biological heritage is preserved for themselves and their children. The people of the Pacific Islands will all benefit as sustainable development programmes are initiated and managed in a way that will maintain, and possibly improve, their short-term prosperity and long-term quality of life.

Following from the above, it is expected that at the end of the project, the following situation will be reached:

1. A number of CAs will have been identified, established and initially managed by the SPBCP with sustainable management structures in place for at least half of the areas;
2. Knowledge of the state of the environment in the region will have been greatly improved and information will be readily accessible;
3. Improved criteria for the selection and management of CAs will have been developed thus improving the chances of further successful biodiversity protection in the region;
4. For specific CAs, some or all of the following will have been underway or completed:
   a) boundary surveys;
   b) key species established as indicators;
   c) CA plans developed;
   d) sustainable practices developed and implemented;
   e) monitoring system in place; and,
   f) appropriate training given to members of local communities and land owning groups to enable them to manage and monitor CAs;

5. Protection and management plans for endangered species including marine turtles and mammals and avifauna developed and implemented;

6. Practical research will have been carried out to identify other threatened or endangered species;

7. Improved policies and legislation will have been developed for species and biodiversity conservation;

8. Good-quality educational and promotional materials explaining the importance of biodiversity conservation will have been developed and widely distributed;

9. National and regional databases concerning threatened and endangered species will have been established and regularly updated and information sharing network established;

10. Closer cooperation between governments, NGOs, land owning groups and local communities will have been made possible or improved in the management of conservation areas.

Conservation Areas Supported by the SPBCP

Two on-going conservation areas have received support from the SPBCP. These are the Palau Biodiversity Conservation Programme and the Pohnpei Integrated Watershed Management Project.

The Palau Biodiversity Conservation Programme (PBCP) will protect the Rock Islands and the Ngeremdu Bay mangrove area both of which have very high biodiversity conservation values. Both areas have considerable ecotourism potential and could provide useful models for integrating tourism and conservation. The Rock Islands have remained unspoiled for many generations. Its relatively undisturbed forests and reef ecosystems are difficult to match elsewhere in the Pacific. Thus the Palau project is a unique example of what the biodiversity of the country was, and it will be a major challenge for future generations to protect and nature for the benefit and enjoyment of all Palauans.

The Ngeremdu area on the other hand is concerned with the protection of Palau's largest area of mangrove forest. This area is home for many of Palau's land and marine species of fauna and flora. Like the Rock Islands, the Ngeremudu Bay, apart from its important biodiversity values, is also an important historic and tourist site. A number of war relics are found in this area and if protected and preserved properly, could become popular tourist attraction. This could subsequently help protect the biodiversity of the Bay, and generate a sustainable economic activity for the neighbouring communities.

The Pohnpei Watershed Management Project has as its goal the protection of the high areas of the island for water conservation purposes. In these areas are a lush and biologically diverse rainforest, impressive canyons and waterfalls, and a mountain cloud forest situated at 2 600 ft above sea level. The rainforest habitat is home to several endemic birds and plants of the FSM and the mountain cloud forest is unique within Micronesia. The *Watershed Protection Act 1987*, mandated that this area be managed as a watershed forest reserve and the SPBCP has committed US$150 000 in support of the project. Another US$585 000 will be contributed by the Asian Development Bank over the next two years.

The Special Case For The South Pacific

The small size of Pacific Island countries, their lack of technical expertise and national resources, national budget constraints, local uncertainty regarding the value of biological conservation relative to other investments, and the cooperative international nature of successful conservation efforts in an oceanic environment all preclude effective national action in developing and implementing biodiversity and sustainable resource use programmes in the region. Government agencies involved with environmental management are often small and have little real effect on decisions in their countries. Most governments also lack the necessary framework for determining priorities for environmental management and linking environmental and economic decision making.

While the region's governments are struggling to improve their capacity to manage and use their resources in a sustainable and economically viable manner, the same resources are coming under considerable pressure from increasing populations and the effect of resource development which have led to the loss of habitats, ecosystems and individual species. For the smaller islands of the region, such as atolls, up to 75% of indigenous plant species are in danger of extinction. Endemic species can be lost in the space of a few months through the destruction of critical habitats or through the introduction of predators, insect pests and diseases.

These factors would argue for a special case for the South Pacific region. Achievement of the conservation objectives of the SPBCP will require the unconditional support of the international community, as well as the commitment of new, additional, and continuing financial support at levels beyond those currently available from the GEF. The huge size of the region, the small number of people responsible for its protection, and the serious lack of resources to implement conservation programmes means that current and future conservation efforts in the region will continue to be frustrated and ineffective.

The preparation of National Environment Management Strategies (NEMS) now underway with SPREP assistance in 12 countries of the region is seen as a positive step for the coordination and implementation of sustainable development programmes in countries of the South Pacific. Forestry development, (or any other development for that matter) often responsible for massive losses of biodiversity, if implemented within the framework of these strategies, will no doubt result in development that is economically, socially and culturally viable and sustainable on a small island environment. Annex 1 shows a country-by-country breakdown of specific Strategies and Programme Profiles which clearly shows a large number of specific activities aimed at nature and species protection.

International Union for Conservation of Nature and Natural Resources: European Community Protected - Protected Area Initiatives

PHC Lucas
IUCN The World Conservation Union
Wellington, New Zealand

Introduction

IUCN - The World Conservation Union greets its partner organisation - SPREP and all participants in this Fifth South Pacific Conference on Nature Conservation and Protected Areas. IUCN takes pride in having been associated with all five of these conferences beginning in Wellington in 1975. IUCN commends the theme of "Community involvement in conserving biodiversity in the South Pacific Region" as being both timely and appropriate.

It is good to recall that at the SPREP Meeting in Apia in 1992, IUCN and SPREP signed a Memorandum of Understanding to formalise our relationship as partners in this region. This is being carried through by way of agreed cooperative programmes. Under this arrangement, for example, IUCN is providing support for this conference.

IUCN has prepared a draft Strategic Plan which will be presented to its 19th General Assembly in Argentina in January 1994 and its is to be hoped that the South Pacific will be well represented at this triennial meeting of the 'Parliament' of IUCN. The draft Strategic Plan emphasises greater regionalisation and it is good that, in this region, IUCN sees this policy being put into practice through its cooperative programmes with SPREP.

This presentation on new initiatives involving protected areas will cover four topics:

- The Caracas Action Plan
- A European Community initiative on Protected Areas
- Development under the World Heritage Convention
- Protected areas work by the World Conservation Monitoring Centre

Caracus Action Plan

Since we last met in Port Vila, IUCN has organised the largest meeting in its history attended by some 1 800 participants. It was the IVth World Congress on National Parks and Protected Areas held in Caracas, Venezuela in February 1992.

The Congress had the theme of "Parks for Life". In the words of IUCN's Director General, the Congress "brought a new understanding of the importance of such areas for the future of the world, and of all the species that inhabit it including our own. Protected Areas are a key to safeguarding the living diversity of the Earth. They are vital to the maintenance of the planetary life-support system. Their establishment and management is an essential element in the process we today term 'sustainable development'. They contribute positively to the economic, cultural and spiritual wealth of nations. And they are as vulnerable as the works of human hands - and, once damaged, even harder to restore".

A key product is the Caracas Action Plan which provides a framework for action under four major objectives:

Objective 1. Integrate protected areas into larger planning frameworks

Objective 2. Expand support for protected areas

Objective 3. Strengthen the capacity to manage protected areas

Objective 4. Expand international cooperation in the finance, development and management of protected areas.

IUCN sees the central task of implementing the thinking in the Caracas Action Plan as lying in the preparation and implementation of regional action plans or strategies. An example is the *Action Plan for Nature Conservation in the South Pacific* which has guided protected areas in this region and which is to be reviewed here. In this respect, the Pacific is in advance of other regions such as Europe and East Asia, where only now are regional action plans for protected areas being prepared.

European Community Project in Protected Areas

This project grew from a partnership between IUCN and the European Community (EC) fostered at the Caracas Congress. Its principal objective is to prepare a strategy for developing and strengthening institutional capacity in the planning and management of protected areas with support from the European Development Fund (EDF).

The EDF provides for technical and financial co-operation between the EC and developing countries. It is implemented under the Lomé Convention (named from the capital of Togo where it was negotiated). This is a trade and aid agreement between the EC and 69 African, Caribbean and Pacific countries, known in EC language as ACP. The eight Lomé countries in the Pacific Region are Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu and Western Samoa.

Phase IV under the Convention (known as Lomé IV) will provide some 12 billion ECU in development aid to the ACP states during 1990-95. This assistance is negotiated between the Commission of the European Communities in Brussels and recipient countries, and is managed in those countries with oversight from EC delegations in the regions. In the Pacific, principal EC delegations are located in Fiji and Papua New Guinea, with sub-offices elsewhere.

Lomé IV is innovative in providing for support of projects addressing the environment. The EC is now concerned that development is based on a sustainable balance of economic objectives and enhancement of human and natural resources, including heritage protection.

The EC/IUCN project is intended to highlight the role of protected areas in conservation of biological and cultural diversity, and guide further developments.

The project was launched in the Pacific at an inaugural meeting of the CNPPA Pacific Region Committee, convened in Apia in April this year. The Committee's roles include oversight and review of the project. Paul Dingwall is coordinating the project on behalf of IUCN, with supervision in the region provided by Iosefatu Reti. Several others have been contracted to assist.

The core report addresses the status and role of protected areas in biodiversity conservation and development. In turn, it deals with the character of biodiversity in the Pacific; human pressures on biodiversity; progress in biodiversity conservation; and the constraints and prospects of using protected areas.

A second part of this report presents a programme, including resources and funding requirements, with the dual objective of:

- building protected area institutional capacity for biodiversity conservation, and
- providing direct assistance for protected area development.

The programme elements are a series of project proposals addressing the following priority activities:

Institutional capacity building:

- public awareness and education
- training, including study tours and training schools
- information management

Direct assistance to protected area development:

- provision of technical experts
- surveys of threatened ecosystems
- selection of priority areas for conservation
- equipment purchase
- employment of local protected area staff
- lease/rental and compensation costs of land
- support to complementary and alternative community activities/facilities
- legislation and policy development
- establishment of Trust Funds

The proposals take account of relevant conservation conventions in the region, national and international initiatives including recommendations in National Environmental Management Strategies (NEMS), and in particular, the development of the Conservation Area concept under the South Pacific Biodiversity Conservation Programme.

The key issue here is to ensure that the product is not just another strategy to lie alongside existing ones, but one which builds on what has gone before, complements what is happening now, and provides the necessary support and encouragement for Pacific countries to become involved in the protected area and biodiversity conservation process.

It is intended that the draft report be examined and reviewed during this Conference and that it be discussed with representatives of Lomé states. Comments and contributions to the review process are welcomed. For this purpose, the project coordinator is due to arrive in Tonga today and is keen to discuss the draft especially with representative from the Lomé countries and with Iosefatu Reti. It is planned to provide time for this on Wednesday evening in association with the CNPPA meeting.

The reports from the ACP regions will be amalgamated in IUCN Headquarters later in the year for submission to the EC early in 1994.

World Heritage Convention

When we met in the fourth of these conferences in Port Vila in 1989, Dr James Thorsell of IUCN spoke on the operation of the World Heritage Convention. Since then, Fiji and Solomon Islands have become parties to the Convention which now has 134 States Parties, the most of any international conservation convention. Since then, Dr Thorsell has continued to work in the World Heritage field and he has been joined in IUCN's Protected Areas Unit at Gland, Switzerland by David Sheppard who came to IUCN from SPREP. Both regret that they cannot be here because this week coincides with a series of secretariat meetings vital for preparation for the General Assembly, but both send their best wishes to their friends here for a very successful conference.

The World Heritage Convention and its relevance to the region was discussed at a Seminar on Sustainable Tourism Development in South Pacific Countries held at Suva in November 1991. That seminar was jointly organised by ESCAP, TCSP and SPREP and included sessions on the Convention.

The record of tnat seminar includes the following:

> "World Heritage sites could be inscribed for either their cultural or natural value, based on selection criteria which were considered (by the seminar) to be oriented more to the European situation than to the Pacific. Hence, there was a consensus among the participants that in any review of the Convention and its operational guidelines, attention should be given to modifying the criteria in order to include the heritage of the Pacific Island countries".

The World Heritage Committee completed an extensive review of the operation of the Convention over its first 20 years when the Committee met in December 1992 at Santa Fe, New Mexico, USA. At that meeting, IUCN reported the views expressed at the South Pacific tourism seminar when the Committee discussed recognition of so-called 'cultural; landscapes' under the Convention. The outcome of this was a decision to revise the criteria for cultural properties under the Convention's operational guidelines to provide for 'cultural landscapes' to be listed if they meet the criteria including "outstanding universal value."

Briefly, 'cultural landscapes' are defined as those which illustrate both specific land-use techniques and a spiritual communion with nature. Under the revised operational guidelines they can be classified broadly in three categories:

- Clearly defined landscapes designed and created intentionally by man, such as, for example, gardens and parks;
- Organically evolved landscapes resulting from successive social and economic imperatives and in response to the natural environment;

In some of these landscapes the evolutionary process may have come to an end, in which case they have become relict or fossil landscapes. Others are continuing landscapes retaining an active social traditional way of life in which the evolutionary process is still in progress.

- Associative cultural landscapes are landscapes which justify inclusion on the World Heritage List by virtue of the powerful religious, artistic or cultural associations of the natural element, rather than material cultural evidence.

Clearly, these operational guidelines have direct relevance to the South Pacific and mark a moving on from a Eurocentric approach under the Convention.

The World Heritage Committee is anxious to have indicative lists of potential World Heritage sites from States which are parties to the Convention covering both natural sites and cultural sites (including cultural landscapes). For this region, where only a small minority of States are parties to the Convention at this time, it could be useful for an attempt to be made to prepare a regional indicative list of potential World Heritage sites as was done informally by a workshop in Suva at the tourism seminar. It would be interesting to see such a list based on the extended operational guidelines.

World Conservation Monitoring Centre

At the Port Vila conference in 1989, Jeremy Harrison participated as head of the Protected Areas Data Unit (PADU) of the World Conservation Monitoring Centre (WCMC) based in Cambridge, United Kingdom. WCMC maintains a global data base on species and protected areas and is a joint initiative of UNEP, WWF and IUCN.

At this conference, WCMC is represented by James Paine and he is anxious to work with us all to enhance the database of protected areas for the Pacific. He wants to follow up on a number of issues relating to information on protected areas.

IUCN Directory of Protected Areas in Oceania

This was published by IUCN with the help of many of you and your agencies in 1991 and in collaboration with IUCN's Commission on National Parks and Protected Areas and SPREP. For those not familiar with the directory, it covers each country or territory, summarises protected areas policy and legislation, international involvement, administration and management agencies, references, summary of protected areas, a map and information on each protected area. The result is a most useful picture of the protected areas in the Pacific and reflects great credit on its compilers and all who contributed to it.

Maintenance of protected areas data

PADU is naturally concerned to ensure that data in the Directory is updated regularly with the Directory, itself, possibly reprinted in time for the Sixth Conference as an integral part of the revised *Action Strategy* developed from this conference. It would be useful for WCMC to know what sort of a cycle of publication you would like to see in the future. One possibility is that a revised version of the Directory could be published in electronic form for each of these conferences with a hard copy version for every second conference. WCMC would be very keen to support such an initiative and to continue to provide the sort of data maintenance activities they already undertake for the Pacific region.

Possible collaborative project between WCMC and SPREP

WCMC, after discussion with SPREP staff, has developed a draft proposal for a collaborative project to facilitate the work of the South Pacific Biodiversity Conservation Programme and other SPREP activities; to provide a global point of reference for information flowing to and from SPREP; and to enhance WCMC's capacity to provide an information service for and on the South Pacific. James Paine has details of this draft proposal with him.

Information package for CNPPA Meeting

The Commission on National Parks and Protected Areas of IUCN is to meet on an evening during this conference under the Commission's Vice-chair for the Pacific, Iosefatu Reti. For this meeting, WCMC is providing a briefing on protected areas within the region and on related WCMC activities. The meeting will also provide a vehicle to review and update the information WCMC has available for use by CNPPA Vice-chairs and members in each region.

All participants, whether CNPPA members or not are warmly invited to participate in the CNPPA meeting when we will be discussing the manner in which the voluntary network of individuals can better serve the protected areas community in this region.

IUCN-CNPPA Marine Protected Areas In The Pacific

Professor Graeme Kelleher, AM
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Introduction

> *"How complex and unexpected are the checks and relations between organic beings, which have to struggle together in the same country"*
> (Charles Darwin, 1882)

Charles Darwin was referring to living organisms. He is quoted here because the complex, interrelated environmental problems which the world is seeing at the end of the 20th Century reveal that his observation is equally applicable to the checks and relations between physical and chemical processes and parameters, and between human, political and administrative organisations.

We are at last realising that everything is connected to everything else and that the world operates as a complex process with characteristics which ensure that it will function chaotically. That is to say, precise predictions of events and states a long time ahead will not be possible.

The best reaction to such a situation is to proceed strategically - that is, to adopt policies that will put us in advantageous positions from which to take specific actions which will contribute to us attaining our objective. Our objective is, of course, ecologically sustainable development.

Less than a century ago the concept of needing to manage marine environments was regarded as ridiculous. T.H. Huxley in the Report of the Royal Commission on the Decline of Fishing in the North Sea Herring Fleet of the UK wrote "It is absurd to suggest that humans can have widespread impacts on the marine environment". About half a century later in 1952 the United Nations in one of its earliest actions established the UNCLOS (United Nations Commission on Law of the Sea Process) in part to address the now recognised need to manage the seas. Marine areas may be particularly vulnerable to the negative impacts of the uncontrolled operation of the free market because they are traditionally considered to be 'commons', and development in marine areas is not usually closely controlled. In the case of the sea these common resources are the air and the water, their natural qualities and their pollution assimilative capacity, scenic vistas, wildlife habitat and the wildlife itself, such as corals, fish, whales and birds. Before and since Garrett Hardin's essay *The Tragedy of the Commons*, there has been sufficient study to demonstrate conclusively that the usual long-term effect of the uncontrolled operation of the free market is that the commons are destroyed. The tradition of common property rights in the sea has led to actual or potential conflict between users and between different uses. Under these circumstances there is a positive incentive for individual users to maximise their exploitation of the resource, even if destruction of the resource is an inevitable result - the tragedy of the commons.

The aim in this paper is to suggest strategies which might contribute to the attainment of ecologically sustainable development of the world's coastal zone, to describe a programme which IUCN's Commission on National Parks and Protected Areas is undertaking to meet this challenge, and to propose a management framework for consideration by South Pacific nations.

The Need for Integrated Management of the Marine Environment

In many countries, a large proportion of the human population lives in the narrow strip of land which borders the sea. This situation is central to the present state of the marine environment, to many of the threats to its integrity and to the strategic directions that we should take in protecting ecological processes and states. There is little likelihood that the situation will improve with time - indeed there is a trendency for population and economic growth to be concentrated in and near coastal cities.

As a general statement, one can summarise the state of the world's marine environment as suffering from a number of stresses caused by human activity that has caused observable and in many cases gross reductions in environmental quality. They can be classified under the headings of pollution, overfishing, physical alteration of the seabed or coastline, introduction of exotic species and climate change.

There are two major deficiencies in our scientific and administrative systems, which place in jeopardy the attainment of ecologically sustainable use of coastal waters. The first is the absence of comprehensive, long term monitoring programmes covering each of the large marine ecosystems which impinge on the coastline. This deficiency prevents us from defining the level of stresses that exist now and the trends in those levels. The second is the lack of integration of planning, management and research in the coastal zone. Without integrated programs, there is little chance that any nation will be able to take the actions, on both land and sea, that will be necessary to prevent continuing insidious degradation of the marine environment and its resources.

In the last century, there have been three principal approaches to marine management. The first and oldest consisted of regulation and management of individual marine activities, such as commercial fishing, shipping and waste disposal by specialist agencies, with varying degrees of coordination of regulation between different agencies. Usually there was little or no coordination with management of adjacent coastal lands.

The second approach involved the creation of small marine protected areas which provided special protection for particularly valuable areas within the broad areas which were subject to regulation of the first type or, in some cases, to no regulation. This is the most common application of the concept of marine protected areas. It is usually the first stage in marine conservation initiatives which go beyond fisheries restrictions which limit gear, catches and effort.

The third approach is a recent development. It consists of the establishment of a large, multiple use protected area with an integrated management system providing levels of protection and use varying throughout the area. Ideally this integration should extend to coordinated management of marine and terrestrial areas in the coastal zone and beyond. However, in many circumstances, the complexity of boundaries and competition between governments and government agencies regarding jurisdictional responsibility effectively preclude this.

It is conceptually possible for the same management results to be achieved with either of the last two approaches. However, the integrated multiple use protected area approach has the advantage that coordination of regulation of different human activities can be automatically achieved when the overriding responsibility for management rests with one agency. Coordination of management in the marine environment is in many ways even more important than it is in the terrestrial sphere. This is because the high degree of connectivity in the seas facilitates the transmission of substances and effects throughout the water column.

We are entering a new and more challenging phase. Direct use of coastal waters is increasing; there are proportionately fewer resources for management and management agencies are being forced to recover costs from users who are reluctant to pay.

The Global Representative System of Marine Protected Areas

Primary Goal

To help meet the challenge of achieving ecologically sustainable development IUCN at its 17th General Assembly in 1988 adopted a primary goal for marine management (IUCN, 1988):

> "To provide for the protection, restoration, wise use, understanding and enjoyment of the marine heritage of the world in perpetuity through the creation of *a global, representative system of marine protected areas* and through the *management in accordance with the principles of the World Conservation Strategy* of human activities that use or affect the marine environment".

The Great Barrier Reef Marine Park Authority (GBRMPA), through its External Services Section, is coordinating the CNPPA Marine Protected Areas Program for IUCN with the aim of promoting the development of this global system.

The first step in the programme was to write the *Guidelines for Establishing Marine Protected Areas* (Kelleher & Kenchington, 1992). These guidelines, finalised in 1991, address principles, practices and policies that have been demonstrated to be successful when applied to natural resource management.

In 1990 a network of 18 working groups covering all the marine geopolitical subdivisions of the world was established. These working groups have directed their efforts towards the aims listed below.

Aims

- divide each region's marine environment into its major constituent biogeographic zones;
- identify gaps in the representation in MPAs of those zones; and,
- identify areas suitable for the establishment of MPAs.

A principal objective in developing a global representative system of marine protected areas is to adequately represent biogeographic, ecosystem, habitat and species diversity.

Each working group is coordinated by a working group leader. The group's role is to collect information on individual MPAs and on national and regional MPA systems, to determine the biogeographic framework in which a representative MPA system will be developed, to determine regional and national priorities for the establishment and management of MPAs, and to maintain a network of regional experts to contribute to this work.

In 1991 the Authority, in association with CNPPA, was asked by the World Bank Environment Department to begin a project to undertake a preliminary assessment of the world's marine protected areas and identify priority areas for the conservation of global marine biodiversity. In its efforts in support of the Global Environment Facility, the Bank recognised the need to build on existing activities and in particular the CNPPA program.

Through this project the Authority and CNPPA have produced a draft report (Kelleher & Bleakley, in preparation) that includes:

- a biogeographic framework for each marine region;
- the location of all the world's existing MPAs; and,
- priority areas and actions for the conservation of marine biodiversity, particularly as relates to marine protected areas.

Following finalisation and review of the draft report in the coming months, the CNPPA Marine Protected Areas Program hopes to implement the recommendations of the report in individual regions and countries, including the South Pacific Region. As part of the development of the South Pacific section of the report a working group is being convened within this conference to adopt a biogeographic framework as a basis for proposing preliminary priority areas and actions for marine biodiversity conservation and management in the South Pacific.

The South Pacific Marine Region

The marine environment is of vital importance to the economies and traditional culture of South Pacific nations, and the conservation and sustainable development of marine resources is therefore a matter of great regional significance. Work on the identification, establishment and management of MPAs in the South Pacific, as in other regions, generally lags behind the establishment of protected areas in the terrestrial environment although in island nations many protected areas have coastal and marine connections.

In the South Pacific region the IUCN-CNPPA working group leader is Dr Vili Fuavao, Director of the South Pacific Regional Environment Programme (SPREP). SPREP is playing a leading role in the development and implementation of this programme. Dr Fuavao's appointment builds on the excellent work of Dr Paul Holthus, the previous IUCN-CNPPA working group leader and former marine and coastal officer with SPREP.

In cooperation with SPREP a proposal has been prepared to employ an individual from within the region to identify possible candidate sites for marine protected areas. The Authority has secured funding from Australia's Department of Environment, Sport and Territories that will enable the project to commence later this year. Additional funds are being sought to extend the project's duration into 1995.

In the South Pacific, where traditional use and ownership of marine resources is a vital consideration, the support of the local people will largely determine the success of MPAs. Recognising the interests of local communities, extensive liaison with these groups in the selection of priorities is a primary objective of the project. To link with SPREP as the key environmental agency in the South Pacific, and through SPREP to national, state and local governments, it is hoped an officer can be located in SPREP's offices, or attached to SPREP for the duration of the project.

This proposal is being developed to complement the South Pacific Biodiversity Conservation Programme (SPBCP) and SPREP's Integrated Coastal Zone Management initiatives in ensuring that important marine areas are identified for conservation. The SPBCP concept of Conservation Area Projects, involving management of large areas encompassing complete ecosystems, providing for sustainable use of resources, strong community participation, and with an overall goal of ecological sustainability, is entirely appropriate for application to the marine environment.

The process of identification of marine conservation and development priorities has already commenced in South Pacific nations, particularly through the production of National Environmental Management Strategies (NEMS). In developing the project, the objective is to support South Pacific nations in the implementation of these strategies and other national programmes, and to ensure that priorities are consistent with national goals and policies.

Conclusion

Countries in the South Pacific have made significant progress in establishing and managing marine protected areas. A recent survey by CNPPA (Holthus and Maragos, 1992) identified approximately 50 MPAs in this region. However, further action is required to ensure the conservation of biodiversity and sustainable use of natural resources. For the marine environment this will depend on the establishment and management of marine protected areas as an integral component of integrated management regimes. We would like to conclude by suggesting a management option that could help make this a reality in the South Pacific, and in other regions of the world.

We propose the establishment of Marine Management Authorities, with representatives of national and state governments as well as a small number of representatives of local government and community interests, with the specific strategic function of achieving integrated planning, research and management of the marine coastal zone in accordance with the principles of ecologically sustainable development.

Because of the proven difficulty that organisations and individuals have in simultaneously attempting to achieve two goals - in this case, economic development and ecological protection - these Authorities should not be responsible for detailed management of individual sectoral activities, such as fisheries, tourism or National Parks. Such activities should continue to be managed by existing specialist agencies.

However, the Marine Management Authorities could have the following responsibilities and functions:

- development, in association with interest groups and the community generally, of a strategic plan for the marine coastal zone;
- oversight of coastal development to ensure that it is ecologically sustainable;
- design and management of comprehensive monitoring programmes which will define the state of the marine coastal environments and the trends in environmental parameters;
- design and management of contracted, multi-disciplinary, ecological research programmes aimed at solving environmental problems; and,
- design and implementation of comprehensive community involvement and education programmes designed to achieve voluntary acceptance by the community of policies, programmes and actions which will lead to ecologically sustainable development. Particular emphasis should be placed on educating the young.

To the maximum extent practicable, specific management programmes and actions should be carried out by existing agencies, with the Marine Management Authorities concentrating on policy, strategy, planning, design and supervision of research programmes and coordination. The enabling legislation should override conflicting provisions of existing legislation.

In the absence of an effective organisational framework that provides for integrated management, the energies of people and governments will continue to be dissipated in intersectoral conflicts, incompatible activities, inefficient developments, and research that is not relevant to achieving ecologically sustainable development.

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Principles for the Review of the Action Strategy for Nature Conservation in the South Pacific

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Introduction and approach

The first *Action Strategy for Protected Areas in the South Pacific* was prepared under the joint auspices of SPREP and IUCN at the 1985 South Pacific National Parks and Reserves Conference held in Apia, Western Samoa. This document served as the guiding strategy for the next four years of nature conservation and protected area work at both regional and national levels.

On of the principal objectives of the next conference, the Fourth South Pacific Conference on Nature Conservation and Protected Areas held in Port Vila, Vanuatu, in 1989, was to review and update this document. To undertake this task, the Conference broke up into a series of working groups related to the themes covered by the conference papers, to examine the issues which emerged from papers and formulate active responses. Resulting from the work of these groups a revised *Action Strategy for Nature Conservation in the South Pacific* was prepared. Once again, the aim of this document was to provide the guiding strategy for the next four years of nature conservation and protected area work at both regional and national levels. You already heard this morning the progress in implementation that has taken place in the four years of its life.

The purpose of this paper is to discuss the second review of the *Action Strategy*, in preparation for making sure it continues its usefulness as a guiding document for the next four years until the next Conference.

We have undertaken the task in a different way this time. A consultant, Mr Samuelu Sesega from Western Samoa, who unfortunately was unable to attend this Conference, was appointed to assist with the preparation of an IUCN project on protecting biodiversity in the South Pacific, for potential funding by the European Community (EC). As part of this task, the consultant was asked to look at the *Action Strategy* and make general recommendations for its review. It is proposed that these recommendations be presented to the Conference as a whole, and to the IUCN Commission on National Parks and Protected Areas (CNPPA) Meeting on Wednesday night. Instead of forming special working groups during the Conference, which already has a full agenda, we propose a single working group to look at the *Strategy* as a whole. It is also proposed that any general comments and specific recommendations made by Conference participants, CNPPA members, and the Working Groups, be taken away by the SPREP Secretariat and used towards a revision of the *Action Strategy* to be prepared after the Conference is over.

Conference participants have been asked, and probably will be asked again, to make sure that the Workshops to discuss the key issues of the Conference achieve the particular task of preparing specific recommendations for the Conference to consider and endorse. I would suggest that throughout the Workshop discussions the Conference participants consider directing some of their recommendations specifically towards the review of the *Action Strategy*.

General Recommendation to the Conference

> ***"That Conference participants consider directing recommendations from the Working Groups towards revision of the Action Strategy for Nature Conservation in the South Pacific."***

The remainder of this paper describes the *consultant's* views and recommendations for the revision of the *Action Strategy*.

This review emphasises the process of reformulating the Strategy rather than simply providing comments on its content.

This approach tends to produce recommendations of a general, not a specific, nature. Having said this however, the general directions proposed should indicate clearly the kinds of specific objectives and activities that should logically follow.

Comments and Recommendations for Revision of the Action Strategy

- *The Philosophy of the Strategy.*

In general, the Strategy suffers from a lack of a clear and explicit statement of its overall guiding philosophy to nature conservation. However a rethinking of a general philosophy and approach to nature conservation is quite apparent from the preambular section; during the brief discussion of the reasons underpinning the change of terms from 'protected areas' to 'conservation area'; and in the use of the concept of sustainable use. However, while these discussions signal what in the consultant's view is a significant philosophical shift, this is simply noted as an attempt to gain 'greater flexibility'. The new philosophy is not made explicit, and the logical consequences of this philosophical shift are subsequently inadequately followed through.

This deficiency means that there is no clear and discernible framework wherein the goals and objectives are created. Consequently there is some confusion in the goals as to which are 'ends' and which are 'means'. Elements such as 'tourism' and 'traditional knowledge and customs', appear to be conceptually more peripheral than (and lack a clear logical connection to) others more directly related to the conservation of ecosystems and species, despite the fact that they do have a valid role in achieving the real goals of the strategy.

Articulating the philosophy explicitly (and the consultant believes this can be done within the section now called 'Approach') will serve the following purposes:

- it will improve the internal cohesiveness of the *Strategy* by identifying and explaining the logical connections between the goals and the various objectives, and between the objectives and activities; and,
- it will facilitate the linkages between nature conservation and the socio-economic development process.

Achieving the latter purpose will ensure that the strategy does not appear to exist within a vacuum. In its current form, one can sense that the creators of the *Action Strategy* were conscious of the need for connecting nature conservation to the socio-economic development process. This is particularly evident in the acceptance of the sustainable use concept, as well as the expressed links to resource management and national planning policies, self-reliance and sustainability. However despite the above links, in the absence of a clear philosophical foundation, the outcome remains superficial.

Consequently, in its present form, Goal B ("To ensure the continued viability of the full range of ecosystem types and species that make up the region's natural heritage and contribute to its culture" - which is argued elsewhere in the consultant's paper to be one of the two paramount goals of the strategy) appears to be an end in itself, and not a means to the more anthropocentric end of a sustainable society.

The philosophical approach suggested by the consultant, therefore, defines the fundamental relationship between humans and the physical and biological environment in terms of the anthropocentric bias that is the rationale for sustainable development, allowing for logical links to the sustainable development pathway and the socio-economic development process. Conference participants will realise that this philosophical approach specifically excludes the view that ecosystems and species have a value and a right to exist in their own right, and not just as a support for the continuation of the human species.

As stated earlier, this philosophy is already implicitly incorporated in the *Action Strategy* document and in the biodiversity conservation actions taken throughout the region. The best example is the growing focus in the region on Conservation Areas - with its integration of appropriate and sustainable human use - as a means of biodiversity protection; rather than the on Protected Areas, with its implication of human exclusion. As we know, this focus in human inclusion is also the growing approach at international level.

Recommendation 1:

> **The philosophy must be explicitly and succinctly stated in the preambular section preferably under the 'Approach' section.**

- *The Focus of the Strategy is diffused.*

The consultant considers that this may be a result of the absence of a clear philosophical framework as discussed above. The 'Introduction' to the *Action Strategy* broadly defines the problem, and refers to the fundamental problem the Strategy sets out to address as "the conservation and the sustainable use of natural resources and the establishment and effective management of conservation areas..." (Page 2). These two concerns permeate the entire document. However, only the latter (in refined form) is explicitly stated as a goal (Goal B), even though it appears that the ultimate desired outcomes of the *Strategy* are both sustainable utilisation of natural resources and the establishment of conservation areas.

In its present form, the strategy is organised into seven goals. If it is accepted that there are really two desired outcomes, as described above, then the *Strategy* can be said to have five more goals than it needs to have. The result of having more than is needed is a diluted and diffused focus. Closer scrutiny of goals A, C, D, E, F and G would indicate that they are 'means to an end' - and can be better presented as a second tier of 'goals' or better still, a first tier of 'objectives'.

Reorganising the Strategy as suggested will sharpen its focus considerably and give it the necessary sense of urgency commensurate with the seriousness of the problem.

Recommendation 2:

> **The Strategy should be reorganised to have two paramount goals as follows:**
>
> **(1) the conservation and sustainable use of natural resources (a new goal);**
>
> **(2) the continued viability of the full range of ecosystem types and species that make up the region's natural heritage and contribute to its cultures (currently Goal B).**

Recommendation 3:

> **The current goals A, C, D, E, F and G be organised either into a second tier of 'goals' or first tier of 'objectives'.**

Presumably this means that the current 'second tier' of objectives (A1, A2, B1, B2 etc) would either disappear in their current form, or become a 'third tier'. The latter option would create a fairly complicated and cumbersome structure.

- *A more systematic approach to the review process needed.*

In the South Pacific, the last years of concerted efforts to protect the environment against the mounting pressures of increasing populations, high aspirations, limited and rapidly dwindling natural resources, and the sheer weight of an economic development paradigm that is biased against the future, can only be said to have been a frustrating period wherein only limited progress has been realised. The lack of progress, for example, in the number of protected areas created between 1985 and 1989 despite serious attempts and effort, leaves begging the need for analysis and for answers to the question of 'why'.

Previous strategists were well aware of and sensitive to these frustrations. The *Strategy* in its present form attempted to answer this question by the change in approach manifested in the replacement of the term and concept of 'protected areas' with 'conservation areas', and the universal acceptance of the concept of sustainable use.

More recent experience have only continued to confirm the same difficulties. Thus whereas the *Strategy* emphasises the building and strengthening of the necessary institutional arrangements for education, policies, legislation, coordination and integration of activities, the strengthening of the implementers etc.; the success of these endeavours still remain dependent, ultimately, on the change in behavior at the level of individuals. One is therefore led to questions such as:

- Does improved understanding and appreciation of biodiversity values necessarily lead to behavioral changes favorable to biodiversity conservation?
- What does it take to change human behaviour and to induce actions in favor of achieving the objectives of the *Strategy*?
- What conditions must be satisfied for successful biodiversity conservation in the context of South Pacific Islands?

The answers to these questions must constitute the building blocks of a review of the *Action Strategy* for the future. To avoid these hard questions is to avoid the real challenges facing biodiversity conservation in the region.

Therefore the most constructive way to commence a review of the *Action Strategy* is to construct a realistic picture of the present and the immediate future, from which a systematic re-examination must start. To approach the exercise any other way would only produce a 'cut and paste' result that would produce a cosmetic and superficial output.

To begin with, the harsh realities of the development context of most South Pacific countries, as of all people globally who exist along both sides of the poverty line, must be accepted. The consultant thus proposes that the context of the review of the *Action Strategy*, and hence its four conceptual 'building blocks' should be:

(1) resource-poor and predominantly agricultural-based cash economies, with limited land areas and mounting population pressures, and where the bulk of lands imporant for biodiversity conservation are under the control of customary or freehold landowners.

Within this context, the following factors must also be accepted:

(2) the behavior of individuals are governed fundamentally by economic rationality - they are self-interested and profit-motivated utility maximisers who are interested first and foremost in the short term;

(3) an improved understanding and appreciation of biodiversity values is essential but insufficient. It does not necessarily guarantee positive actions towards biodiversity conservation; and

(4) incentives in the form of real tangible benefits - the flow of which should be predictable and reliable - are an absolute necessity in order to permanently secure areas of high conservation values.

The relationship between the factors (3) and (4) above is important and may be restated in the following manner:

> improved awareness and appreciation of biodiversity conservation values is a necessary but insufficient condition for achieving the protection of conservation areas. The second necessary condition is the provision of real tangible incentives.

When and only when both conditions are satisfied, then the success of the *Action Strategy* becomes dependent on the effectiveness of the institutional arrangements governing the implementation of activities, and the transfer of information, technologies, and other resources to implementing organisations, and more importantly, to individuals and communities at the 'grassroots' level.

The challenge for the review of the *Action Strategy* is therefore to combine the strengthening of institutional arrangements with bold and innovative ideas for creating income-generating opportunities beneficial to resource owners and users but dependent on or at least compatible with the conservation of biological diversity.

The review of the *Action Strategy* should therefore consider the following recommendations:

Recommendation 4:

The Strategy must explore:

(a) possibilities for revenue earning activities from compatible uses in addition to tourism;

(b) *other means* of satisfying the second condition (ie the provision of real, tangible incentives) stated above, including the direct transfer of financial or in-kind support;

(c) the development of innovative delivery mechanisms for the transfer of the resources that constitute the incentives for grassroots beneficiaries;

(d) ways of approaching and convincing regional and international funding organisations and individuals of the inevitability of the need for the provision of incentives, and to elicit financial support for this activity.

Recommendation 5:

That the fundamental rationale underpinning the current Strategy be revisited in the light of recent experience, to re-examine the assumptions (or conceptual building blocks) constituting the foundation of the current approaches to biodiversity conservation. This would be the first step of the review exercise, as well as a means of facilitating a systematic review process.

Recommendation 6:

Where it is not already a part of the *Strategy*, that the four (4) conceptual building blocks proposed and the logical extrapolations made, be considered.

Recommendation 7:

That (a), (b), (c) and (d) of Recommendation 4 above be considered as additional specific activities of the Strategy.

- *Links to the Biodiversity Convention and the Caracas Action Plan*

Following from the approach advocated above for reviewing the *Strategy*, the consultant cautions that while links must be made to the Biodiversity Convention and the Caracas Action Plan, they must be considered fully within the context underpinning the *Action Strategy*. Fortunately, there are already clear links between the *Strategy* even in its current form, and the Convention and the Caracas Action Plan. At the conceptual level there is the common acceptance of the concept of sustainable use. At the activities level, there are numerous commonalities, for example, the role of public education and awareness, identification and monitoring, in-situ conservation requirements, integration into sectoral and cross sectoral plans etc.

There are also some disparities at the conceptual level. For example the concept of ex-situ conservation has a very minor role in the *Strategy*, and in conservation practice in the region, but has a definitive place in the Biodiversity Convention and the Caracas Action Plan. The relative importance given to it in the revised *Strategy* must be properly weighed on the basis of its consistency with the basic assumptions of the new conceptual framework.

The obligations of parties to the Biodiversity Convention, however, will have to be accommodated. There are in fact obligations for Parties to the Biodiversity Convention which the *Strategy* should accommodate.

Recommendation 8:

The following elements are recommended for strengthening the links between the Biodiversity Convention (BC) and the Caracas Action Plan (CAP), and the revised *Action Strategy*:

- **the development of financial plans for protected areas (CAP);**
- **consideration of intellectual property rights and the fair and equitable distribution of benefits arising out of the utilisation of genetic resources (BC and CAP);**
- **requirement for identification and monitoring (Art 7 of BC);**
- **ex-situ conservation and its potential for revenue generation (BC), (in-situ conservation already being adequately addressed in the *Action Strategy*).**

That is the last of the consultant's recommendations. Probably the best way to approach the problem now is to form a Working Group, during the life of this Conference, to consider the consultant's recommendations and to link them with the specific parts of the *Action Strategy*. This Working Group should also specifically consider, if we do want to review the *Action Strategy* again, how it fits in with the other initiatives going on in the region - particularly the NEMS and the SPBCP.

Jo Reti has kindly offered to Chair this Working Group. Other individuals have been or will be approached to participate. Any one else who is interested in the review of the *Action Strategy* is also very welcome.

The Working Group will meet briefly here, at the end of the day, straight after the end of the day's session, to plan its activities.

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People in Conservation

Key Issue Paper

People in Protected Areas in the South Pacific

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Introduction

Many over-planned, over-regulated protected areas throughout the world have been designed with a single purpose in mind - the protection of natural resources and the physical environment. But the concept of protected areas is much broader than this. It also includes the protection of future economic growth and future human development. After all, it is people, not trees or birds, whose future choices have to be protected. Protected areas are therefore about people, for neglect or abuse of natural resources are indeed human debts, incurred by the present populations and passed on to future generations.

Poverty is one of the greatest threats to protected areas. Poverty often causes deforestation in potential areas for conservation and encroachment into existing protected areas. And these actions reinforce poverty. Many choices that degrade the environment and threaten the long-term security of protected areas are made in developing countries including those in the South Pacific because of the imperative of immediate survival, not because of a lack of concern for the future. Any plans to create protected areas must therefore include programmes to improve the standard of living of those living in or around protected areas.

Over the past several years, attempts to protect areas of important biological diversity through nature reserves and national parks have generally been unsatisfactory. Alienation of land and resources in protected areas without recognition of, or negotiation with local land and resource owners has led to conflict with the people whose support is essential to the success of such areas. The isolation and deprivation of local people and communities from the resources of protected areas has resulted in strong opposition against protected areas. Deliberate action by local people to frustrate the development and management of these areas is not uncommon under these circumstances.

South Pacific people rely heavily on the biological resources of the natural environment to supplement their subsistence or semi-subsistence lifestyles. Most of the land, some nearshore marine areas and the rights to harvest certain types of resources are held in customary ownership by indigenous people. Government power over land is restricted in all but a few countries and this severely limits the ability of governments to establish and manage protected areas. The future of protected area development in the region is thus dependent on the success of efforts to secure customary owned land and resources for conservation. The participation and involvement of local people in decisions relating to the establishment of protected areas and the incorporation of community development activities based on the sustainable use of the resources of protected areas will be crucial to the success of such efforts.

This paper discusses the potential role of local people in protected area planning, development and management in the South Pacific and makes suggestions for a strategy for their involvement in the protected area development process. The central message of this paper is that while the establishment of protected areas is absolutely necessary to meet essential environment and conservation objectives, what is important is to study and understand how they translate - or fail to translate - into human development in Pacific island societies.

The Western vs the Traditional Concept of Protected Areas

Most, if not all, protected areas established thus far in the South Pacific region have been initially guided by the western concept of protected areas where the resources of such areas are placed under strict protection (strict protected areas). Legal mechanisms have been developed to institutionalise the preservationist objectives of these areas which are then managed solely for their biological and conservation values. Neighbouring communities are often not consulted prior to the establishment of these areas but are nevertheless expected to accept them as important developments by government towards the improvement of life for all. The concentration of protected area efforts on government-owned land negates the need for consultation with local communities. Protected areas have therefore remained government owned and operated projects with no, or very little, involvement by local people.

The priority consideration given by government to 'national wealth' often conflicts with their own efforts to set up protected areas. For the local people and communities living in or around protected areas, their individual rights and welfare must remain inviolate, national good being seen as the aggregate of everyone's personal preferences and any controls over local communities' use of resources as an infringement of their freedom. This reasoning alone has been responsible for the frustration of past efforts in the establishment of protected areas in the South Pacific. A more open approach to protected areas where local use of natural resources is allowed is inevitable if these types of development are to benefit from the support and participation of the local communities.

Pacific societies have had their own traditional ways of protecting important ecological and cultural sites and landscapes. *Tapu* (taboo) areas have been effective means by traditional societies to protect land and resources which are considered important to their culture, their superstitious beliefs and local traditions. Unlike the western concept of strict protected areas where resources are 'locked' away from local societies, the resources of tapu areas are often only partially protected thus allowing local people seasonal access to their resources. Tapu areas therefore recognise the rights of people not only to use natural resources but also to protect them for the future. The recent and current turnaround in the western approach to protected areas has been greatly influenced by the recognition and acceptance of the rights of local people to the resources of protected areas. Extractive Protected Areas (managed nature reserves and protected landscapes) are consistent with traditional tapu area objectives and are likely to find more support in Pacific island countries as the acceptable form of protected area.

People In Protected Areas

It is most encouraging to see more and more efforts by governments and donor organisations to involve local people in protected area initiatives. There are even some genuine efforts to encourage local communities to establish and manage protected areas on their own lands with government and other agencies providing technical and financial assistance where necessary and required. These are commendable efforts and the case studies to follow this paper will discuss the successes or otherwise of some of these initiatives.

First and foremost, it is important to recognise that the establishment or existence of a protected area often creates conflicts with local people. When an area is protected, people living near or within it must generally restrict their use of its resources; in some cases, they must leave their homes. Too often, society at large reaps the benefits of protected areas while local people bear the costs. I have often heard local landowning groups claim that they have been asked to give up their lands and their rights to the resources in order to establish protected areas for the benefit of the tourists and government.

Secondly, local people cannot by themselves effectively manage protected areas. They must depend on neighboring communities for support, governments and funding agencies for financial assistance and advice, and the paying public to make their efforts economically worthwhile. Without this support, locally-managed protected areas will not succeed. There are examples of local initiatives where village communities have embarked on the establishment of protected areas by themselves with financial assistance raised by certain individuals overseas to fund one-off community development projects totally unrelated to the management of these areas. These arrangements have created a heavy dependency on handouts for community projects. Threats to allow the resource of protected areas to be extracted are not uncommon, if the demand for more handouts is not met.

The benefits flowing to local people from the establishment of protected areas in the region will be limited. And these areas can rarely be managed well in a "hands-off" fashion or a "hand-out" grant. Protected areas will need intensive management to meet the needs of the local people to use the resources of the areas and to mitigate impacts of development on surrounding lands. Unfortunately, the trained personnel and ecological knowledge needed for such intensive management are in short supply in the region. What is needed therefore is a cooperative arrangement between the landowners, governments, funding agencies and non-governmental organisations to plan, develop and manage protected areas for the benefit of the local communities and their governments.

Ownership of Protected Areas

I often find it annoying and frustrating to hear people claim that when governments and funding agencies provide financial assistance to local communities for the creation of protected areas, they will eventually take over control from the local people. What these people are doing is to create an anti-government mentality which in the end, will be counter-productive to the protection and conservation of natural resources they profess to be concerned about.

The provision of government and other support should not be seen as a means of gaining control over local initiatives to protect locally-owned resources. Protected areas proposed and created on customary lands by local people must and should remain under their control. In any case, in the Pacific, the taking of customary lands by government or anyone else for that matter, is not possible without going through a long process of negotiation and adequate compensation. I think those who call themselves the proponents of community-owned protected areas will do well to first explain to the local people what their responsibilities are as owners of protected areas. These include making decisions which will ensure the long-term viability of the areas; preparation of workplans for the effective development and management of protected areas; allocating responsibilities for the control and policing of the areas; and raising resources to ensure self-sufficiency of protected areas.

I am not against local ownership of protected areas. I believe this is absolutely necessary especially for protected areas established on customary-owned lands. But what I am talking about here is not ownership of land; I am of course talking about ownership of protected areas. This means accepting responsibilities for their development, management and long-term implementation with or without assistance from outside. Experience with certain locally-owned projects in Western Samoa show that whilst the communities have firmly and rightly established their control (ownership) over the projects, they are however reluctant to carry out their responsibilities as owners of the projects unless they are compensated by someone else to do so. And when nobody else is around to pay, or when payment is refused, the areas are left untended or threats to log are made. These unfortunate attitudes, firmly implanted by some of the so-called proponents of locally-owned protected areas, will not guarantee the long-term viability of these areas.

A Strategy for Involving People in Protected Areas

Understanding and incorporating human use of terrestrial and marine areas and resources in the Pacific is essential to protected area development in the region. Overall, socio-economic considerations are of primary importance to resource conservation, including protected area establishment. In the South Pacific, this is even more so due to the intimate linkage of societies and economies with land and marine areas and the resources they support.

Most people take a narrow view of protected areas, so public support for protected areas is comparatively weak. Protected areas are often seen only as exotic vacation spots or remote wilderness, not as essential elements for the development of local communities. The principal threat to the effective management of these areas are therefore posed by the communities themselves. And this threat is often exacerbated by the enforcement of the strict preservationist approach to protected areas. The following suggestions could comprise elements of a strategy to enhance people's involvement in protected areas:

1. Assessment of Priority Needs of Local Communities

Protected areas should aim to enhance the well-being of local people and communities. Without this, the full support of the local people cannot be assured. The assessment of the priority economic, social, cultural, and conservation needs of the local people must be undertaken before plans are prepared for the establishment of protected areas. Consultation with the local communities will be crucial to this process. Community development projects such as school buildings, health clinics, access roads and so on are likely to rank high in the list of priorities and should not be discounted. However, these projects should not be considered at the expense of direct support for the development and management of protected areas. Economic activities which enhance the value and benefits of protected areas to local communities should be encouraged and supported.

2. Propose Immediate and Long-term Action to Establish and Strengthen Protected Areas

Guided by the priorities of local communities, governments, non-governmental organisations and local communities should work together to propose new protected areas or ways to strengthen existing ones. But although basic priorities may be clear, action should address threats to protected areas and the needs of economic development in surrounding communities and more specific priorities should be determined through systematic and continuous assessments. Priorities may change over time and it is important that action plans should be made flexible to accommodate late changes. It is often assumed that protected area needs are obvious and that the only obstacle is funding. Experience with the commencement of the South Pacific Biodiversity Conservation Programme has shown that the lack of funding may have been used as a screen for other more difficult and sensitive problems.

Protected areas cannot co-exist with communities which are hostile to them. Protected areas established on lands possessed and used by local people are especially vulnerable. However, if they are able to achieve significant social and economic objectives which are seen as priorities by the local communities, then they will be considered as socially acceptable and just. Customary tenure systems, traditional knowledge and practices, and the role of men and women in communities, must be respected and built upon in designing and implementing protected area plans.

3. Propose Appropriate Institutional Structures for the Management of Protected Areas

If governments have been unsuccessful in the establishment and proper management of protected areas, local communities are unlikely to fare any better. What is obviously needed is a partnership between local communities, their governments and other interested parties. Governments and others can provide the financial, technical and other support necessary for the development of protected areas. Local communities on the other hand could ensure security for the area and provide labour for the implementation of protected area activities. Smaller management groups might be necessary to guide project implementation and these should include representatives of all the participants in the protected area. Representation by the various community groups such as women's groups, youth and church groups on the management groups will be essential and must be assured. And these management groups must be made responsible directly to the landowning community whose authority reigns over the project. It should be clear therefore that the management groups are expected to play an advisory role whilst the ownership and control of protected areas must remain with those who own and use the land and its resources.

The structures and decision-making processes of the local communities must be respected when the management group discusses important policy issues relating to the establishment of protected areas. Pacific island societies are complex and sometimes difficult to understand. As much as possible, existing local structures should be used or at least consulted in the implementation of protected area activities. Even if new structures are proposed, they should be required to work in close cooperation with existing structures for decision making in local communities. And these new structures should be seen as local bodies and not as foreign initiatives dominated by government and other outside representations. Partnership arrangements between the landowners, governments, NGOs and donor organisations may be an appropriate way of ensuring closer cooperation between all the important players in the development and management of protected areas on customary-owned lands.

4. *Provide Incentives for Establishing Community-owned Protected Areas*

Protected areas established by local communities can play a major role in the conservation of biological diversity in the South Pacific region. As governments run out of lands for conservation purposes, more and more attention will need to be directed to customary-owned land if the countries of this region are to achieve progress with the establishment of protected area systems necessary for the protection of their natural resources. Protected areas owned and operated by local communities will need support from governments, NGOs and the international community if these areas are to be managed effectively and sustainably.

The provision of financial and other forms of incentives will greatly enhance decisions for the establishment of protected areas. But such incentives should be directly linked to the establishment and management of the protected area. In fact incentives, when offered, should help enhance the capacity of local communities to develop and manage protected areas. Financial assistance towards heavily capitalised community projects such as school buildings, access roads, etc whilst important, should be treated as one-off grants. Care should be exercised to ensure that such grants are not repeated as they could unnecessarily make conservation expensive and unsustainable for the small developing countries in the region.

5. *Ensure the Sustainability of Protected Areas and their Contribution to the Protection of Natural Resources*

How viable a protected area can be over the long term will depend on how well it is ecologically, socially, and economically integrated into the surrounding region. Unfortunately, the view of protected areas as "islands in a sea of development" still reigns among our developing countries. Many protected area managers also subscribe to this view. As a result, management plans are too often narrowly focused, making this view self-fulfilling.

It will take time to win the confidence of people who have been shut out of past decision-making and alienated from protected areas. But this does not mean that we should wait until they have on their own come to accept the values of protected areas and are willing to volunteer their support for their development. Protected area managers can start to win their confidence by placing less emphasis on policing and enforcement and more on extension, education and mediation. Protected area managers ought to drop their defensive position and adopt a more open approach to entice the support of the local people. For without the support and involvement of the local people, protected areas will not mesh with the local communities and the sustainability of these areas will therefore not be assured.

6. *Expand the Management Objectives of Protected Areas to Include the Full Scope of Economic and Conservation Goals*

Protected areas can contribute to the enhancement of the economic well-being of local communities without detracting from conservation objectives. One of the most effective way of achieving this is through zoning. A remarkable example of the successful zoning within a protected area can be seen in the Great Barrier Reef Marine Park, a multi-purpose protected area in Australia. This Park is zoned into four broad categories: 1) preservation zones exclude all human use except for strictly controlled scientific research; 2) scientific research zones allow scientific use; 3) marine national park zones allow scientific, educational, and recreational use; and 4) general use zones place almost no restriction on activity, including commercial and recreational fishing.

Multiple-use protected areas are likely to be the most acceptable form of protected area in the South Pacific. In fact, most protected areas in the region do allow for some controlled use of the areas. Economic use of the resources of these areas have so far been outlawed or restricted but these restrictions will have to be relaxed before the pressure from economic development can be relieved. But managing multiple-use protected areas with resource conservation as one objective among several will not succeed unless clear criteria are established for guiding resource management. Without such criteria, unsound resource management policies can be justified in the name of biodiversity or resource conservation. For example, some have argued that forest harvesting often increases local species richness (since early successional vegetation typically comprises more species than a climax community), and therefore logging *enhances* species diversity. In fact, this *local* increase in richness can exist only in the "climax community" that is lost by logging.

Biodiversity values aside, the important factor to bear in mind is that unless local communities receive some tangible benefits from the establishment of protected ares, opposition towards their establishment and existence will always be there and will be likely to increase as more and more people become desperate for the use of lands and resources "locked away" in protected areas.

7. Enhance Community Capacity to Establish Protected Areas

Conservation through protected areas or other means can succeed only if people can understand their value, see how they figure in their own lives and aspirations, and know how to manage their resources to meet their needs without diminishing it. But this capacity to manage protected areas is woefully inadequate today even at government level. Resource managers are not well trained to conserve biodiversity and protected area personnel have narrow visions about economic use of resources in protected areas. No country has a complete listing of its species and for most ecosystems, little information exists on indicators and key species.

These gaps result from chronic under-investment in human capacity-building, which in turn reflects a lack of appreciation by governments of biodiversity's potential to contribute to national development and human needs. And this situation is going to affect the ability of communities themselves to establish and manage protected areas. A multi-faceted effort might therefore be required to expand public awareness about biodiversity's importance and to strengthen local community's will and ability to act.

Other than the provision of financial assistance, community support through public awareness campaigns waged by either government or NGOs can influence opinion. In all societies, "opinion leaders" expose and popularise new issues, as well as catalyse action to address them. These leaders - village elders, religious leaders, mayors, politicians, newspaper editors, popular entertainers - can make the conservation message compelling. Reaching out to these leaders is the responsibility of protected area specialists, resource managers, scientists and others. Some opinion leaders will need only new information or ideas to galvanise their commitment to protected area development. Others may know little about the issue. In either case, protected area specialists need to provide information and advice to opinion leaders in such popular forms as articles, films, fact sheets, displays, and public awareness workshops.

The availability of committed and skilled people is the key to the success of actions to establish and manage community-owned protected areas in the South Pacific. Increased funding, strong institutional arrangements and specifically-tailored control measures will be ineffective unless a pool of trained human talent for protected area development and management expands rapidly.

Conclusion

I have tried in this paper to argue that unless protected areas can cater for the basic needs of local people and communities, current and future efforts to increase protected area coverage in the region will continue to be frustrated and unsuccessful. Peoples' commitment to protected areas will spring from their "sense of place", and the most effective citizen action in support of a protected area will be from people who are intimately acquainted with the area, identify with it, wrest their livelihood from it, take pride in it, and ultimately take responsibility for it. The region's many cultures, faiths, and ethical traditions can give people their basic orientation towards the natural world and can guide their actions to protect it. For this reason, protected area managers must learn to respect peoples culture for the contribution they can make towards the promotion of protected areas and not as obstacles to their development.

Protected areas must be open to local people and where protected areas are established on customary-owned lands, the landowners must be closely involved with their planning and implementation. Allowing local communities to develop and manage protected areas on their land will give them the necessary sense of ownership and belonging which is essential for the long-term viability of protected areas. Governments have very little experience with the establishment of protected areas on customary lands. On the other hand local communities lack the necessary resources and expertise to themselves establish and manage protected areas. A partnership arrangement between governments and local communities will therefore be essential for the successful development and management of protected areas in the South Pacific. Donor agencies, NGOs and others can be part of this process. Their participation should be for a short term as it will be important to ensure the long-term self sufficiency of protected areas as soon as possible.

Aboriginal and Torres Strait Islander Involvement in Natural Resource Management in Australia

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Abstract

This paper briefly examines the development of the involvement of indigenous Australians in the management of natural and cultural resources in Australia. This includes a short history of the development of this concept and a discussion of some models of involvement, including models from Kakadu and Uluru National Parks, the jointly managed national parks on Aboriginal land in the Northern Territory.

The programmes conducted by the Australian Nature Conservation Agency (ANCA) with Aboriginal and Torres Strait Islander people have had far reaching implications not only for the indigenous people but also for the federal, state, territory and local government agencies with responsibilities in natural and cultural resource management.

Important principles for developing successful projects and negotiations with indigenous people based on ANCA's experience in the field are outlined and discussed, and the benefits to all indigenous people, relevant government agencies, the general public and to the environment are considered. Additionally, some important socio-economic outcomes are discussed.

Introduction

Modern science tells us that Aboriginal people have lived in Australia for at least 50,000 years. Aboriginal people believe that they have been here and owned the land since creation. From an Aboriginal perspective all of Australia was divided into defined clan estates over which particular groups of Aboriginal and Torres Strait Islander people maintained control and access and had exclusive rights. Along with their rights to utilise resources on their land went the obligation to care for the land in perpetuity. They occupied and utilised all of Australia as "Hunters and Gathers" within their estates and survived because of their specialised knowledge of, and adaptability to, the land and sea areas for which they were responsible. Their movements across the land and their relationships to the land, other people and the elements can still be seen and heard through law, myths, legends, song, dance and art. Much of Aboriginal and Torres Strait Islander culture survives today and that presents the broader Australian population with an opportunity to learn more about their country, and to gain a greater understanding of the bond that exists amongst Aboriginal people and of their strong cultural link to the "Land".

The natural environment and its "wise" use or conservation has always been and continues to be an integral part of the Aboriginal lifestyle and existence. From the "Dreamtime", laws, stories, songs and art forms have depicted the natural environment as the provider of life. The art, stories and songs show historical events prior to and since European occupation of Australia.

Because indigenous Australians' physical, cultural and spiritual well-being depended on the natural environment they developed a deep understanding and respect for the land. Importantly they learned to understand the limitations as well as the wealth of their land. They believed they were always here and intended that they always would be. They were very effective in the management of their natural resources and thrived in often very hostile habitats. However, it must be recognised that Aboriginal people shaped the environment of Australia in the same way as other nations have shaped their environments. The Australia of 1788 was an artefact of Aboriginal management of the land.

The occupation of Australia by the Europeans was a very great shock to the Australians of the 18th century. The indigenous population was decimated by a range of forces that they had no defences against. The impact on the physical environment was equally great. It is a measure of the resilience of the people and the land, that there remains today a real chance of re-establishing the stability that existed prior to European contact.

It was only in 1967 that Aboriginal people were recognised as Australian citizens in their own country, following a Referendum where 92 per cent of the non-Aboriginal population of Australia voted 'yes' to the required changes to the Constitution. This gave Aboriginal people the vote, equal rights, and supposedly acceptance into the mainstream Australian community. Even today, the place, role and rights of indigenous Australians remains a contentious political issue and progress occurs often grudgingly and in an environment of conflict.

During the 1970's the Aboriginal Land Rights movement gained momentum resulting in positive changes for some Aboriginal people. Other Aboriginal people remain dispossessed and live on the fringes of predominantly non-Aboriginal urban communities. It is in this context that the worst of the social dislocation and frustration of indigenous Australians is most evident. In spite of this there are a number of very positive initiatives taking place in Australia. They are to do with changing attitudes, respect for the rights of individuals, awareness of and appreciation for the knowledge of indigenous peoples, awareness of the need to conserve the environment and moves towards reconciliation with Australia's indigenous people.

Early Days

Australia's first National Park was established near Sydney in 1879. Although there was not a lot of interest among decision makers in an era that saw Australia fully committed to "taming" the landscape and developing infrastructure and industry, it was a highly significant event and one that Australia has made much of over the years.

The emergence of, and development of National and State parks around Australia became a major issue during the 1960s and 1970s. During this period the aspirations and expertise of Aboriginal people was largely ignored. Efforts were directed to securing areas with nature conservation values, often areas not required for recognised economic activities. National Parks were seen as pristine areas and utilisation of their resources was seen as compromising their conservation values.

Aboriginal access to sites and traditional resource gathering was denied. Even in areas where there were obvious Aboriginal heritage values (such as extensive rock-art and archaeological sites) consultation with or involvement of Aboriginal people did not occur. Aboriginal people in Australia regard the collection and utilisation of traditional food and other resources as being their birth right and essential to their physical, social and cultural well-being. The issue of hunting native animals particularly remains contentious and emotive and one where real evidence plays very little part in the debate.

In most parts of Australia there is a growing recognition of the importance of indigenous knowledge, values and practices. This has resulted in enhanced management of national parks and protected areas as well as addressing the important social, economic and cultural needs of indigenous Australians.

In 1979 with the proclamation of Kakadu National Park, perceptions of what a National Park could be began to change. This Park is largely owned by the traditional Aboriginal owners. They were granted title to the land through the *Aboriginal Land Rights (Northern Territory) Act 1976* and agreed to lease it back to the Director of the Australian National Parks and Wildlife Service (ANPWS) to be managed as a National Park. The lease back agreement outlines the roles and responsibilities of the parties involved. It also contains some very clear conditions such as employment and training opportunities for Aboriginal traditional owners, economic benefits and commercial opportunities, and management of the area in accordance with their wishes and aspirations. A Board of Management has been established with majority Aboriginal membership and an Aboriginal Chairperson. The Board makes decisions on all major issues affecting the Park.

Within the Park there are a number of small Aboriginal communities with a total population of around 300 people. They generally occupy areas with which they have traditional affiliations and continue to practice many aspects of their traditional lifestyle. This includes obtaining a significant proportion of their food requirements from the land.

In addition to the role of the Board of Management representing the views of the traditional owners, there is significant employment of Aboriginal people in the Park. Currently 40% of the ranger staff is Aboriginal, all from local communities and trained on-the-job at Kakadu.

Growth

Aboriginal involvement in National Parks has steadily increased since the successful *experiment* at Kakadu. A similar management regime to that at Kakadu has been developed at Uluru/Kata Tjuta National Park involving lease back of the Park to the Director of ANPWS. Title to this area was granted to the traditional owners in 1985 and the joint management arrangements stem from that period. Recently the name of the ANPWS was changed to the Australian Nature Conservation Agency (ANCA) but the role and involvement in the joint management of these parks has not changed.

Two other National Parks in the Northern Territory (NT) on Aboriginal Land are being leased back, this time to the NT government nature conservation agency. In other states and territories varying degrees of involvement of Aboriginal people in nature conservation and national park management takes place and is growing all the time. The longer term trends are towards the continued expansion, refinement and evolution of this cooperative approach to National Park management across Australia.

In 1987 the Australian Government launched the Aboriginal Employment Development Policy (AEDP) from which the ANCA derives its responsibility for encouraging and promoting greater involvement of Aboriginal people in nature conservation. The agency, through its Contract Employment Program for Aboriginals in Natural and Cultural Resource Management (CEPANCRM), has enabled Aboriginal and Torres Strait Islander people to be employed by state and territory nature conservation agencies on a contract basis around Australia. The program facilitates the completion of a wide range of natural and cultural heritage management projects in a cooperative environment between predominantly government agencies and Aboriginal and Torres Strait Islander community organisations. The types of projects undertaken by Aboriginal people cover the range from noxious weed and feral animal control to Aboriginal site management and protection, Aboriginal interpretation projects, tourism and education activities, to helping Aboriginal communities to become economically self-reliant and reduce the dependence on government funds.

The ANCA has two further responsibilities under the AEDP. The agency provides assistance to state and territory agencies to develop Aboriginal Recruitment, Training and Career Development Strategies. The agency also provides advice to tertiary training institutions in the development of appropriate courses in natural and cultural heritage management for Aboriginal and Torres Strait Islander people.

Essential Principles

The success of joint management depends on a commitment from all individuals and institutions involved. The term "bothways" is often used by traditional owners at Uluru to describe the integration of two diverse approaches and values in terms of land management. It also describes the way management takes place at Uluru and is essentially what is required to succeed.

Indigenous people looked after and managed the land when they were in full control and fully responsible for its management. The early European settlers had no appreciation or understanding that the country they had come to was an artefact of millennia of Aboriginal activity. They set about modifying it to suit their own perceptions of what the environment should be. It is only in relatively recent times that there has developed a full appreciation of the role of Aboriginal people in shaping and managing the Australian environment. A marriage between the traditional knowledge, skills and understandings of Aboriginal people and the modern scientific approach to natural resource management is clearly in the best interests of the whole nation. It also assists in the maintenance and continuity of the Aboriginal culture of Australia and supports important human rights for indigenous people.

Benefits to conservation and the environment

The development of joint management has resulted in several positive outcomes for the management of the environment.

A large body of knowledge not previously accessed by western learning becomes available. Knowledge of all aspects of the ecology of Australian native flora and fauna, seasonality, characteristics and uses of plant and animal resources, understanding and interpretation of cultural sites and changing of values and paradigms in relation to the environment are all direct results of new relationships with Aboriginal people.

National Parks and other protected areas promoting an Aboriginal perspective provide an added dimension and a richer experience for visitors. They contribute to better understanding of the natural world and enhance the relationship between people of different cultures.

There has been improved management of many landscapes in Australia through the adoption of fire regimes as traditionally practised by Aboriginal people for habitat management and hazard reduction.

Many native species' reintroduction programs have been facilitated through the intimate knowledge of Aboriginal people of the habits, habitat, diet, breeding cycle and predation of these endangered species.

Knowledge of local history (including that of non-Aboriginals) has been enhanced through accessing the rich oral traditions of indigenous people, thereby contributing to the knowledge base of all Australians.

The potential of Aboriginal knowledge of natural resource uses to develop into new and valuable products is only just beginning to emerge. The potential for contemporary medicines developed from traditional medicines is well known but many other resources are beginning to have their commercial potential recognised. There is already commercial production of foods such as the Acacia seed and quandong, while various value-added products derived from native animals like the emu have ready markets. The potential for this new field for Aboriginal and non-Aboriginal entrepreneurs is enormous.

Benefits to Aboriginal people

The programs involving Aboriginal people in National Park management and nature conservation allow increased access by Aboriginal people to mainstream employment opportunities. It also gives the opportunity for less formal employment through contract work or consultancy type employment.

The above results in increased self-esteem for Aboriginal people individually and collectively for the whole community. Aboriginal knowledge, skills and traditions are being recognised, valued and rewarded, and it is this that contributes to the heightened self respect.

The resulting employment and economic opportunities reduce the dependence of Aboriginal people on direct government support resulting in benefits to all sectors of the community. There is scope and a base for Aboriginal people to develop business enterprises, to become employers themselves and to become economically independent.

The process of involvement of Aboriginal people in land management empowers people to exercise control over their traditional lands and thus their own lives and destiny. They become active participants in important decision making processes rather than being the victims of such processes.

These programs also provide better access to educational and training opportunities for Aboriginal people. Importantly, there is also a reason for educational achievement for Aboriginal people in isolated areas for the first time because there may now be a relevant career opportunity close to where they live.

The programs referred to also contribute to the strengthening of the social structure in communities. It provides meaningful employment, improves stability, values things Aboriginal and empowers Aboriginal people.

The emphasis on the Aboriginal perspective in jointly managed National Parks has been an effective way of addressing issues of racism and greater community acceptance of the Aboriginal culture. Providing opportunities for non-Aboriginals to see Aboriginal people in a positive light as valued and responsible employees and managers has helped to break down the stereotypes held by many Australians. These parks provide a very positive image of Aboriginal people and the contribution they are making to the management of Australia's natural and cultural resources.

ANCA's Aboriginal programs

In addition to the programs at Kakadu and Uluru National Parks, ANCA also administers the Contract Employment Program for Aboriginals in Natural and Cultural Resource Management (CEPANCRM) which is touched on above. It is worth elaborating further on this program which provides ANCA with the basis for promoting joint management arrangements in the states and territories.

This program aims to increase the involvement of Aboriginal and Torres Strait Islander people in the management of natural and cultural resources right across Australia. The program provides funds to relevant federal, state, territory and local government agencies to contract Aboriginal and Torres Strait Islander people to carry out works in natural and cultural resource management. The nature of the works undertaken is extremely varied and reflects the range of skills, knowledge and interests that exist in these communities. The main requirement is that the project undertaken in some way benefits the knowledge and management of our natural or cultural heritage. Government agencies and Aboriginal and Torres Strait Islander communities or individuals agree to work together to achieve a particular goal.

The program, begun in 1987, has made a significant impact on the relationship between agencies and Aboriginal and Torres Strait Islander people, contributed to the economic well-being of individuals and communities, provided new skills and permanent employment, as well as having achieved many important conservation outcomes. Below there is a list the types of projects funded in the past:

- rehabilitation of degraded areas and erosion control;
- seed collection and propagation of native plants;
- recording of oral histories;
- identification of uses of traditional natural resource usage such as medicinal and food plants;
- recording and identifying sites of cultural significance; and,
- establishment of Aboriginal and Torres Strait Islander liaison officer positions in relevant agencies.

The program provides an initial point of contact between agencies and Aboriginal and Torres Strait Islander people and can facilitate cooperative arrangements in a relatively risk free environment.

CEPANCRM is designed to provide employment in areas where few opportunities exist and where there is a skilled pool of Aboriginal and Torres Strait Islander people. The funds go directly into the pockets of Aboriginal and Torres Strait Islander contract workers and are not used extensively for administration or spent on expensive plant or on non-Aboriginal consultants.

An important outcome of the program has been to provide Aboriginal and Torres Strait Islander communities with the confidence and competence to successfully tender for contract work on the open market.

The CEPANCRM has helped Aboriginal and Torres Strait Islander people address some of their important cultural heritage priorities that other programs with more central control have failed to address. Similarly the program has been beneficial in addressing important environmental objectives that agencies otherwise may not have had the resources to address.

The program supports in a direct and practical way the implementation of broader government policies that address social justice and equity for Aboriginal people, as well as enhancing natural and cultural resource management. In particular the program supports the recommendations of Aboriginal Employment Development Policy and the government response to the Royal Commission into Aboriginal Deaths in Custody. It is a program that values and rewards the contribution indigenous people can make to nature conservation and the cultural heritage of Australia. It is a positive program that brings people from diverse backgrounds together and involves people in developing and achieving shared goals in matters of universal concern.

The program is flexible and culturally appropriate. It allows for employment to take place where the people are, work practices such as hours and hierarchical structures can be negotiated locally with all the interest groups fully involved.

From some perspectives progress in the area of Aboriginal and Torres Strait Islander involvement in nature conservation has appeared slow and there remains a considerable amount of work to be done. However, in hindsight we have moved from a situation less than 15 years ago where there was virtually no involvement at all. Today few authorities make decisions about protected area management without consultation with Aboriginal people as a matter of course. There are now several excellent models of jointly managed National Parks.

Three Tertiary institutions in Australia have developed tertiary awards particularly targeting Aboriginal people as students and incorporating traditional skills, practices, training methods and trainers into their programs.

The trend is now well established with even the most reluctant of the states and territories getting involved. The success of these initiatives cannot be assured but there are several important principles learned over the period from 1979 when Kakadu was proclaimed. I mentioned them earlier and would like to reiterate them in the conclusion of this paper:

The success of joint management initiatives depends on commitment both ways, mutual trust, shared goal setting, responsibility and rewards for outcomes.

All parties should have access to all the relevant information required for decision making.

Indigenous use and occupation can enhance natural and cultural resources management. It constitutes a valuable pool of knowledge and skill and an alternative perspective for managers and agencies concerned with managing and protecting the environment.

The indigenous perspective in National Park and cultural heritage management is effective in breaking down barriers and stereotyping between groups of people.

Aboriginal knowledge is valued and afforded a new relevance in this context. The values and knowledge of indigenous people world-wide has an increased contemporary relevance.

Traditional knowledge and skills can and should be used to protect and conserve natural areas.

The joint management of protected areas offering increased access to control over lands that are of profound concern to Aboriginal Australians is an important right for indigenous people, a right that has been reiterated and endorsed by Agenda 21 of the Rio Convention.

The Conservation of Biological Diversity in the Coastal Lowlands of Western Samoa

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Apia, Western Samoa

Abstract

The natural ecosystems of the lowlands of Western Samoa have been severely affected by land development in recent decades. Few of them are protected. Virtually all are in customary ownership. By 1990, natural lowland ecosystems survived in only a few areas. Some of these, including the country's only National Park, were substantially damaged by Cyclone Ofa.

In order to establish a network of conservation areas representative of Western Samoa's ecosystems, and to bring the issue of biodiversity conservation to the attention of the villages owning the ecosystems, a national scientific survey was undertaken in 1991. Recognising the important role villages were going to have to play in future, the survey operated through villages, meeting with village councils before field work was undertaken, and with local people assisting throughout.

Following the survey phase, a small number of priority areas were identified. These have become the focus for the next phase that is now well underway - the liaison and negotiation to find conservation mechanisms appropriate to each village.

The issue

The first European visitors to Samoa, just over 200 years ago, spoke of a landscape in which the forest came down to the sea and in which birds were so common that people tamed them. Modern day visitors who jet in from Europe still speak of "pristine" forests, but most forest birds are now so rare, few people - Samoans or tourists - ever see them.

The reason is that Samoa's native lowland forest, like its mangrove ecosystems, and rush and fern wetlands, is virtually gone. Whether what remains will survive into the next century now rests with a tiny number of financially poor, subsistence-dependent, rural villages. It is to this end that this case study is directed.

Research for biodiversity conservation in Western Samoa, as in so many other parts of the Pacific, needs to be concerned not only with vanishing plants, animals and ecosystems, but with how people with so few valuable natural resources can keep them as well as themselves alive.

Part A: The rate of ecosystem loss

Western Samoa's recent Draft Forestry Policy Review acknowledges that the rate of deforestration is dramatic on a global scale. It is far greater than even Indonesia. It has increased enormously since the advent, last century, of European influences on land development. Much of this is concentrated in the coastal lowlands, where most people live.

On Upolu, the lowland forest has virtually gone from all areas other than the National Park, O le Pupu Pu'e, and very steep slopes. Savai'i is also rapidly reaching this state. Of the 1 000 acres of its forests depleted each year, 40% is attributed to logging and 60% to agricultural and other clearing. The Forestry Review recognises that at the present rate of clearance, the rich coastal rainforest ecosystem "will be eliminated entirely within 5 to 13 years ... unless steps are taken urgently" to conserve them.

For any lowland ecosystem such as rainforests, mangrove forests and wetlands, the situation is now acute. By 1990, ecosystems that were common and widespread when a national soil and land use survey was carried out in the early 1960s, had virtually vanished under the modern pressures of timber extraction and land development for crops.

The need for urgent conservation action

Cyclone Ofa in 1990 not only destroyed crops, buildings and roads. It devastated Western Samoa's few protected areas, notably O le Pupu Pu'e, the sea-to-mountains National Park on Upolu. In its wake, it was recognised that Western Samoa needed a network of conservation areas so no single natural event could wreak such damage. It was also clear that if any of the natural ecosystems still present in the coastal lowland zone were going to survive into the next century, they would have to be identified quickly.

If such a network was going to be representative of Western Samoa's ecosystems, it was clear the issues of biodiversity conservation were going to have to be brought urgently to the attention of certain villages. A national ecological survey of these villages' lands, funded by New Zealand, was hurriedly organised.

The Importance of ecosystems

Western Samoa's forests are not rich in different plants and animals, but like the biodiversity of other isolated Pacific islands, they are valued internationally as unique, and highly distinctive, parts of the world's life. The great majority of the country's 750 species of vascular plants, 33 land bird species, eight land snails, seven lizards and one snake, are found in the lowland zone. So is the rapidly growing number of them that are becoming threatened as were those that are already extinct.

Much less is known, however, about the processes by which Samoa's forests function as ecosystems; how the interactions between bats and birds and forest trees work, how removing one part of the forest landscape can affect another part miles away. Conservation is an investment in the *long-term* future, up against the *short-term* human pressures of making money and surviving. In the long-term, successful conservation of the species that have sustained people in the thousands of years they have inhabited countries like Samoa, can only be accomplished through measures aimed at protecting the full range of *ecosystems* within which they have evolved.

It was evident that to provide an effective insight into the deteriorating state of biodiversity in the coastal lowlands, the survey would have to more than list plant species and count birds. It would also have to assess the health of the range of ecosystems on which they depend. To do this, the survey would have to be multi-disciplinary.

The ecological survey

A national ecological survey, looking at every area of indigenous vegetation surviving in the coastal lowlands, was undertaken over two months in 1991. Recognising the important role villages were going to have to play in conservation, the survey operated through villages, meeting with village councils before field work was undertaken, and with local people assisting the survey. Because public awareness about the loss of biodiversity - throughout Western Samoa as well as these few villages - was going to be an important factor in protecting it, a photographer was included in the survey team.

Fa'a Samoa and the health of its ecosystems

Western Samoa has no more been ignored by Western scientists doing surveys of its forests than, ever since the days of Margaret Mead, its traditional customs have been ignored by anthropologists. Many biologists have followed-up their surveys with recommendations for conservation. They have assumed though, that the protection of natural areas in the Pacific would become the government-led operation it is in many other parts of the world. In proposing things like National Parks, they have ignored the fact that the authority over land will continue to lie where it always has, with fa'aSamoa, the customary way of the village. Because many rural Samoans maintain a traditional dependence on the land and the sea for their subsistence, their country is one in which the relationship between the environment and culture is a fundamental - if often forgotten - fact of life. Just as the forest, through the cycle of nutrients, is the source of the soil's fertility, it also underlies the productivity of the lagoon. Nonetheless the forest is vanishing as the pervasive influence of Western ways move into all facets of Samoan life.

The selection of village lands with high conservation value

The field survey examined over 30 areas in the coastal lowlands that had been identified either from earlier, reconnaissance surveys or the aerial survey undertaken at the outset of the project. 14 areas were recommended for conservation areas to complement the National Park, O le Pupu Pu'e, and the two conservation agreement areas at Falealupo and Tafua on Savai'i. Five of these were identified as being of international significance and needing urgent conservation action.

In selecting sites, the project was as much concerned with placing the concepts of biodiversity and its conservation within the framework of the traditional use of natural resources as it was with the plants and animals themselves and the diversity and condition of their ecosystems. The selection of mangrove forests, for example, was on the basis that central to the dramatic decline in Western Samoa's lagoon fish-catch, was the fact that hardly any mangrove ecosystems now remained in a state capable of providing the necessary spawning and nursery conditions for a sustainable fishery.

The meeting of conservation science and villages

The most important event in the project was the moment when the representatives of the scientific survey returned to the villages who own the high priority sites and ceremonially handed over the results of the national survey. The survey had highlighted these villages as the customary owners of a once-common but now extremely vulnerable traditional resource found nowhere else on earth. But Faa'Samoa does not extend to a village owning a resource such as a nationally-depleted forest ecosystem, knowing how much of it occurs, and what condition it is in elsewhere in the country. This therefore was "new" knowledge for these villages. If any conservation of lowland ecosystems is going to be possible in future, the foundation for the immediate future was established at these meetings in which the village fono were first told:

- their forests were the best and the last of their kind in Samoa;
- about the mounting global concern for the accelerating loss of biodiversity from vanishing ecosystems such as theirs; and
- that the government's conservation agency was keen to work with them to find a cost-effective way to conserve their forest for future generations.

Liaison and negotiation is now underway to find conservation mechanisms appropriate to each village and of course, for the international funds to make it possible.

Part B: Introduction

Few places demand greater community participation in resource management and biodiversity conservation than Western Samoa. This is because not only is the ownership of more than 80 percent of lands, hence land-based resources, firmly in the hands of communities, but their ability to thwart and suppress development initiatives by outsiders - including the Government undertaken without their unanimous consent, is both respected and feared.

In this context, the only appropriate approach towards conservation areas on customary-owned lands, is the full participation and involvement of land owning communities.

The Nature of Village/Community Participation

The rights of ownership and control of land and land-based resources vested in villages are both transferable and enforceable. The ability to enforce gives rise to an uncommon situation wherein village participation in biodiversity conservation is, for the Government, a matter of necessity, not choice. The underpinning power dynamics implied by this distribution of property rights indicates that villages can very well afford to be dictatorial and demand maximum gain in a negotiation situation, if they wish to. The role of Government is restricted to being a mere advocate and catalyst for conservation activities dependent on village consent.

Where customary landowners have other financially attractive options for the use of the lands and natural resources in question, they and the Government becomes adversaries in a negotiation situation. The crucial question for the Government is: under what conditions will consent be granted?

Consequently the approaches by the Government agency for fostering community consultation and participation reflects its subordinate position within this power relationship. Appropriate approaches are therefore invariably those conducive to the objective of gaining consent.

In a nutshell, this generalised description captures the nature of the circumstances and the context within which the Division of Environment and Conservation (DEC) engaged the villages of Aopo/Sasina and Saanapu/Sataoa, in its attempts to secure the protection of these two ecological sites.

Experience with Aopo/Sasina and Saanapu/Sataoa

The experience of the DEC with these villages began with an ecosystem mapping project in 1988, but it was with the National Ecological Survey (NES) in 1990 and 1991 that serious attempts to secure the protection of the sites began. The first contact was a radio message informing the villages of the planned study, and advising them that a delegation from the DEC would be visiting shortly to explain the purpose of the study. The two-man delegation consisting of an orator and a senior officer followed immediately, visiting all sites and villages. They were received by the villages in the formal traditional way - a kava ceremony with the Council of Chiefs. In this meeting, the delegation explained the purposes of the study and requested village consent for access and to study the sites. The meeting also involved, as traditional, the presentation of a monetary gift to the village. In all villages visited, consent was readily granted and the NES Team that followed were well received.

Upon completion of the study, of the 14 sites studied, the NES Team and DEC returned to only two for the presentation of the report. The selected sites were Aopo/Sasina in Savai'i and Saanapu/Sataoa in Upolu. The number and choice were the result of numerous factors. The choice of Aopo/Sasina was because these villages apparently made a specific request to the Team Leader to be informed of the study's findings. Saanapu/Sataoa was logistically and physically accessible.

In anticipation of a formal village reception, the delegation included orators, and a monetary gift was prepared. The presentations included videos and slide shows. During and immediately after the presentation, all villages expressed enthusiasm and support for specific conservation activities. For Saanapu and Sataoa, an explicit expression of consent was received. DEC was invited to undertake conservation activities for the protection of the mangrove forests. This consent was given both verbally during the presentation and later in a letter signed by the village 'mayor'.

Since then, subsequent work with Saanapu and Sataoa included a second visit by the wildlife assessment team, follow-up work by the NES in June 1992, further discussions regarding the SPBCP proposal, and a mangrove fisheries survey. On their part, the Saanapu village has banned fish poisoning, dynamiting and cutting down of mangroves, and has banned other villages from fishing within their waters. The village's mangrove crab fishing activities are also maintained well within sustainable levels.

For Aopo and Sasina, the presentation of the survey report marked the beginning of a protracted process of consultations and informal negotiation, during a series of formal and informal meetings both in the village and in DEC premises in Apia. During the presentation of the NES report, a lot of enthusiasm and support was reported. Shortly following it, a delegation from Aopo visited DEC and conveyed their interest in conserving their forests, but within a framework of a project aimed at producing certain specific outputs. An important request made during these initial discussions was for a water reticulation system. Four other such informal meetings with visiting Aopo delegations took place in the months that followed.

Given the uncertainty of attracting external project funds, and concerns over avoiding unrealistic expectations, DEC could only be positive but conservative and vague in what it could offer. This was not satisfactory to the Aopo delegation, who wanted a definite answer on the types and amounts of benefits to be expected. In all meetings, DEC sought to convince village chiefs of the long term advantages of a conservation project centred around a sustainable-use management regime of forest resources. In fact considerable time was devoted to explaining that a conservation project would not deprive the village of use of forest resources on a sustainable basis. The village delegations demonstrated a definite appreciation of the sustainable use approach and of its long term financial and ecological advantages. In all meetings, however, DEC was made aware of the approaches by the Samoa Forest Corporation (SFC) to log the forest, the pressure from pro-logging factions within the village and of the waning enthusiasm and interest caused by the lack of immediate 'action' by DEC.

In late February 1993, logging by SFC was reported at the Aopo and Sasina forest. Unable to stop it - a logging license was issued in the early 1970s - DEC asked the Savai'i environmental NGO, O le Faasao Savai'i, to organise a village workshop. At that workshop numerous chiefs from neighbouring villages spoke in favour of conservation, in an attempt to put pressure on Aopo and Sasina. The Minister of Forests also intervened, ordering the cessation of logging operations within the proposed protected forests. Sasina was reported to be violently in opposition to this "interference" and has continued to allow SFC logging. A visit by the Minister of Environment and his delegation to Aopo (September 1993) appears to have resulted in the interim relocation of logging operations from Aopo's part of the proposed protected areas. Despite reports of a positive reception to the Minister's visit, no commitment was made by Aopo to protect the forest.

Some Relevant Issues

1. *Government needs to offer alternatives to logging that will bring in cash in the short term.*

The Government approach has been largely to seek outside aid funds to work on sites and not to engage in close contact with villages until these are obtained. Failure to secure funding from these sources (for example, SPBCP's Preparatory Phase funds and AIDAB for the Saanapu/Sataoa site) delays responses to village willing to cooperate. Many villages are under pressure to obtain cash for schools, churches, etc., and from outside sources (eg logging interests) who are willing to provide tangible benefits in exchange for forests.

2. *Cash-based conservation agreements (at Falealupo and Tafua).*

These conservation projects stands out as showing the potential for village-based agreements. Aopo and Sasina's expectations of a conservation project are heavily influenced by information about the benefits associated with these projects. Discussions during meetings strongly indicated expectations of substantial short term benefits from conservation activities.

3. *Multiple village ownership.*

Most sites are on customary land shared by several villages with boundaries not clearly defined, or under dispute. This leads to problems, eg, if one village decides to log, another village joins in to make sure it does not lose out on royalties from the disputed lands between the two. This is the case with Aopo and Sasina.

4. *The need for incentives.*

The experience with Aopo and Sasina shows that villages can acquire an acceptable level of understanding and appreciation of biodiversity conservation values, and still not be moved to practice them. Under difficult socio-economic conditions, the short term needs for cash always seem to prevail. This strongly suggest that tangible incentives to relieve this immediate need for cash must be built into conservation projects to entice participation and secure village commitment to conservation.

5. *Conservation projects must be presented as part of a development package for the community.*

Development assistance to villages controlling sites of high conservation value must be closely coordinated and presented as a package. This way, other development activities can be perceived as linked to conservation activities. For example, Aopo's request for a water reticulation system to be provided as part of a conservation project was recently (September, 1993) provided through a separate Japanese assistance. Aopo of course see no connection (and there is none) between this and other Government's attempts to entice it to protect its forests.

Community Involvement for the Proposed 'Eua National Park Plan of Management, Tonga

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Abstract

The proposed 'Eua National Park Plan of Management is a classic example of a conservation endeavour in which the parties involved are not working on a cooperative mode. The donor is working on this project with a government instrumentality which does not have the legal authority necessary for proper management of the park. In addition, the local community at the island of 'Eua, and the government agency having jurisdiction over parks and reserves in Tonga, are not informed on the details of the management plan. This has led to misunderstandings and competition between the authorities concerned, and also with the local community which benefited form various resources in the park. This experience is a clear indication that more cooperation between the interested parties is needed to allow for a successful conclusion of the project.

Arnavon Islands Marine Conservation Area Project, Solomon Islands.

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Background

Location

The Arnarvon Island Group consist of three low islands and a reef area: Kerehikapa, Sikopo, and Maleivona Islands and Laieana Reef. They are located in Manning Straits, midway between the two larger islands of Choiseul and Isabel (Fig. 1). The group stretches northwest to southeast from approximately 7°24' to 7°30'S latitude at approximately 158°E longitude. Kerehikapa is a crescent shaped island approximately 5.5 km long with a width varying from 300 m to less than 10 m, with an approximate area of 1.03 sq km. Sikopo Island is approximately 5 km long and varies in width from 2 km to 10 m, with a total area of 1.85 sq km. The proposed marine conservation area has a total area of 82.7 sq km with an inner core area of 31.4 sq km (Fig. 2).

Marine and shoreline habitats

A diverse mix of shoreline and coral reef habitats occur in the Arnarvon Islands. This includes reef types ranging from submerged reefs and fringing reef exposed to near open ocean conditions, to very sheltered lagoon reefs and patch reefs. Extensive areas of tidal flats exist, ranging from completely land-enclosed areas which dry at low tide, to broad areas which drain into the lagoon (barachois) with portions which remain slightly submerged (Holthus, 1993). Overall, reef communities include a moderately diverse mix of coral, soft coral, algae and macroinvertebrate components. Reef fish populations have relatively high diversity and biomass. The coral reef and lagoon habitats of the Arnarvon Islands are unaffected by human activity and in near pristine condition, although some populations of macroinvertebrates of high value for consumption and export have been subject to substantial harvesting (Holthus, 1993).

Turtles

The islands are the most important nesting ground for the Hawksbill turtle in Solomon Islands and most likely in the Pacific, with approximately 679 nests being laid per year in the group. This represents an estimated 235 nesting females. Smaller numbers of Green turtles also nest in the island group (Leary *et al.*, 1993). Hunting pressure on turtles around the Arnarvon Group for turtle shell for export has been very heavy in recent years. There are many heaps of turtle bones on the islands at disused turtle hunters' campsites, especially on Sikopo Island.

Of the turtle shell exported from Solomon Islands in 1990, the origin of 2089.29 kg of shell was reported to the Fisheries Division. 47% of the shell reported originated from the Waghena area of Western Province (now Choiseul Province) and a further 9% from the Kia area. In other words, 56% of turtle shell exported for which the origin of capture was reported, came from the vicinity of the Arnarvon Group of islands, Waghena and surrounding seas. The long term impact of this level of harvesting is difficult to judge from only 3 years of monitoring, but it is highly likely that the breeding population of Hawksbills at Arnarvon will decline dramatically over the next two decades.

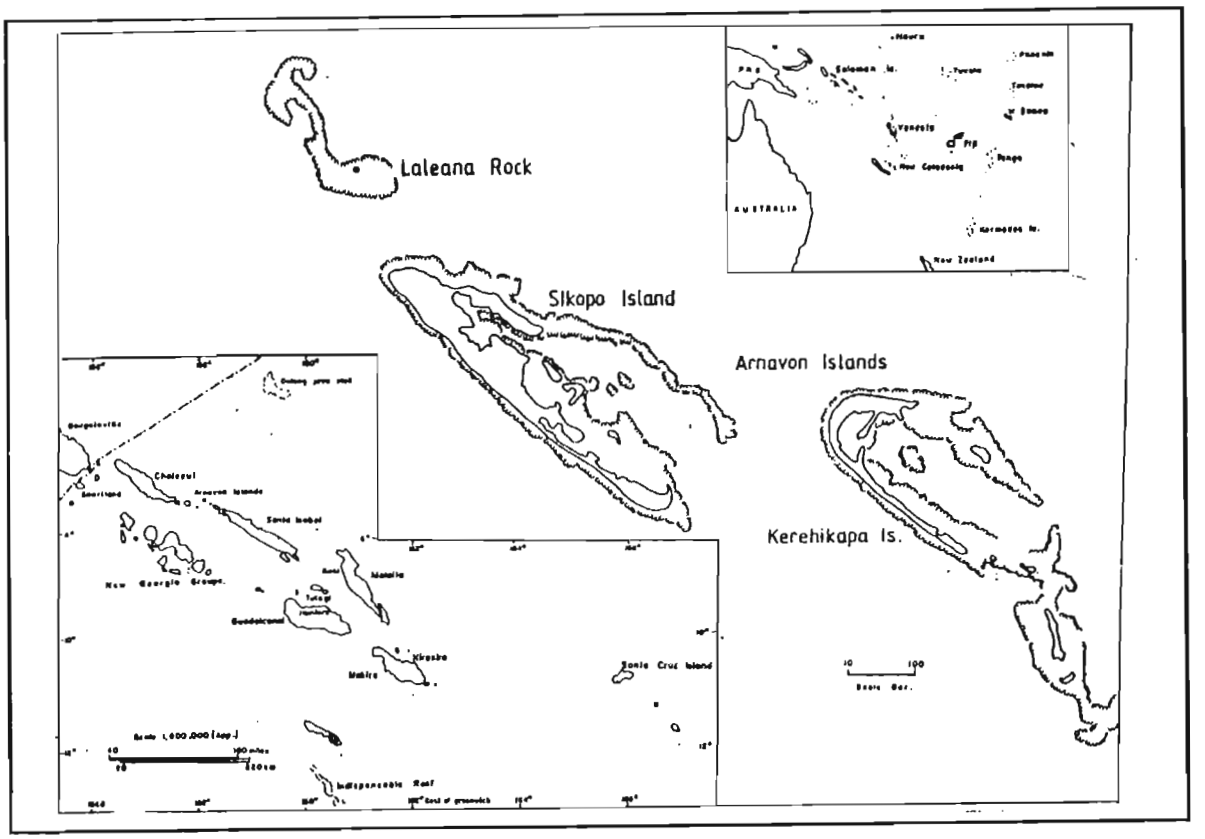

Fig. 1: Locality map of the Arnarvon Islands

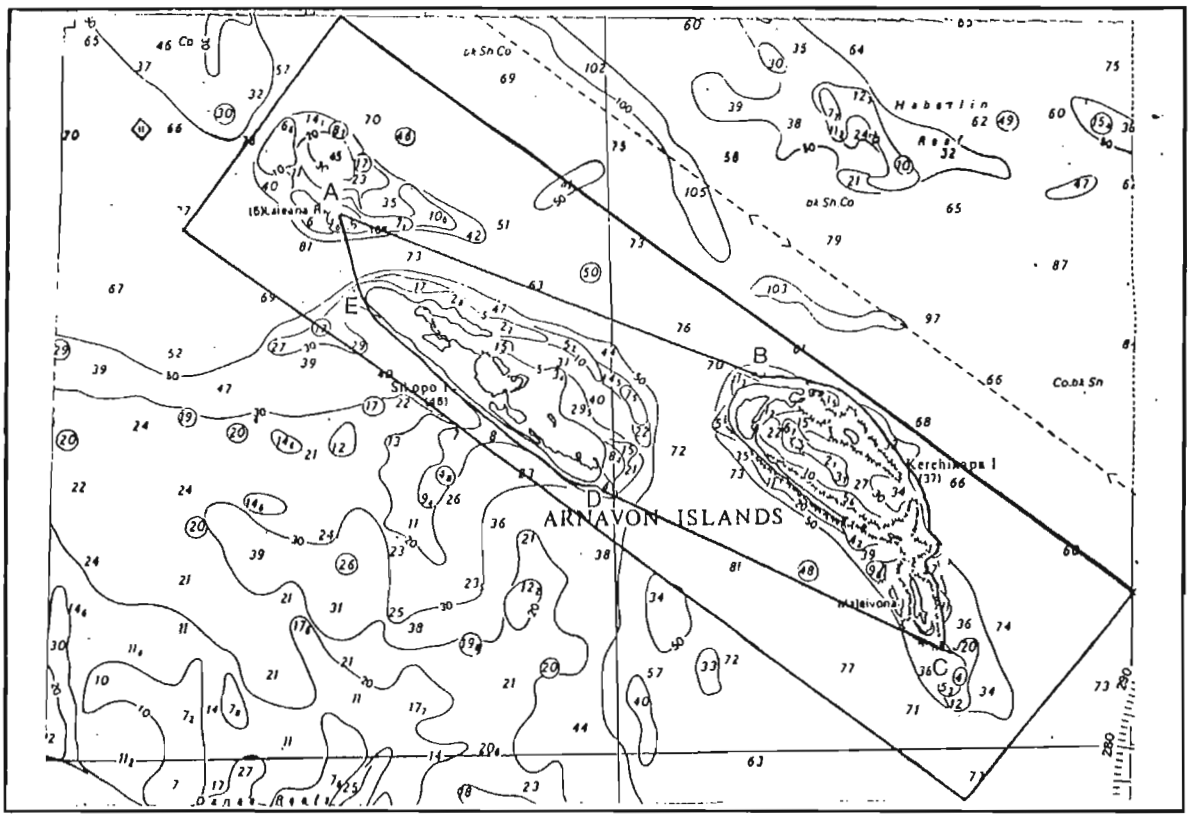

Fig. 2: Boundary of the proposed Arnarvon Marine Conservation Area

Terrestrial resources

The islands' vegetation is predominantly Beach (Coastal Strand) Forest with patches of Pandanus Swamp Forest. Sikopo Island has a small area of rainforest which is floristically similar to the lowland rainforests of larger high islands (Qusa, 1993). Mangrove Swamp Forests also fringe much of the islands. A total of 104 species of plant have been recorded from the island group.

The Arnarvon Group may also be an important area for migratory birds with 6 species of migratory waders being recorded as wintering in the islands. Six species of sea bird have been recorded and the area may also be an important sea bird rookery. In total, 41 species of land, migratory and sea birds have been recorded (Leary, 1993). Six species of bat (1 Microchiroptera and 5 Megachiroptera) and seven species of terrestrial reptile have also been recorded from the island group (Leary, 1993). This is a diverse faunal assemblage for a small island group.

Land ownership

The island group is uninhabited, but temporary camps are established for fishing and diving parties. Land ownership of the Arnarvon Group of islands is complicated and considerable effort has been made to identify the landowning groups. Although registered as government owned land (a legacy of the British Colonial administration), the Arnarvon Islands like all land in Solomon Islands, has traditional owners. Two landowning groups, the Volikana Tribe of Choiseul, and the Sinagi Tribe of Isabel, claim and dispute the ownership of the islands. The majority of the Volikana Tribe live in and around Poserae village which is approximately 85 km from the island group, while the Sinagi Tribe are from the Kia area which is approximately 48 km away. Despite their differences, both tribes are supportive of the development of a marine conservation area in the island group.

A third group of people, who are not landowners, are considered the primary resource users of the area. This is a large Gilbertese community resettled by the British Colonial administration from the Gilbert and Ellis Islands, (now Kiribati) in the late 1960s. The Gilbertese are exploiting resources in the area, not for basic traditional uses but for commercial purposes. These people live approximately 26 km away on the island of Waghena (Fig. 2).

Project history

In recognition of the importance of these islands as a nesting ground for Hawksbill turtles a Wildlife Sanctuary was declared over the Arnarvon group of islands in 1981. This was done without informing or involving the landowners. A turtle tagging and nest monitoring project was undertaken on the islands from 1979 to 1981 when a dispute broke out with the landowners and the project was abandoned.

A number of factors contributed to the failure of the project, the most important being:

- failure to recognise traditional rights to the island group;
- failure to consult landowners and nearby communities in the formulation of the ordinance;
- development of inappropriate restrictions and legislation which failed to take into account customary usage rights and the Solomon Islands life-style;
- failure to adequately inform and involve local communities in the activities of the project.

Despite an ever increasing Hawksbill turtle shell (bekko) export trade, the turtle population was not monitored until 1989 when the Ministry of Natural Resources (MNR), undertook a survey of turtle nesting beaches in Isabel Province. Serious concerns were expressed about depletion of the Hawksbill population by both landowners and government officials. This led the MNR to seek further funding for a tagging programme through the Regional Marine Turtle Conservation Programme (RMTCP) of the South Pacific Regional Environment Programme (SPREP).

Nest monitoring of the Arnarvon Group in the peak breeding season in 1991 suggested a serious decline in the nesting population (although the 1992 season suggested that this was not quite as bad as was feared). Landowners and government saw an urgent need for the re-establishment of some kind of conservation area over the Arnarvon Islands if this important nesting rookery was to be maintained. This led to the formulation of a proposal for the establishment of the Arnarvon Marine Conservation Area in 1991 which was included in the Solomon Islands National Environmental Management Strategy (SPREP, 1993). The Nature Conservancy (TNC) has been collaborating with MNR and the landowners on the this project since opening its Solomon Islands office in August 1992.

Traditional use of natural resources

Due to the remote nature of the island group and its distance from the landowning groups, the islands were historically infrequently visited. Fishing parties would visit these islands to provide fish, turtles and megapode eggs for feasts or special occasions. The prevalence of outboard motors over the last ten to fifteen years has meant that the islands are no longer so difficult to reach (one to one and a half hours from Kia, and 3-4 hours from Poserae).

Today the Sinagi people still visit the islands to fish, harvest megapode eggs and to occasionally dive for trochus shells. At the time of feasts or church celebrations they also dive for, and catch nesting turtles. As many as 20 Hawksbill turtles may be harvested for a feast or special occasions. The Volikana Tribe on the other hand are now Seventh Day Adventists, and do not catch turtles in this area. They generally only come to Arnarvon around the middle of the year to dive for trochus which they sell to the traders in Waghena. This practice has been declining in the past few years, reflecting the decline in trochus numbers in the area. Landowners also visit Arnarvon around Christmas to harvest megapode eggs for Christmas festivities. Both landowning groups undertake occasional fishing trips, and parties may spend one to two weeks on the island group at a time.

All members of both the Volikana and the Sinagi tribe have access or usage rights to the island groups which are governed by their own two different sets of traditional law, but the Chiefs of either tribe may place restrictions on times of year for harvesting different species or on visiting the islands at all. In customary law, access to land or reef areas by non-landowners requires permission from the head of the tribe, the Chief.

Current use by non-landowners and status of the resources

The Arnarvon Islands are isolated from the place of residence of the traditional landowners and consequently it is difficult for the landowners to monitor visits to the area by other groups. The Gilbertese were settled on Waghena which at the time was believed by the colonial administration to be land which had no customary landowners. These settlers were given land rights but no rights over the surrounding marine areas. The population has a high growth rate, and to meet increasing resource demands they have been encroaching on the marine resources of other landowning groups. One particularly popular area for marine resource harvesting has been the Arnarvon Islands area. The Gilbertese lifestyle has traditionally been based largely on the exploitation of marine resources, and many people from Waghena obtain a livelihood from the sale of marine resources, particularly Hawksbill turtle shell for the Japanese export market. A legal sized turtle (curved carapace length greater than 75 cm) has about 0.9 kg of shell, which has been known to sell for as much as $250 per kilo. Approximately half of the 3 600 kilos of bekko exported annually is collected in the Waghena/Arnarvon area. This represents approximately 2 000 turtles/year if the turtles taken are of legal size. This probably represents gross overharvesting of resources from this area.

The Gilbertese community from Waghena visit the island group very regularly, and there is an almost constant presence at one or two fishing camps on the islands. Over the past few years there has been heavy exploitation of other marine resources, most notably goldlip pearl shell, trochus and bech-de-mer by the Gilbertese. However the Gilbertese community now reports that they no longer harvest many resources from this area, due to over-fishing and resource scarcity They now use the islands as a base camp to go out to other areas to harvest local resources, and to smoke the bech-de-mer they have harvested, but it is also likely that they still harvest resources to a limited extent. The primary attraction of the island group to the Gilbertese is the presence of slightly brackish freshwater wells on both Kerehikapa and Sikopo Islands.

The resource survey conducted as part of this project (see section 4.1) found that the sedentary marine resources have been overharvested. Trochus populations average around 28 shells per hectare, compared with an expected 100 per hectare in a well-fished healthy population (Ramohia and Tiroba, 1993). Similarly, blacklip pearl shell and goldlip pearl shell were found to be seriously depleted. Of the 15 species of sea cucumber (bech-de-mer) of commercial value found in the area, only two species "lolly fish" and "green fish" were found to be in densities of over 60 per hectare in suitable habitat (Ramohia and Tiroba, 1993). The bech-de-mer species white teat fish, appears to have been seriously depleted. In general, the majority of sedentary marine resources and turtle populations appear to have been seriously overharvested in this area.

The project will investigate means for accelerated rehabilitation of these sedentary marine resources, and landowners will decide upon suitable management regimes for the resources. It is envisioned that rehabilitation of these stocks will allow for their recovery and for sustainable exploitation of resources to occur in the long term.

Eggs of the incubator bird (*Megapodius eremita*) may also be being over-harvested, but there is insufficient data on the megapode population to determine this. The landowners are concerned that there will be no sedentary marine resources or turtles left for their children and that the megapode population may be finished off by overharvesting. For this reason they approached The Nature Conservancy and the MNR for assistance in the establishment of a conservation area over the island group providing that:

- land ownership and resource use rights are clearly recognised in any legislation;
- management rules and sanctions recognise the need for subsistence and cultural harvesting of marine resources with special provisions for the protection of turtles; and,
- landowners, local communities, provincial and national authorities are involved and consulted in all aspects of project implementation and management.

Conflict, negotiation, planning and management

The Arnarvon Wildlife Sanctuary was established under provincial legislation in 1981, but as outlined in section 1.6, it has failed to operate as a protected area since that time. Nonetheless, the area is still protected on paper under this legislation. The legislation protects all resources on the island, and even prevents landing and camping on the islands in the case of bad weather and rough seas. The legislation did not take into consideration traditional landowners, and in fact the Volikana Tribe were not even consulted when it was passed into law. The underlying reason for failure of the Sanctuary was lack of involvement of the traditional landowners which resulted in it being viewed as a set of government rules imposed without regard for the landowners' interests.

The same landowners who previously disputed the management of the Arnarvon Wildlife Sanctuary now recognise the importance of protecting the turtles and sustainably managing the other marine resources. It is now their wish to revitalise the conservation area to protect their resources from irreversible depletion by non- landowners.

Since opening its Solomon Islands field office in August 1992, The Nature Conservancy has been working with the landowners and communities of the Arnarvon area, the Ministry of Natural Resources, and the Isabel Provincial Government to develop a project in support of the re-establishment of a marine conservation area.

The project has the following objectives:

- To establish a marine and terrestrial conservation area with community participation for the protection and sustainable management of biological resources with particular emphasis on ensuring the viability of one of the world's largest Hawksbill turtle nesting grounds.
- To ensure the wise use and management of the resources of the conservation area through:
  - an improved understanding of the ecology and key species population dynamics of the conservation area;
  - research into the subsistence and commercial harvesting practices, trends and needs of the local communities; and,
  - the establishment of conservation area management rules and sanctions through community consensus.
- To establish an appropriate management framework for the project and conservation area which ensures landowner involvement and provides for partnership with government agencies.
- To support research into the status and management of the marine resources of the Arnarvon Islands and in particular, the globally important Hawksbill turtle population.

The components of the project are outlined below.

Resource survey

Apart from information on the turtle population, little was known of the resources of the island group prior to the commencement of the project. To be able to sustainably manage the resources of the area, it is vital that information on the status, ecology and habitat be understood. It is also important that information be collected on the use of subsistence and commercial resources of the area. For these reasons a multi-disciplinary Rapid Ecological Assessment was undertaken in April 1993. The multi-disciplinary team consisted of a botanist, a marine ecologist to assess marine habitat, two fisheries biologists to assess sedentary marine organisms, and a terrestrial ecologist to assess terrestrial fauna. In addition four landowners (two from the Volikana Tribe and two from the Sisiga Tribe), provincial officers and members of the Ministry of Natural Resources participated in the survey.

Invaluable information was collected on the biodiversity of the island group, and on the status, condition and stocks of terrestrial and marine resources. This survey is the first such multi-disciplinary study to be conducted in Solomon Islands. The information gathered will be shared with the landowners through a series of consultative meetings, and will greatly assist them to establish suitable management rules for the area to protect the turtle rookery and promote the sustainable utilisation of its other marine resources.

Resource use patterns will be the subject of a further socio-economic survey of landowners and local communities, and will be undertaken in conjunction with the community consultative meetings to discuss the ecological survey results.

Development of management rules and management structure

Although the main objective of the first consultative meeting will be to present the results of the rapid ecological survey back to the community, discussions on possible management prescriptions for the area will be held. One focus of the discussions will be the definition of a management structure which allows for maximum community participation and control. Essentially the management rules, ie. what activities can and cannot occur, and any seasonal restrictions etc., will be the decision of the landowners, and only rules which the landowners (both groups) agree upon will be put forward. These rules will then be discussed with the Gilbertese community in consultative meetings to find out what objections they have, and a means for resolving any conflicts of interests will be discussed with them and then discussed further with the two landowning groups. The consultative meetings will continue in a cycle until a mutually agreed set of rules is arrived at which will allow for the sustainable management of resources.

Legal protection

Isabel Province recently passed new legislation with the assistance of the Maruia Society and some assistance from The Nature Conservancy. These are: the Isabel Province Marine and Freshwater Ordinance and the Isabel Province Conservation Areas Ordinance, which essentially give landowners the power to make rules for the protection and management of their resources. Registration of these areas requires identification of landowners and their agreement to the rules. It may be used to reinforce customary laws by giving them legal status, for the sustainable management of resources or for total protection of areas. It is envisioned that the management prescriptions, including the management structure for the Arnarvon Marine Conservation Area will initially be established under this legislation. Solomon Islands currently has no suitable national legislation to enable the establishment of conservation areas whilst maintaining customary ownership and management input. A national Environment Bill is currently being drafted, and consideration of protection of this area in the long term may involve declaration under that Act.

Policing management rules

The Isabel Provincial Ordinances give the power to landowners to enforce the rules they make, but due to the remote nature of the island group, only a constant presence on the island will ensure effective enforcement. For that reason, a residence will be established on the island which shall accommodate a warden whose duties, apart from enforcement, will be the maintenance and continuation of the turtle monitoring programme and management of a marine resources monitoring programme. Preference in recruitment of the warden will go to the landowning groups, and it is envisioned that two half time positions will be created so that they share full time presence on the island. The two half time rangers will be the employees of the Environment and Conservation Division (MNR) so that the benefits of a larger organisation and network can be maintained and to ensure that support funding is available.

Community education and liaison

Throughout the project community education and awareness on the sustainable management of marine resources will be undertaken. The education of communities will assist the enforcement of the conservation area rules, as communities will come to appreciate the need and the long term benefits of the conservation area. The warden will continue to undertake community education once the area is established, and with the assistance of the management structure developed by the community will be able to resolve conflicts and continually liaise with the community. The management structure developed for the Conservation Area will act as a conflict resolution board to ensure that disagreements can be freely aired and to ensure that compromises can be reached and misunderstandings avoided.

The future

Although traditional practises and customs do exist which protect important areas, the development of conservation areas is a new concept in the Solomon Islands. The project has emphasised the point that successful establishment of conservation areas in Solomon Islands and the Pacific in general require time, and will not occur overnight. This project was first discussed in late 1989. Much effort has been placed on identifying landowners and resource users, and the project has involved a slow but steady process of consensus building.

The testing of the success of this Marine Conservation Area will be the willingness of the principal resource users, the Gilbertese community to participate in its further development. So far indications of their willingness to do so are promising. Perhaps the most significant contributing factor to the success of this project will be the fact that the landowners and resources users have been involved in the development of management rules and in the on-going management of the Conservation area. This will ensure that the Marine Conservation Area will not be perceived as an area where resources are totally locked up, but as an area where resource use is sustainably managed over the long term for the benefit of interested parties.

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Local Conservation Area Ownership and Management

Key Issue Paper

Local conservation area ownership and traditional management

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Abstract

The difficulties of conserving the globally significant biodiversity of the South Pacific challenge existing models for protected areas. Pacific social and land tenure systems require local ownership of, and management involvement with many future protected areas. Traditional resource management systems need support and adaptation to cope with modern pressures for development and demand for cash incomes. Integrated Conservation And Development projects are presented as a maturing methodology suitable for these conditions. Examples from recent experience in the Solomon Islands are given to illustrate the scope of these projects. Recommendations are provided for the consideration of policy makers, and a plea is made for greater cooperation and partnership among governments, non-government organisations and resource owners.

Introduction

The biodiversity of the South Pacific region is of global importance. Changes accompanying economic development have undermined the Pacific's traditional social systems, including their capacity for resource management, and the environment has suffered as a result. Today we are faced with a real challenge to reclaim this lost ground, and to build relationships with the environment that ensure we do not continue to lose the variety of species and their habitats that is our biodiversity heritage. Outside models for protection of these values, such as National Parks, have been tried, but, as currently defined, these tend to conflict with traditional land use practices and values in the Pacific. In a paper presented to this conference in 1985, Reti (1985) points out the rigidity of the National Park concept, and advocates a more flexible, village based, and accommodating approach to protected areas.

Pacific cultures are integral to their land and resource systems, and people have a strong sense of place. Customary land rights are recognised constitutionally in some Pacific states, and in many, little land has been alienated. In PNG some 97% of land is held in customary tenure, in Solomon Islands 87%, in Fiji it is around 83%, in Western Samoa and other island countries it is also a high percentage, and this is not likely to change. In general, land is just not available for state owned conservation areas, and so in future, protected areas will need to be established within the framework of customary tenure.

If biodiversity protection is to be achieved in locally owned protected areas, it is hardly conceivable that the land owners will not participate in their management. Customary land owners need to be involved from the very beginning in decisions about the future of their resources. Traditional knowledge and management methods could in many cases form a solid foundation for stewardship of such protected areas, but in many cases these need acknowledgement and support. However, the success of such conservation efforts will be dependent on the customary right holders, and their ability to satisfy both their subsistence needs and their aspirations for economic development, in ways that are consistent with the conservation of biodiversity. If this is not possible, then they will become poorer in resources, and we all become poorer in terms of biodiversity.

Some would argue that ecologically sustainable economic development is a contradiction in terms. Certainly on a global level we must hope that they are wrong, and so on a local level we must all strive to achieve this goal. So, in planning the establishment of protected areas on customary land, conservation authorities must now concern themselves with the business of development as well.

In October 1992, the Solomon Islands Development Trust (SIDT) established a new unit for the advancement of biodiversity protection in the Solomon Islands. In this endeavour, dubbed the Conservation In Development programme, SIDT has formed a partnership with two international NGOs, the Maruia Society from New Zealand, and the Washington D.C. based Conservation International. To find solutions to the problems of protecting biodiversity, expertise in conservation and resource management has been combined with SIDT's long experience in working with village people for development. This programme is now twelve months old, and the learning process is well underway. This paper will draw on the lessons of this recent experience, as well as those from other Integrated Conservation And Development projects (referred to as ICADs) around the world, to explore how biodiversity protection might be achieved through working with local land owners for sustainable development.

The first section of the paper looks briefly at traditional management in the Pacific, and its fate in the contemporary world. We will then examine the components of an evolving methodology for establishing protected area projects in cooperation with local people. These are termed Integrated Conservation And Development projects, or ICADs. Following this, the paper describes some of the range of tools necessary to implement such projects, and gives examples of how the SIDT Conservation In Development programme is putting these into practice in the Solomon Islands. Finally the paper makes some recommendations to Pacific policy makers, and a plea for a new era in cooperation and partnership among governments, non-government organisations, and customary landowners.

Traditional Management

In the traditional past, Pacific Islanders made many mistakes in their dynamic interplay with the environment. Evidence of widespread species extinction and habitat degradation has been accumulating. In some cases, the relationships of cultures with environment evolved to produce sustainable management systems, backed up by extensive and detailed knowledge of local ecosystems. In other cases, degradation continued to impoverish Pacific flora and fauna and the people dependent on them. This was local ownership and management.

For a social group to sustainably manage interactions with the environment, several conditions must be met. Firstly, people must be aware that the sustainability of their welfare is under threat, and therefore that management is required. Secondly, the group must have a base of environmental knowledge with which conditions and changes may be compared and predicted. The capacity to monitor information from the environment and the results of previous interactions with it is also essential, and the social institutions of the group must be able to coordinate decision making and action based on the accumulated knowledge (Connor, 1990). These conditions hold true today as they did in traditional times.

Such sustainable systems that did evolve in the Pacific did so in situations of subsistence economy. Under these circumstances the survival of the social system was dependent on the maintenance of the health of the surrounding ecosystems (Eaton, 1985:14). Where climatic conditions were more extreme or unpredictable the sustainable production of food and the protection of the supply of environmental goods and services required more vigilance (Chapman, 1985). People had to be aware of environmental vulnerability under harsh conditions or they would not survive. In the isolated coral atoll cultures for instance, we find particularly advanced resource management systems. In Micronesia detailed knowledge of reef systems and their inhabitants supported an exacting conservation management system for marine resources (Johannes, 1982, 1985). In the Reef Islands and Polynesian outliers of the eastern Solomons complex agro-ecologies and soil creation methods were developed for the production of tree and garden crops. Soil conservation measures are still common in steep garden lands of the high islands.

In situations less extreme, where systems were naturally more productive, the need for intensive cultivation or meticulous management was correspondingly less. Some societies, perhaps, reached an equilibrium with their environments where available technology simply limited the ability of groups to inflict any more serious damage. In these more benign situations, the impact of modern technology has been severe. Rifles and shotguns for bird and animal hunting, monofilament nets, poison and dynamite fishing, and outboards for pursuit of turtles, are examples contributing to environmental decline where traditional management has not proved robust. With modern methods less skill and environmental knowledge is necessary, and so traditional knowledge is rapidly being lost. With it goes the essentials for its maintenance such as detailed observation, and the ethics, spiritual beliefs, and aesthetic values that accompanied this knowledge (Clarke, 1989).

The power to coordinate decision making within Pacific societies has also suffered disruption since traditional times. Absent or preoccupied leaders, attracted away from the village communities to political duties, educational and professional opportunities, and commercial pursuits, can contribute to this problem. But the authority structures upon which the effectiveness of decisions was dependent have in many cases been weakened considerably. Other authorities, such as colonial governments and church, have undermined traditional power and credibility. New information and beliefs have discredited the basis of some authority. Some of this breakdown can be attributed to the money economy encroaching on subsistence social systems (Eaton, 1985:16).

Most Pacific people want to benefit from the cash economy. Where resources are highly valued by external markets, sanctions such as *tabu* may be disregarded by harvesters keen to profit, or local people may break tambu to gather food for their own use where they believe that leaders are protecting resources merely so they can sell them to market for personal gain. With major decisions such as forest logging, group decision making has been known to be bypassed altogether in hasty deals for fast cash. These types of decisions did not have to be faced in traditional times, and the old institutions have in many cases not stood the test of sustainability under such pressures.

We still have, or in some cases we have reclaimed, local ownership of much of the land and resources in the Pacific, but the protective capacity that many traditional systems built up over generations of interaction with the environment has been, and is still being eroded. On the other hand, as Baines (1989) reminds us, many traditional social and resource management systems persist and have variously adapted to new conditions. All are under increasing stress, and he asks whether they can continue to accommodate change. To do so, in many cases, they will need support in order to make adjustments, and will need to incorporate new knowledge and management techniques to cope with the changes wrought by markets and new technologies.

Establishing Protected Areas on Customary Land

Local ownership and management of protected areas, in most cases, means local occupation and continued resource use. Most people in Pacific Island countries also have development aspirations. We need to adjust our view to see if we can generate solutions that pursue conservation goals, but also allow for resource use by land owners, and for ecologically sustainable economic development. In this situation we are no longer working in the conceptual world of National Park establishment and management. We are looking at a need to establish new breeds of protected areas. These will in many cases be more like IUCN Category VIII: **Multiple use management area** or **Managed resource area**, than Category II: **National park** (IUCN, 1985).

As is now widely recognised in the Pacific, centrally planned conservation initiatives that do not include landowners in every stage of planning and implementation are likely to suffer the same fate as so many development projects. These include disputes over land and resource rights, displacement of people, disruption of communities, abandonment of projects, and in extreme cases armed insurrection. A new approach and methodology is needed that works with local land owners to address the weaknesses and vulnerabilities of their own institutions for environmental stewardship.

Integrated Conservation and Development Projects (ICADs)

These projects, referred to variously as ICADs or ICDPs, represent a new approach to conservation that is currently being pursued in a number of countries where conflicts have arisen between the management of established conservation areas and local people.[1] The strategy is based on the concept that resource owners in a subsistence economy require security of food production and development of social services, to gain their commitment to establishing large protected areas and managing these on a long term basis. They also require opportunities for economic development, and small scale ecologically sustainable cash earning enterprises are an integral part of the ICAD approach. To produce these results, as well as securing protection of biodiversity values, a village based land and resource use planning process is used. This framework and the experience already gained internationally can be adapted and applied in Pacific Island countries. SIDT's Conservation In Development programme has adopted the ICAD framework for implementation of large protected areas on customary land in the Solomon Islands.

ICADs are a long term strategy which require much relatively low key ground work with communities before any assurance can be had that the project will serve conservation well in the long term. However, they offer a potential means of protecting biodiversity under customary ownership and local management. They work from the site level with a framework which supports and promotes local decision making about how the project should proceed. They support the validity and usefulness of traditional environmental knowledge, and respect the aspirations of landowners for development. They also pay particular attention to the issues of monitoring and coordination discussed earlier. The principles are those of ecological sustainability but the priorities for the project must be negotiated. Often immediate local priorities will be for cash producing alternatives to large scale resource exploitation or development such as logging or clearance for plantations. This makes sustainable development enterprises a key issue in conservation on customary land.

The integration of conservation and development involves conservationists in a whole new world of issues, techniques, priorities, and approaches. Listed below are the necessary components of ICAD projects:

- **Research for planning, monitoring, and assessment:**

  This component includes programme design according to a logical framework, and socio-economic and biological assessment and monitoring.

- **Conservation of the resource base and environmental management:**

  This includes developing village based management planning for land and resource use and conservation. Important issues are area boundaries and zoning of areas for different regimes of protection, compiling an environmental profile, developing rules for sustainable resource use in each zone, and supporting or reinstituting appropriate traditional practices.

- **Conservation education:**

  This component aims to: (a) increase people's awareness of the value of natural resources and ecological processes; (b) show people what threatens the well-being of their environment and how they can contribute to its improved management; (c) motivate them to change their behaviour in a way that leads to improved environmental management.

- **Social and economic development:**

  This component aims to generate social and economic benefits, the delivery and continuance of which are linked to the biodiversity protection gained in the project. Enterprises such as ecotourism, or the sustainable exploitation and marketing of non-timber forest products are to a large degree dependent for their success on continued protection. Other contractual arrangements may be entered into to supply social service benefits such as school or clinic facilities in exchange for legally binding commitments to protect areas.

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1 For case studies of ICAD projects around the world see: Wells, Brandon, and Hannah, 1992; Liz Claibourne Art Ortenberg Foundation 1993.

- **Institutional strengthening for local stewardship of resources:**

  This must address institutional capacity to sustain the project into the future. It must do this at local community level, with participating local NGOs, in provincial and national government, and at international level to form ongoing cooperation and funding relationships with international agencies.

- **Resolving conflicts and balancing interests:**

  The management and resolution of disputes and relationships among the various interest groups involved in conservation projects is vital. Collaboration between all parties must be actively promoted for projects to have a chance of survival in the long term. [Source: The above points are adapted from Brown and Wyckoff-Baird, 1992]

New Tools and Methods Needed

To do this new work, conservationists need a new array of tools. This section discusses some tools for the practical implementation of the components of ICAD projects. Examples from the experience of SIDT's Conservation In Development (CID) programme are used to illustrate their application in the field.

- **Social and biological survey:**

  Conducting social surveys at the start, and then periodically throughout the life of the project, has dual benefits. First, local residents can use the information collected to better understand their community and decide priorities for development. Second, it reveals trends in the socio-economic well-being of the community, as a whole, and within the group. The CID team has developed and tested social survey methods for a major ICAD project on Makira Island,[2] and these will be able to be used generally in the Solomons and adapted for other Pacific countries. Detailed biological survey of the project area will be carried out with the help of international and local expertise once all land owners have been drawn into the programme. Through repeated monitoring exercises we can not only track the impact of project activities on the communities and the environment, but we can identify immediate needs for special attention within the project, and trends over time, positive or negative, allowing people to anticipate changes.

- **Traditional knowledge:**

  A major source of information about the environment is traditional knowledge. This is often still extensive and detailed in the Solomon Islands, and food, medicines, and building materials from the forest contribute a large proportion of local subsistence economies. Plants, birds and animals are all well known by name and habit, and specialist uses of forest plants are numerous in all rural communities. The CID programme is making efforts to affirm the value of this knowledge with local people, and to encourage and assist them to record it and ensure it is passed on to future generations. During a recent CID workshop in Malaita Province, the fact that very few people in the community held significant traditional knowledge was highlighted. The group expressed their concern at this fact and affirmed a commitment to ensuring that this knowledge was not lost. This was a positive boost for the holders of the knowledge, and the team was invited to become involved in supporting a project recently established by a closely related community to preserve traditional craft skills and medicinal knowledge.

- **Planning:**

  Communities need planning skills not just for conservation, but for resource management and sustainable economic development as well. Project partners need the skills to assist villagers to make their own plans. Again, the CID programme has pilot tested workshop tools, this time at another project site on Malaita. Here the Balai community has initiated several new development projects, including reforestation of logged land with indigenous tree species, a garden improvement project, building a training centre, and creating a protected area.

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2 This area has been recognised for some time as a key one for endemic bird species in the Pacific. See Dahl, 1980; ICBP, 1992.

The CID team have helped them to put these projects in perspective with their overall needs and resource base by using simple tools to gather, and display information about the history of the community, population growth, seasonal labour demands, land and resource use and potential, skills in the community, and institutional influences. The community was then able to compile a list of problems and opportunities apparent from this information and start setting priorities and making plans.

- **Enterprise development:**

  On Makira, the CID programme is working with a group of communities in the project area to establish a cold pressed oil extraction and export business, using a local forest species of nut. A feasibility study has been carried out, and a market outlet in the United States has been located with the help of the staff of Conservation International, one of the CID programme partners. This project will require new skills and modes of coordination within and between communities, and much of what is learned will be directly applicable to future projects, both in business enterprises and in resource and conservation management. This project has the capacity to bring significant financial benefits to the whole community, and provide the basis for further development projects. Other alternatives being investigated include honey bee keeping, eco-tourism, paper making, utilisation of sago palm nuts for button manufacture and carving, reef products, eco-timber production, and butterfly farming.

- **Community services:**

  At the request of a more remote community on Makira, the programme has started directly assisting with the improvement of facilities in a local primary school. This is of benefit to the whole cluster of communities whose children attend the school. Because of the distance to the nearest road, this group of highland villages has little chance for development of cash incomes, and so assistance with valued community services is one way of delivering benefits in the conservation partnership. Examples of this type of assistance being used in exchange for increased forest protection have been established in Western Samoa at Falealupo and Tafua. In the Makira case, the CID programme will continue to research opportunities for viable enterprises to allow communities in these more remote areas to fulfil their aspirations for cash incomes.

- **Conservation education:**

  In partnership with local communities, we need to develop effective and meaningful conservation education programmes. Non-formal education techniques can be employed for village workshop learning, and practical exercises are valuable tools. SIDT has more than ten years experience in this mode of participatory learning, and this is a real strength. Training of SIDT field staff in conservation issues has been carried out with staff from all field centres, and further training is provided for staff close to project sites. These SIDT mobile team members will participate in the conservation education section of the CID programme in village communities. Currently the CID team is liaising with other agencies developing educational material on the environment such as the Ministry of Natural Resources Timber Control Unit, and the Forest Resources Inventory Project. We are also working with another Solomon Island NGO, the Development Services Exchange, on development of training materials.

- **Institutional strengthening:**

  In many cases communities participating in these ICAD projects are likely to need support and guidance to adapt and strengthen their social institutions to cope with modern conditions. Such adaptations may involve new measures for group consultation and inclusive decision making, or simply new rules and management methods. In Makira, bird hunting is an important protein source for local people, especially inland. The CID team has discussed with villagers the possible problems associated with the use of rifles for hunting birds. It did not take long before they took charge of this information, and started debating ways to control bird harvests to protect the resource. Such new rules will need time to evolve into effective protective mechanisms, but in the interim, community networks for decision making may be strengthened by the process involved.

Other institutions that require strengthening and support include national and provincial statutes, government conservation agencies, extension services, NGOs, and educational institutions. The Maruia Society has recently provided legal drafting assistance to the Isabel Provincial Government in the Solomons. This project has resulted in conservation ordinances passed by the Province which allow landowners to register areas for protection under their own rules. In another initiative, the CID programme has been working with a Rural Training Centre on Guadalcanal that has been established by a village community. The programme is developing a training programme in conjunction with this group, to train local owners of chainsaw timber milling equipment in sustainable forest management. Chainsaw mills are very popular in the Solomons, and have the potential to produce sustainable supplies of timber to communities and some income, if operations are managed well. The capacity to provide training in sustainable forest management, in addition to the courses the group offers in chainsaw operation and maintenance, will be a significant strength.

- **Planning information:**

At the national level, conservation requires tools for planning and priority setting. Administrations need the same system attributes discussed earlier: baseline information, monitoring, and appropriate coordinating institutions, not only for studying and managing environmental systems, but to work with village people and their social systems. The Solomon Islands has recently gained a valuable information data base and Geographical Information System for conservation and resource management planning, through the National Forest Resources Inventory Project, supported by the Australian Government. This will be able to be expanded through further survey work directed at specific resources and special areas. Already incorporated into this system is information produced in a survey of possible protected area sites in the Solomon Islands in 1990. This survey was carried out by a partnership led by the Maruia Society, and together with the report produced (Lees, 1990), represents a good example of how cooperative efforts involving NGOs can produce valuable information for national conservation planning. Relatively simple computer based systems can be very useful at a national level for aggregating available information, planning, and in setting conservation priorities.

- **Balancing interests:**

Balancing interests and resolving disputes requires skills in mediation and anticipation of possible conflict. It also requires a thorough analysis of the project situation to identify all the interests involved. An example is the participation of women and youth in the processes of planning, decision making, and implementation of projects. It is not for outsiders to decide on the what the balance should be between such groups in terms of decision making or other authority, but it a basic responsibility of any intervention to ensure that all interests have an opportunity to express their views and to have them considered. It is all too easy when dealing with development projects to introduce significant distortions in local relationships. There are many examples of development projects that benefit the men of a community by providing cash income, while the workload of the women increases. The CID programme takes special measures to ensure full participation. For example, women field workers are used in information gathering from village women, as they often will not speak openly to men, or even in the presence of men.

- **Cooperation:**

We all know of the financial constraints on the conservation authorities of most governments, and this is not confined to the Pacific. Help is at hand, but requires conservation agencies to form new alliances: with development agencies in government and the local NGO sector; with sociologists and anthropologists; with universities; with aid agencies; with international NGOs, and most urgently with land owners themselves. Involvement of local NGOs in this work can offer real advantages. For example, SIDT has a network of over 200 field extension staff living in villages all over the Solomon Islands. This allows the CID programme to quickly access, be accepted into, and work with village communities throughout a country of 87 different languages. It also means that local SIDT staff can form a permanent core support structure for the communities involved in the ICAD.

In all the above examples, it is the land owners themselves that decide what changes are appropriate to their management or social systems, and each situation has its own problems and opportunities. There is no substitute in these circumstances for detailed field work, but once local people are involved, they become part of the global network for protection of the environment. However, the long term protection of biodiversity through ICAD projects cannot by any means be regarded as a certainty. These projects like all other conservation areas, must continue to be managed in perpetuity. This might be achieved as a partnership between local people and outside agencies, including NGOs and government. Local people will be able to manage resources sustainably given support and information, and given positive incentives in the form of tangible development benefits. These benefits must be strongly linked to the continued protection of the area, and the sustainable management regime. Developing and maintaining this linkage is one of the most challenging aspects of ICAD work.

An Enabling Policy Environment

In order to coordinate across this array of interests, comprehensive and consistent policies at central government level are vital. There is no hope of inter-departmental cooperation for example, if policies in agriculture and forestry are not consistent with those of conservation and environment departments. Under the sustainable development umbrella, we all are, or should be, working towards the same goals. Staff secondments between departments and out to independent projects with NGOs and land owners should be encouraged where skills are relevant and experience or training can be gained.

National policies also need to facilitate the involvement of local and international NGOs in project partnerships with communities and government agencies. International conservation organisations are keen to work in partnerships with local people and governments, and they bring both financial resources and valuable experience of projects elsewhere. These organisations, along with bilateral aid donors and multilateral agencies such as SPREP, represent the wider international interest in Pacific biodiversity conservation. This interest is real and is backed by financial resources for socially and environmentally sound projects. This kind of support, when directed into the type of land owner managed projects we have talked about here, can be viewed as a compensatory mechanism for short term opportunities forgone in non-sustainable resource exploitation options, such as logging. However, care must be taken to ensure such compensation is delivered in ways that do not undermine the economic or social sustainability of projects.

Various elements of ICADs, such as conservation education, training, market research, and biological and social monitoring could be funded by this international willingness to pay for conservation. International NGOs could also provide expertise in policy formulation and coordination in this area to national governments.

Recommendations

The degree of change that traditional cultures and systems in the Pacific have undergone as a result of contact with the modern world varies enormously, from the hill tribes of PNG only recently contacted, to urbanites living in provincial or national capitals or overseas. Any specific recommendations for programmes to restore conservation ethics and practices through local ownership and traditional management practices would be inappropriate. However, some general points which flow from the discussion are recommended for consideration by national conservation authorities.

1. *Local ownership and management of future conservation areas is not only possible but essential if we are to extend biodiversity protection in the Pacific.*
2. *Local institutions are the key to good management of these conservation areas. Once communities adopt goals of conservation through sustainable development, support must be available if requested, to assist them to strengthen their abilities to organise effectively.*
3. *In order to secure and sustain commitment to protected areas on customary land, landowners need locally controlled small scale development alternatives that deliver tangible benefits in both the short and the long term. These developments should maximise village level input and benefits, and need to be environmentally and socially sustainable.*

4. *ICADs are a new and promising way of achieving conservation and development together, with which there is a growing international experience. These projects support local participation in all phases of project establishment and management, aim to protect biodiversity values, and deliver real development benefits to often isolated rural communities.*

5. *Local NGOs, working in conservation, development, and other areas, are an important feature of the institutional mechanisms available to assist with ICAD establishment. In addition, partnerships with international NGOs and bilateral aid donors can help to provide funding support and expertise for the establishment of ICADs (the SIDT CID programme provides an example of such support).*

6. *An enabling policy environment is needed to coordinate efforts to establish ICADs. Government policies need to be consistent across departments so that economic development planning can take account of the needs of conservation and environment. Explicit policies could be promulgated to facilitate collaboration between departments and with non-government agencies to establish ICADs.*

7. *The appointment of officers within government conservation agencies and SPREP to service and provide liaison with ICADs would be beneficial. These officers could help to coordinate government resources to assist ICADs (e.g. priority setting, planning and mapping, agriculture and forestry extension), could act as clearing agents for information regarding project experience in-country and overseas, and could facilitate cooperation in the development of training materials.*

8. *Responsibility for monitoring and enforcement of protected area rules should be vested in local communities and this should be recognised and sanctioned by government in legislation. In addition, provision could be made for registration of individual project plans and sets of rules under provincial or national legislation.*

Conclusion

The need to establish a representative protected natural areas system in the South Pacific is becoming more urgent. This paper argues that conservation efforts could be effectively directed to supporting a strategy of local management of multiple use protected areas on customary land. The experience gained in integrated conservation and development areas around the world needs to be applied more widely in the Pacific in a concerted effort to establish a representative system of biodiversity protection.

The conservation and environment authorities of South Pacific governments need to assign some staff capability to studying this experience, and that of related efforts in the region. The partnership approach used by SIDT is bringing skills and resources together in a major effort to establish ICADs in the Solomon Islands. This kind of initiative will benefit greatly from collaboration with government agencies and SPREP. There is a long way to go with this new and long term approach to conservation and many lessons to learn. Our hope is that the talents and resources that are available to conservation and development in the region can work together in a concerted effort to safeguard the Pacific's biodiversity heritage.

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Forest conservation initiatives of villages in Western Samoa: Falealupo and Tafua

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Introduction

Government conservation initiatives have usually foundered where customary land (land governed by customary rules) is involved. The *National Parks and Reserves Act 1974* covers public (government) land only. Customary land which accounts for 80% of Western Samoa's land area is outside the Act's purview. The *Taking of Land Act 1964* allows for compulsory acquisition of customary land, but the acquisition has to be for a public purpose. Conservation as such is not defined as a public purpose, but even if it was, government would still be at the mercy of the village or family owning the land. In this regard, the Act is little more than a paper tiger. The theory of eminent domain (a legal basis for the *Taking of Land Act 1964*) in which all land is deemed to be held of the Crown, differs significantly from the Samoan conception of land tenure.

This paper discusses a recent approach, that of bilateral agreements entered into between a donor and a village for the purpose of protecting the village's rainforest.

There are 2 main islands in Western Samoa: Upolu and Savai'i. The 2 agreements which are the subject of this paper were concluded with 4 villages, all located on Savai'i. Falealupo is the most westernmost village in Savai'i and in Samoa. In 1989 it entered into an agreement with several American individuals to preserve its rainforest for 50 years.

The apparent success of the Falealupo Agreement prompted a Swedish ecologist to launch a similar effort to save the Tafua Peninsula rainforest located at the other end of Savai'i island. This rainforest is controlled by 3 villages: Salelologa, Tafua and Faala. Each of these villages signed an agreement - not with the donors to the Falealupo Agreement - but with the Swedish Society for Nature Conservation (SSNC). Each village agreed it would protect its portion of the rainforest for 50 years. In return the SSNC agreed to provide certain development assistance.

In April 1991 the SSNC entered into a separate and different agreement with the O Le Siosiomaga Society (The Environment Society - referred to as 'the Society'). The Society agreed to act on behalf of the SSNC in relation to the 3 villages. The Society has not had any involvement with the Falealupo Agreement.

Unless otherwise stated the currency is Western Samoan tala; one US dollar is about the equivalent of $2.20 tala.

The Falealupo Agreement 1989

The Falealupo rainforest is one of the two or so remaining lowland rainforests on Savai'i. The rainforest has not been surveyed but it may contain as many as 30 000 acres of primary rainforest (Triangle of Life, 1991) although elsewhere the figure is put at 5 000 hectares (Cox, 1991:320).

In 1988, Falealupo village became aware that in order to gain government educational assistance for their children, it had to build a school. The credit to enable the school to be built was obtained by the village becoming indebted to the Development Bank of Western Samoa and Samoa Forest Products Ltd. The village then arranged for a logging company to log their forest. Income from the logger would be used to pay off the debts.

Ethnobotanist, Dr. Paul Cox, who was conducting research in the rainforest at the time of the logging watched with dismay. He spoke with village matai (chief) who informed him there was no other way the village could finance the school. Dr. Cox provided the solution: he organised several American individuals to pay off the debts: $77 000 to the Development Bank and $31 000 to Samoa Forest Products Ltd. This commitment by the donors was embodied in a formal written agreement entered into with Falealupo matai in February 1989. In the English version (translated from the Samoan), dated 9 February, the donors renounce any claim or title to the rainforest. In exchange a group of matai signing on behalf of the village agreed:

- to preserve the rainforest for 50 years (although limited cultural uses of the forest as well as subsistence garden plots along the edges of disturbed forest are permitted);
- to protect indigenous flora and fauna (specifically the flying fox).
- for scientific research purposes, including the search for old or new drugs, to allow Dr. Cox and his associates access to the rainforest in perpetuity;
- that the Agreement would be binding on their heirs (note: the donors similarly covenanted).

The school was duly completed. Dr. Cox had planned to develop the preserve and local economy but unfortunately the forest was subsequently decimated by Cyclone Ofa (February 1989), Cyclone Val (December 1991) logging by a rival village (May 1992) and a forest fire (August 1993).

The particular action taken in Falealupo - taking over the village's debt, which is tantamount to providing credit - is able to be justified because of the acuteness of the situation: the loggers had begun logging the rainforest; the wolf was in the house. The gesture could have ended there. Yet because the cash and infrastructural wants of a village such as Falealupo are considerable, such a remedy can only be palliative. Sooner rather than later the village would be faced with the same dilemma, but rather than requesting a school it could be a health clinic, improved roading, a seawall, a piped water supply, tourist development, a school bus, fencing for pig-pens, a house for the pastor or even a sports field. All these requests have been made to the Society by villages which are part of or want to be part of the Agreement approach to rainforest conservation.

Samoa's transformation from a subsistence to a cash society is well advanced. Present economic policies foster unsustainable rather than self-sufficient practices and cash needs can only escalate in the foreseeable future. Government's commitment to sustained economic growth manifests itself in subsidies to farmers to encourage cash cropping (which means opening up forested areas) and in incentives to logging companies to increase their activities in order to stimulate primary and secondary industry. The spiralling need among villages for cash also acts as an incentive to plant cash crops; subsistence agriculture has rapidly yielded to commercial agriculture. Rising material expectations have made villages receptive to projects which will provide a better lifestyle.

An Agreement which aims to prevent logging by providing for infrastructure requires substantial sums of money. The decision to tie the village into a 50 year Agreement binding on the matai who signed the Agreement and their heirs recognised that assistance would be required indefinitely to meet infrastructural development over the succeeding years. Dr. Cox recently established the Seacology Foundation in the United States which is fund-raising for such purposes. Whether or not such sums are available is a secondary consideration to that of whether such an approach is appropriate. The Agreement approach faces the same criticisms leveled at conventional aid: it produces a dependency mentality, stifles self-help and local initiative and may create needs which didn't previously exist and which can't be provided for once the assistance ends.

The Tafua Peninsula Agreements:

Tafua 1990, Faala 1990, Salelologa 1991

Spurred on by the early success of the Falealupo Agreement, Dr. Cox's colleague, Dr. Thomas Elmqvist introduced the agreement concept to 3 villages (Tafua, Faala and Salelologa) situated on the Tafua Peninsula rainforest, another of the last remaining lowland rainforests in Savai'i. The Tafua rainforest preserve - as with the Falealupo preserve - was originally established to protect the two endangered Samoan species of flying fox (Elmqvist, 1991:6).

Dr. Cox acted as adviser on behalf of the SSNC for each of the Agreements, assisted by a Savai'i matai (Elmqvist, 1992a:11, 15). It appears that in each case the village was approached by the SSNC and not vice versa.

In terms of potential threat to the rainforest it is claimed that Salelologa was under immediate threat, being on the verge of signing a logging agreement in order to finance a school building (Elmqvist, 1992a:8). This was a major turnaround given that the previous year the village had burned to the ground a warehouse, several bulldozers, and other pieces of equipment owned by a foreign logging company preparing to log their forest (Cox, 1991:320).

Tafua is assessed as having been under strong and continuous pressure to log and also in need of a school building. In Faala there was no imminent threat, but an agreement was sought with the village both because it controlled a portion of the rainforest and because the inclusion of all 3 villages meant there was no immediate need for surveying their boundaries (Elmqvist, 1992a:9).

Agreements were concluded with Tafua (January 1990) Faala (November 1990) and Salelologa (January 1991) and were modelled after the Falealupo Agreement. Each village promises to protect its rainforest area and wildlife for a period of 50 years. Protection of flying foxes is expressly stipulated. Traditional uses of the forest (e.g. extracting wood for kava bowls or traditional Samoan houses as well as for medicinal uses) is permitted. Only the Tafua Agreement expressly allows for planting of subsistence crops in the preserve. The donors expressly disclaim any interest in or title to the land. There is no clause dealing with the question of access rights of the donor to the rainforest or on the question of whether the Agreements are binding on the heirs of the signatories to the Agreements.

A significant addition to the 3 Agreements is protection of coral reefs and turtles (in Salelologa this extends to dolphins and whales) with a prohibition on chemical and dynamite fishing.

Tafua was promised $150 000 to build a new school. On the day it signed it would receive $30 000. Faala was promised $140 000 for an access road to its beach and for a guest fale to be built on the beach. On the day it signed it also would receive $30 000. Salelologa was promised a maximum of $300 000 for a new school. Again, on the day it signed it would receive $30 000. In each case the money would be transferred into a bank account for each village, for which certain matai would be authorised signatories.

Each village received the initial instalments as promised. Subsequent instalments were channelled through alternative avenues, including eventually channelling some money through the Society. This last method was not acceptable to one of the villages.

All projects were completed before or during 1991. In fact, all the villages received more than was promised under the Agreements. For example, Tafua received two 5 000-gallon cement water tanks; a small canteen which was to be used by the women to sell handicrafts; and payment for cutting trails through the preserve to be used by eco-tourists. Other general assistance was provided and more was in the pipeline.

The village also received monetary assistance after both cyclones. The village decided to use most of the money received for the second cyclone to pay off an outstanding debt owing to a merchant who had supplied materials for their school building. As the merchant was also the managing director of the biggest sawmilling company in Samoa the debt of $39 000 was repaid before he decided to log the forest to recover his debt. A small amount of the cyclone relief money remaining was available to repair damage to the school roof and $9 500 was given to a high chief to distribute for general relief.

The Society was not involved in the negotiations leading up to these Agreements; it was not formally established until August 1990. In April 1991 it signed an Agreement with the SSNC who pledged institutional support to the Society for a period of 3 years. In return the Society agreed (amongst other things) to provide oversight of the SSNC's projects in the 3 villages.

The Tafua Peninsula Agreements: Society Oversight

The Falealupo Agreement is a legally valid contract and is probably enforceable, that is, a court is likely to entertain a suit by a party where there has been a breach of the Agreement by the other. In practice, the chances of the matter going to Court are slight. The SSNC have complied with their part of the bargain and cannot therefore be sued. The villages have now to perform their side of the bargain but it is inconceivable that the SSNC would sue them for breach. Instead, the SSNC is relying on mutual good faith and the belief of the matai that God will act as judge as more important sanctions.

The Society encountered several difficulties in liaising with the villages. There was confusion and some resentment over its role and involvement. This has taken some time to dissipate, although one of the villages still remains unappeased. More confusion arose from the presence of Drs. Elmqvist and Cox whose roles weren't clearly delineated but who continued to visit and communicate with the villages.

As the Society had not been a party to the negotiations it had to continually check with the SSNC concerning promises that a village claimed had been made. No record of the negotiations were available. When misunderstandings occurred between the parties the Society would find itself wedged in the middle of the disagreement.

There has been a distinct sense of non-ownership by the villages of the projects (Olsson, 1992). The fact, the Agreements were initiated by an outside source rather than the village and the perception it is them rather than the village that is perceived as benefitting from protection of the rainforest can lead to the situation where the rainforest is used as a bargaining tool to get more out of the donor. There is a feeling held by some that the SSNC will provide assistance for every year of the 50-year period.

The Society has also had to guard against being played off against another "suitor" for the rainforest and pressured into making promises in order to woo a village.

Earlier this year, one of the Tafua Peninsula villages was confronted by Government which wanted land from the village in order to establish a township for Savai'i island. The village eventually decided to transfer a substantial portion of the rainforest to Government. At the same time it reaffirmed its commitment to the rainforest Agreement. Despite the inconsistency in the village's position, it should be recognised that the village has been under pressure from Government for several decades to hand over land for the establishment of a town centre. In recent years the pressure has become more urgent and it was only a matter of time before the village would accede. While not condoning what has happened, events such as this, if foreseen, should result in a more flexible Agreement than was entered into to allow the village concerned some latitude.

The Tafua Peninsula Agreements: Comments

From its experience in overseeing the Tafua Peninsula Agreements the Society has reservations regarding the Agreement approach to rainforest conservation.

The Agreements have achieved some publicity and a few villages have requested from the Society similar financial assistance. This misconception among villages has to be corrected before discussions can begin on conservation issues. The Society does not approach villages with the aim of initiating conservation agreements. This is likely to engender a "how-much-do-you-want-for-our-resource" mentality. It does however respond to requests from villages who want information about protecting their environment. A full time officer employed with the Society visits villages who have made requests and assesses ways in which the Society can help. Invariably educational programmes in the form of materials for schools or a workshop for adults will be provided.

These programmes will be ongoing, even where project assistance is approved. This is because project assistance will one day cease but the village's cash needs will still be there as will the temptation to exploit whatever resource it is for which protection is sought. A programme to enhance environmental awareness should at least enable the village to make better informed decisions.

Where no threat is anticipated then, apart from educational programmes, the status quo should not be disturbed. If help is requested regarding the management of the resource the Society can assist with drawing up management plans in consultation with the village. If project intervention is necessary then proposals can be prepared based on the management plan. Criteria for proposals can be included in the management plan which could also indicate a means for prioritising projects. This way unsustainable or lower priority proposals can be identified and eliminated or postponed. Where possible, preference should be given to income-generating proposals such as vanilla growing, agroforestry and eco-tourism as these will help meet the village's cash needs. A draft management plan for the Tafua Rainforest has been prepared by Dr. Elmqvist (Elmqvist, 1992b) but it is not known how much of the document resulted from consultation with the villages.

Final Remarks

This paper presents points of concern to the Society from the Society's viewpoint. Oversight of the Agreements has been unexpectedly involved and much detail has had to be omitted from this discussion. A very different analysis of the Agreement approach, reaching the opposite conclusion, has been presented (e.g. Elmqvist 1992a; Cox, P.A. 1993).

The Agreements are still in place in two of the three Tafua Peninsula villages. The third village refuses to be a part of the Agreement unless direct lines of communication between the village and the SSNC are established, without the Society as intermediary. The SSNC's obligations have been discharged in the short time that the Agreements have been in place. Once pipeline projects in the 2 villages are completed, nothing more is required, either under the Agreement or by way of promises, than that the villages complete their end of the deal. This will be the true test of the viability of the Agreements.

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Pohnpei's Watershed Forest Reserve: Towards Sustainable Management

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Introduction

Generally little is known of traditional systems of terrestrial forest management in Micronesia. What little we do know suggests a complex approach that has been developed over thousands of years. However, as with corresponding traditional marine resource management systems, rapidly increasing population and an expanding cash economy has led to growing resource degradation. In the meantime, the traditional management system has been slowly eroded through the conflict of values and perceptions that have accompanied change from a traditional to a more modernised society. This paper describes the traditional management system for Pohnpei's forests and presents a case study of the development of a community-based management scheme for the island's remaining forest resources, based on traditional island institutions and practices.

General Setting

The island of Pohnpei (formerly Ponape) is located in the Caroline Islands group in the mid-Pacific Ocean, about 4 983 km southwest of the Hawaiian Islands. Politically, Pohnpei is one of the four states of the Federated States of Micronesia and the location of the nation's capitol. The high volcanic island is surrounded by a barrier reef and a shallow lagoon. By virtue of its location, Pohnpei is one of the wettest spots in the world. Rainfall is high and temporally well-distributed throughout the year, with an average of 4 820 mm and 300 rainy days per year. Slightly less rain falls during the months of January-March, providing for a modest 'dry season'. Due to orographic effects, rainfall is believed to reach as high as 7 500 mm in the rugged interior (Spengler, 1990). November to June is the main period of the northeasterly tradewinds. Typhoons are fairly rare, most passing to the north and west of the island, although occasionally large storm events do occur.

The interior of the island is heavily forested, with vegetation consisting of several forest types, including upland, palm, swamp forests, and at the highest elevations, dwarf or cloud forest. Lower slopes and coastal areas are characterised by agroforest and secondary vegetation, with small areas of grass or fern savannah. Lowland areas consist of swamp forest or taro patches. Extensive mangrove forests up to 4 km in width line the coast.

Importance of the Upland Forest

The upland forest serves several important ecological functions. Perhaps most importantly, the forest vegetation with its extensive root system and litter layer serves to capture rainfall, retarding surface runoff and improving infiltration of water into the soil, where it is filtered and slowly released into the streams and rivers that eventually make their way to the coastal mangroves and the lagoon. Through the retardation of surface runoff, erosion and sedimentation are reduced, protecting these ecologically and economically important downstream environments from degradation. Flood severity and intensity are also reduced. The slow release of ground water ensures streamflow even during relatively dry periods.

The conservation values and biodiversity of Pohnpei's upland forests are as important as their hydrological buffering function. The upland forest on Pohnpei serves as habitat for at least 269 species of plants, 110 of which are known to be endemic. In all, 34.4% of all the plant species found on Pohnpei are found chiefly in the upland forest, while fully 90% of the endemic plant species are found there. Major endemic families include Euphorbiaceae (7 species), Orchidaceae (35 species), Polypodiaceae (10 species), and Rubiaceae (10 species). Twenty-four species of birds nest in the upland forest, at least five of which are endemic, including the Pohnpei Lory (*Trichoglossus rubiginosis*, local name *serehd*), the only endemic member of the parrot family in Micronesia. Many of these plants and animals, besides their numerous ecological functions, are also important subsistence and, to a lesser extent, commercial resources for the people of Pohnpei. Finally, the forest adds to the beauty and attraction of Pohnpei for residents and visitors alike.

Traditional Resource Use in the Upland Forest

Before humans arrived on Pohnpei, the entire island and most of the basaltic islets of the lagoon were covered by rainforest (Glassma, 1952). Over the next several hundred years, in the process of human settlement and subsistence, much of the coastal and lowland forests were modified to secondary forest and agroforest. Warfare and population growth gradually led to inland movement and habitation in upland areas (Haun, 1984). Declining warfare and depopulation from introduced diseases after European contact eventually led to the abandonment of these areas. The movement back to the coasts over the last few hundred years has left Pohnpeians with a strong cultural respect for the upland forest.

Pohnpeians traditionally utilise the upland forest and its resources in many ways:

Water:

Rivers, streams, and springs on Pohnpei are central to village life. These places, especially rivers, are places to wash, bath, swim, socialise, and just relax. Rivers and streams are also a major avenue of waste disposal. Springs and the upper reaches of streams and rivers also provide most of the drinking water for the island.

Soils:

The soils of the interior forests have always been used for the production of various subsistence and prestige crops, especially *sakau en Pohnpei* (*Piper methysticum*). Pohnpeians equate the healthy forest with good soil. Each *kousapw* (village) traditionally claimed a communal area in the forest called a *kahpw* where all *kousapw* residents were allowed to go to plant *sakau* and subsistence crops. Many of these areas have been in more or less continued use for hundreds of years. These *kahpws* provided a source of subsistence food, especially breadfruit, when they were out of season in lower areas.

Flora:

Plants and their numerous products have been prt of the Pohnpei material culture for thousands of years. Many of these are collected in the upland forest areas. Even today, with an increasing reliance on imported goods, rural Pohnpeians still make use of a variety of forest products in their daily life (Anson and Raynor, 1991; Merlin *et. al.*, 1992 and 1993).

Fauna:

Birds have been traditionally hunted in the Pohnpei forest. Of the 40+ species of birds found on Pohnpei island, at least 24 nest and/or otherwise inhabit the upland forest (Engbring, Ramsey, and Wildman, 1990). Other fauna which were traditionally exploited include the freshwater shrimp and a variety of freshwater carp. A species of deer, introduced during the German Administration (1899-1914), is hunted for food and cash.

Major Threats to the Forest Ecosystems

Conversion to Agroforestry and Other Agriculture

On Pohnpei, the cultivation of *sakau en Pohnpei* (*Piper methysticum*) has been identified as the most important agricultural threat to the upland forest. *Sakau*, a perennial plant the roots of which have a mild narcotic effect, is an important crop on Pohnpei, both for ceremonial and recreational use.

Since WWII, the use of *sakau* by the general populace has been steadily increasing and its cultivation and marketing has become commercialised. The easy market for *sakau* has resulted in increased crop theft, and this along with the plant's need for rich organic soils, has led to increased cultivation in the upland forest. The clearing of overstory trees during cultivation has contributed to increased erosion and mass wasting on steep slopes. Little data exists on the level of *sakau* cultivation, but indications are that it is substantial.

Settlement

Homesteading has already encroached into the upland forest in some parts of Pohnpei. Anson *et. al.* (1985) reported that settlement patterns tend to be along streams, up to as high as 500 m elevation, and added that several landslides and other mass wasting was noted in or adjacent to man-made clearings associated with burning. Population combined with unequal land tenure are the major exacerbating factors involved in increased settlement of the island's interior. So far the Pohnpei State Government has done little to address the issue of 'squatters' in the upland forests, despite their status as 'public lands'.

Road Construction

Roads are a threat both in terms of their negative environmental effects and the function they serve in making watershed lands more accessible for agriculture, settlement, and other types of use. Many existing and planned (already funded) secondary and tertiary roads reach the vicinity of the upland forest on both islands, and often these roads are undesigned, with virtually no surfacing and extreme gradient (Zeimer and Megahan, 1991). At present, there is little coordination on this key issue between municipal and state governments and various agencies carrying out road construction.

Hunting

On Pohnpei, several of the popular gamebirds, especially the Micronesia Pigeon and the Caroline Islands Ground Dove (*Gallicolumba kubaryi*) are suffering population decline believed to be due mainly to over-hunting from increasing population, inland settlement, and growing markets in the district centers and off-island. The entire Pohnpei population of the Micronesian Pigeon was estimated to be only 822 birds in 1983 and the Ground Dove was even lower (Enbring, Ramsey, and Wildman, 1990). Currently there is no agency dealing with terrestrial wildlife on the island.

Tourism and Trails

Growth of tourism on Pohnpei has meant that more people desire the experience of visiting the upland and cloud forests. Traditional dependence on the upland forest for various products has led to a system of existing trails, consisting of 'feeder trails' and a system of ridge trails in the interior of both islands. According to Griswold (1992), the trails on Pohnpei are little more than unconstructed paths of least resistance evolved over many years of use, sustained without resource damage by the 'light' overall use. With increasing impact, e.g. hiking boot-clad ecotourists, these trails could soon become muddy eroded gullies in the steeper sections, with damage quickly accelerating as "hikers attempt to avoid walking in the eroded sloppy ruts - a typical pattern of resource and trail degradation that could quickly result". Extractive use of forest resources by tourists and other forest visitors, e.g. cutting of trees for firewood and bedding, can also be locally severe.

Developing a Sustainable Management Strategy

In 1983, the Pohnpei State Division of Forestry requested assistance from the Pacific Islands Forester Office (USDA Forest Service Institute of Pacific Islands Forestry) to delineate and develop legislation to establish a watershed forest reserve area on interior public lands. Utilising aerial photos, soils survey, and aerial reconnaissance, the watershed boundaries were determined by "carefully mapping, from the air, places (on Public lands) where people have not yet settled on the highly erodible soils" (Anson, 1985). As a result, the Pohnpei State Legislature enacted the *Pohnpei Watershed Forest Reserve and Mangrove Protection Act 1987* (S.L. #1L-128-87), designating some 5 100 ha coastal mangrove forests of Pohnpei Island as a protected area.

It quickly became evident, however, that community awareness of the law was virtually nonexistent. The proposed rules and regulations, failing to recognise traditional Pohnpeian resource use in the forest areas, were universally rejected. The government boundary survey team was turned back in many areas of the island, sometimes forcefully. This led to the formation in 1990 of the Watershed Steering Committee (WSC) task force made up of representatives from several Pohnpei State Government agencies and NGOs.

Based on municipal meetings and field surveys, the group designated three areas as priorities for watershed education and negotiation - the Koapin Soamwoai area of Kitti, the Lehdau-Senipehn area of Madolenihmw, and the Nanpil area of Nett Municipality.

In 1991, the Pacific Island Forester's office funded a pilot watershed extension project targeting the Koapin Soamwoai area. A local NGO group, Woaun Koapin Soamwoai Board (WKSB), made up of representatives of four villages and their chiefs, convinced that watershed forest protection was needed in their area but desiring more input in watershed management, agreed to cooperate with the Division of Forestry and the WSC in watershed education and negotiation. The resulting highly successful programme involved this group, the four communities concerned, and the WSC in education and negotiation meetings both in the communities and in the district center, Kolonia. Since then, the programme has been extended to all other municipalities, with the resultant formation of local NGO management groups in each area. The education programme will culminate in the redrafting of rules and regulations and presentation back to the Government some time in late 1993, followed by implementation of the new community-based management structure.

A Community-based Management Approach

In response to community input, a community-based approach to the management of the island's upland forests has been developed. Known locally as 'co-management', this approach recognises several cultural and social factors:

1. Government resources are inadequate to actively manage, monitor, and enforce the watershed forest reserve;
2. The upland forest is not strictly a common property regime - past exploitation was regulated by tradtional authority including various land-use designations;
3. Communities have a much greater stake in forest resources and values than do government managers - this 'enlightened self-interest' should be encouraged through participation in management activities;
4. Local community institutions will be more effective than the Government in detecting infractions and imposing sanctions to regulate resource exploitation; and,
5. The legally-protected forest areas represent only 15% of Pohnpei's land area and less than half (42%) of remaining dry forested area. Sustainable land use practices must extend to a greater area for management success.

The resulting management programme combines local community and traditional institutions with the Municipal and State Governments. Four entities are proposed to participate in watershed management. The Division of Forestry (DoF) is designated as the lead agency, maintaining the ultimate responsibility and authority to develop and implement the management programme and regulate use within the Watershed Forest Reserve. The DoF Chief acts as Chairman of the Watershed Steering Committee (WSC), which will serve as the advisory board to the DoF and its parent agency, the Department of Conservation and Resource Surveillance.

Municipal Watershed Protection Officers will liaise with the DoF/WSC in matters related to the watershed, particularly infrastructure development. Local autonomous Watershed Area Management Committees (WAMCs) will be formed for each discrete watershed management unit (about 10), consisting of the local *soumas en kousapw* (village chiefs) or their delegates, and will act as co-managers with the DoF.

Following completion of the community education programme in each unit, the WSC will work with the WAMCs to develop and implement Watershed Unit Plans (WUPs). These plans will cover the entire watershed unit, from the cloud forest to the reef. Outside of the legally designated areas, the plans will only recommend action - compliance will be largely voluntary - but by involving the communities and their leaders, compliance is expected to receive more support. The plans will also integrate existing and proposed infrastructure, including roads, trails, and water systems. Road construction in the vicinity of the WFR will be highly discouraged.

Data generated during the planning process will be organised and made available to all management entities, and will eventually result in a management system based on zoning and permits. Suitable use areas in the WFR and surrounding buffer area will be designated as agricultural, tourist, wildlife (non-hunting), or historical/cultural zones. The remaining areas will be left unzoned and protected through a permit system.

In addition, realising that conservation efforts will only be successful if people are able to maintain/improve their standard of living, a number of sustainable development projects will be identified by the various communities during the planning process. These are envisioned to include small-scale ecotourism projects, alternative crop production systems (especially for *sakau*), and other small-scale sustainable resource extractive activities. .

Finally, using the Pohnpei watershed area as a model, exchanges of extension and technical personnel between the island and other states in the Pacific region will be promoted and a nation-wide workshop will be held to encourage the delineation of watershed areas, development of legislation, and promotion of forest conservation education.

Conclusions

The forests of Pohnpei are unique biological treasures worthy of protection. The continued health of these important ecosystems under current trends is dependent on involving the traditional leaders and local communities in their management and preservation. Pohnpei's experience demonstrates that while legislation 'on paper' is an important first step, real success can only be realised by its adoption by the local community. Modern and traditional resource managers of Pohnpei's forests have been able to develop a mutually agreeable strategy of co-management, effectively incorporating community and landowner input into forest planning and management. Their success has been largely based on effectively integrating traditional forest management practices with sound scientific information. With continued local support and appropriate external assistance, the proposed management approach for Micronesia's upland and cloud forests will become a reality.

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Local Conservation Area Ownership And Management: Komarindi Catchment Conservation Area Project, Guadalcanal Province, Solomon Islands.

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Background

Location

The Komarindi Catchment Conservation Area (KCCA) is located on the central highlands of Guadalcanal and is approximately 25 km south west of Honiara (see Fig. 1). It covers more than 100 sq km of land which is characterised by rugged hills and steep topography.

The Project

The KCCA is a proposed integrated conservation and tourism scheme to operate in conjunction with the proposed Komarindi hydro-electric development scheme. The KCCA will be owned and largely managed by the landowners themselves. The establishment of a conservation area with the participation of landowners is aimed at protecting the natural and cultural values of the catchment area, both as a basis for the sustained operation of the proposed hydro-electricity scheme and to protect the biological diversity of the catchment. It is also proposed that there will be appropriate tourist and recreational development in the KCCA, and continued appropriate and sustainable traditional uses of the land by landowners. The project has been jointly designed by the SPREP and the Solomon Islands government with technical assistance and support from non-government agencies such as The Nature Conservancy. Together these groups have mapped out a plan of action leading to the establishment of the nature conservation area described in the 'Phase II Report' (SPREP, 1993).

Natural Resources

Water

The water from the Komarindi and Charahi rivers will be tunnelled through a weir of about 84 m which will run the turbines that will provide about 8 MW of electricity to Honiara. Aquatic fauna also exist, and are not expected to be significantly affected by the development because of the nature of its design. In the past, aquatic fauna have formed a major component of the local community's diet.

Minerals

The area's geological types are such that apart from the potential to use limestones and basalts for aggregates, exploitable minerals are unlikely to occur (T&T, 1993).

Terrestrial flora

The Solomon Islands in general has high endemicity of species and the rainforest have significant ecological value. The Komarindi area forest is representative of the Solomon Islands rainforest. It is covered in lowland and midmountain primary tropical rainforest which form three broad forest units. Epiphytic ferns, aeroids, orchids, pandanus and palms characterise the rich ground covers of the forest. One rare species of pandanus was recorded from the area. Trees of millable size are low in numbers and therefore the area is unattractive for logging. The steep topography and difficulty of access would also make logging difficult (T&T, 1993).

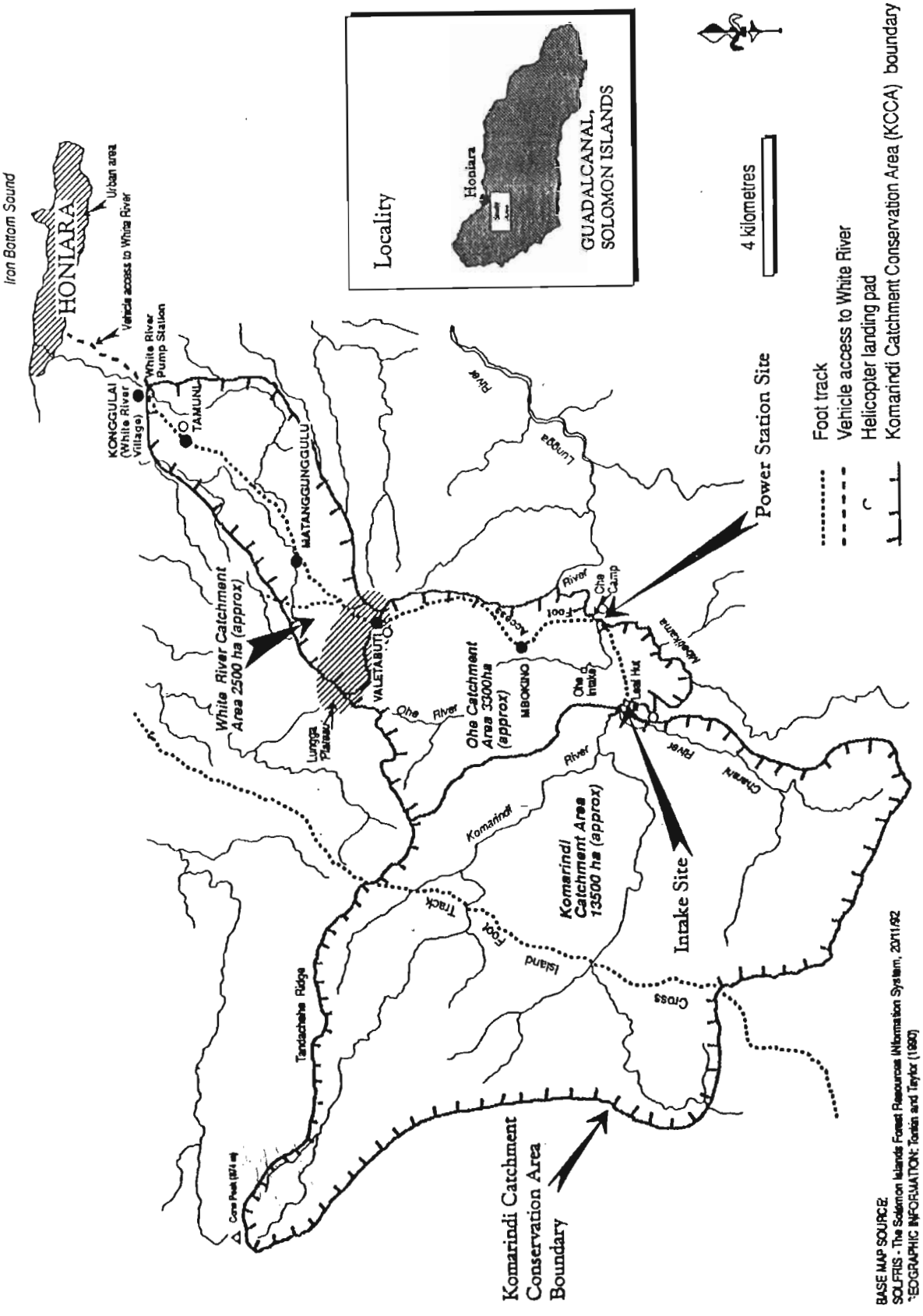

Fig. 1: Location of the Komarindi Catchment Conservation Area, near Honiara, Solomon Islands.

Terrestrial fauna

Since the area is undisturbed it is also rich in terrestrial fauna. Birds which have been observed close to the river include kingfishers, herons, ducks, sandpipers, wagtails, swiftlets and cormorants. Forest birds observed include papuan mynas, ducorp's cockatoo, hornbills, parrots including eclectus, robins, rufous fantails and woodfords crow which is a rare species. Mammals observed include insect eating, tube nosed, nectar feeding, blossom and bare backed fruit bats and flying foxes. Introduced species such as pig, polynesian rat , feral cats and toad are common in the area. The opossum is occasionally found. Reptiles recorded from the area include geckos and skinks and several snakes including the endangered Solomon krait (*Lowrigelaps elapoides*). Several species of butterflies also occur including the bird birdwing (*Orithoptera victoriae*) (T&T, 1993). More surveys would certainly increase the list of the fauna and flora in the area.

Traditional Uses of Natural Resources

The Communities

The Komarindi catchment area is now uninhabited but anthropogenic evidence exists which prove habitation of the area in the past. The people who have claimed ownership of the area have now settled along the north coasts west of Honiara, the Malango area in the central Guadalcanal region and the southern coasts. It was said that the last group to leave the area left in the mid fifties after the war. The area was used as hiding place during the war. Since the Komarindi area has been deserted by the original inhabitants it is relatively undisturbed apart from the effects of cyclones, most notably cyclone Namu of 1987. Hunting tracks however do exist and the people still go on hunting trips for wild pigs, opossum or birds, or to look for aquatic river resources such as shrimps, snails, spotted flagtail and eel fish. There is no evidence of gardening any more in the area as it is far from where the people have now settled.

The people are Melanesian and have traditional land tenure and social systems common in Melanesian societies. There are three principal landowning groups on the Komarindi land (Palmer, 1993). The communities most concerned with the KCCA live on the fringes of Honiara, the capital of the Solomon Islands, which is the most developed area in the country and are therefore influenced by the changes associated with the urbanisation.

Traditional structures and rights of access.

The Guadalcanal societies follow a matrilineal system. Primary rights to land are through the mother, though secondary rights could still be claimed through male descent. Although landownership is determined through women, most decisions over land are made by males who head the tribes or clans and are regarded as chiefs. They lead the tribes or clans and deliberate and make decision on anything to do with land . Those outside the tribe or clan who wish to use land seek permission from the chief and sometimes have to make payments for the use of land.

Traditional knowledge with regard to resources.

The principal landowning groups of the area are still mainly dependent on a subsistence style of life though are also exposed to urbanisation. Their knowledge and understanding of resources in a subsistence setting is still important for sustaining their traditional lifestyle. Local people know what resources are there, where to find them and how and may be how often to get them. They would also know what is not useful as a resource. Today, since access to the area is difficult, regular visits are not possible. Occasional hunting trips for ceremonial purposes may still occur. Other visits may be for the purposes of visiting tambu sites and grave sites, or checking the condition of the land.

Cultural traditions supporting protected area development.

In traditional Melanesian societies as in most Pacific societies, traditional cultural practices exist which can support the development of protected areas. Sacred sites which exist on most land include sacrificial sites, grave sites, former settlement areas, areas where sacred plants grow and certain areas which are believed to have been settled by spirits or to have been spirits' resting places in the past.

Certain animals and plants are also tambu or sacred to some tribes or clans. These tribes may not eat, kill or touch these living things as they may have been their Gods or they may have been linked to other sacred events of the past. Some tribes may not even drink water or harvest anything from a river or stream that is sacred to them. The land tenure system existing in Melanesian societies is a significant element that supports protected area development and can be effectively used in development of protected areas if handled carefully.

Current Use and Status of Resources

As already noted, the indigenous communities of the Komarindi catchment have all moved to coastal areas or areas closer to the coast for easy access to better services such as education and medical care. The Komarindi area is therefore uninhabited. Bush tracks are the only evidence of local community activities. These tracks are mainly used for pig hunting trips by the local landowners who are more capable of finding their way through the forest in the area.

The physical qualities of the area, especially its rugged and steep terrain and high rainfall makes wide access to the area difficult. The lack of any major subsistence or commercial activity at all in the area might be due to this. The resources of the area are therefore still intact and therefore worthy of conserving. Natural disturbances are the major factors at present causing any change in the resources of the area. These natural disturbances include cyclones or tropical storms and earthquakes. The area has a complex geology which can be destabilised by major earthquakes.

Access to the area by outsiders at present does not occur, but if it did occur it would require the permission of the landowners. This issue is a major concern to the landowners and the government, who wish to ensure that the catchment is managed to avoid opening up the area and allowing in squatters, such as happened to the previous Lunga hydropower project. Control over access will be needed once the access road is built. It is important that an agreement with the landowners to conserve the catchment is reached before any access road to the area is built.

Conflict, Negotiation, Planning and Management

In traditional societies of Guadalcanal, the heads of tribes or chiefs of the individual tribes have the responsibility and the power to settle disputes through negotiation and management of land in general. When tribes do not agree, the modern legal system is usually resorted to. Nowadays there is a tendency for more conflicts involving customary land to end up in the modern legal system.

With the Komarindi area, two cases have so far gone through the courts. The first was by some landowners themselves, disputing the procedures followed by the Land Acquisition Officer during the acquisition process in 1992. The decision resulted in the nullifying of the previous acquisition proceedings. The second case was in 1993 between the landowners themselves disputing who should represent them in the Landowners Trust which has been created. The decision resulted in an increase in the number of members of the Landowners Trust.

In setting up the integrated Komarindi hydro-power and Catchment Conservation area, the biggest hurdle to overcome is to do with conflicts within and between communities over landownership. In the Solomon Islands where more than 80% of land is under customary ownership, this is a significant issue for the establishment of protected areas generally.

Since the Komarindi area is completely under customary ownership the government has to be very careful in its approach to setting up this major project, and must ensure that the landowners are fully involved in the process. It has been realised that the success of the project will very much depend on the level of involvement and participation of the traditional landowners. The situation at Komarindi is made a little more complex by the different arrangements needed to cover the hydropower project and the KCCA area. The hydropower project will require outright acquisition or some kind of lease arrangement for areas used for road construction and infrastructural development. The KCCA project on the other hand will involve some kind of agreement for the protection of the catchment while customary ownership is maintained.

The government has started the process of negotiating these two different agreements by identifying interested landowning groups. A Landowners Trust has been established for the three landowning groups.

Two management authorities will be formed to manage each component of the whole project. The KCCA Authority, which will involve representation from relevant government and non-government bodies, will manage the catchment area. The Solomon Islands Electricty Authority (SIEA) will manage the electricity generation. The Landowners Trust will represent the landowners on the overall project. The KCCA Authority reports to the Trust. It is the professional conservation area management organisation which works for the landowners (SPREP, 1991, 1993). A KCCA coordinating committee will be formed shortly to assist with the establishment of the KCCA while the KCCA Authority is not yet formed.

It is intended that the KCCA eventually be given legal protection to ensure that it continuously maintains its value and importance and is not degraded through neglect or human activities. Some existing national and provincial legislation could be used to achieve this. One of the most relevant is the *Guadalcanal Province Wildlife Management Area Ordinance 1990* which allows the Provincial Executive to declare any area to be a wildlife management area under certain conditions and rules. Under the draft *Environment Bill 1993* the Minister responsible for environment can declare areas and species of certain significance protected after consultations with relevant groups.

The other essential component to the long term success of the KCCA project will be awareness and education activities in the landowning communities. The project proposes to recruit conservation area liaison officers from these communities who would be trained and given the task of raising the communities' awareness of the project and its benefits. The liaison officers will also provide feedback about community aspirations.

The involvement and participation of the community in preparing management plans will also be important for the viability and success of the project.

The Future

The new government has now endorsed the phase two report on the Komarindi project and endorsed the recommendations contained therein (SPREP, 1993) These include the setting up of a coordinating committee and the commencement of a landowners awareness programme. The landowning groups have agreed to their representation on the Landowners Trust. The government will shortly be setting up the coordinating committee, which will work in close consultation with the Landowners Trust.

The project is still at an early stage. The landowners are not yet fully informed of the approach which is being pursued for the establishment of the KCCA and the hydro-electric scheme. Landowners will need to agree on what type of tenure system is preferred for the Conservation Area and the area for the hydro-electric infrastructure and the road access zone. The legal establishment of the KCCA needs to be discussed further with relevant parties, especially the with the landowners, the SIEA and the Guadalcanal provincial government. The concept of the resource rent to be charged for the use of the land and water is still to be discussed with the landowners as well. Acceptance of the resource rent by the landowners is a critical factor in finalising the management arrangement to be adopted, and the setting up of the combined hydro and conservation area project.

The active involvement of the landowners and the provincial government will be essential for the development of the project. The government's ideas will need to be explained to the landowning groups and the government in turn will need to listen and talk to local communities about their ideas and needs for the area. The Conservation Area Liaison Officers will have a central role in encouraging such dialogue.

Some groups of landowners have had some experience with other forms of development, especially logging, which has involved huge payments of cash, and may expect or demand similar sorts of payments which the government is trying to avoid. Upfront payment is especially not encouraged, but the people of Guadalcanal, after some experience with loggers handing out cash in the past, might still have the same expectations which will need to be addressed cautiously.

The development of the KCCA and the hydro-electric scheme needs initial overseas funding, and the Asian Development Bank (ADB) and other donors have been assisting, and hopefully will approve assistance for the whole project in the near future. A Technical Assistance component for funding the KCCA is being considered by the ADB and has a good chance of being approved, as the ADB has made the conservation of the catchment a prerequisite for funding the hydro-electric scheme.

In the Solomon Islands there are very few protected or conservation areas, and in most cases these exist on paper only. The approach taken when setting up these areas in the past has not worked for various reasons. The approach now being encouraged is to involve the landowners more, and for landowners to share equity in such developments while they take part in conserving nature. Even though certain elements of cultural tradition support protected area development, the formal establishment of large protected areas may seem too new to some communities. Its acceptance will depend on how much people understand about protected areas and what benefits it brings.

Acknowledgement

The Solomon Islands government acknowledges the assistance given by the SPREP Planning Team in producing the Concept Plan (Phase 1) (SPREP, 1991) and the Phase II report (SPREP, 1993) on the Komarindi project. The first Planning Team which develop the concept consisted of Mr. P. Thomas (SPREP); Mr. G. Worboys (NSW NPWS); Mr. N. Clifton (Department of Conservation, NZ); Mr. H.Isa (Ministry of Natural Resources, Solomon Islands government); and Mr. N. Rogers (Tonkin and Taylor International, NZ). The second Planning Team consisted of Ms A. Farago (SPREP); Ms T.Leary (The Nature Conservancy, Solomon Islands); Mr. P. Thomas (The Nature Conservancy, NZ); Mr. G. Worboys (NSW NPWS), Mr. N. Rogers (Tonkin and Taylor, Kuala Lumpur, Malaysia), and Mr. M. Biliki (Ministry of Natural Resources, Solomon Islands Government).

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Hakupu Tapu Forest and Wildlife Reserve, Niue

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Abstract

Name: Hakapu Tapu Forest and Wildlife Reserve

Tapu Area: 70-100 hectares approximately.

Huvalu Forest Area: 700 hectares approximately.

Location: The reserve is about 3-5km from the main road and 5km from Hakupu Village.

Land Tenure: Village Ownership

Conservation: The reserve was designated by the ancestors of the people in the village.

Land Use: Due to the nature of ownership, no activity of any kind is permitted to be undertaken near or within the reserve. The adjacent area around the reserve is used for hunting.

Economic Potential: The area is abundant in wildlife including birds and land crabs, plants, and caves. It can be used for research, ecotourism and extracting genetic material.

Access: There is a main road from the village of Hakupu to Liku which runs parallel to the reserve. A hunting track is known to have existed around the area.

Purpose: The forest was established by the ancestors of the villagers of Hakupu to protect the flora and fauna within it.

Activities of any sort near or next to the reserve is very restricted.

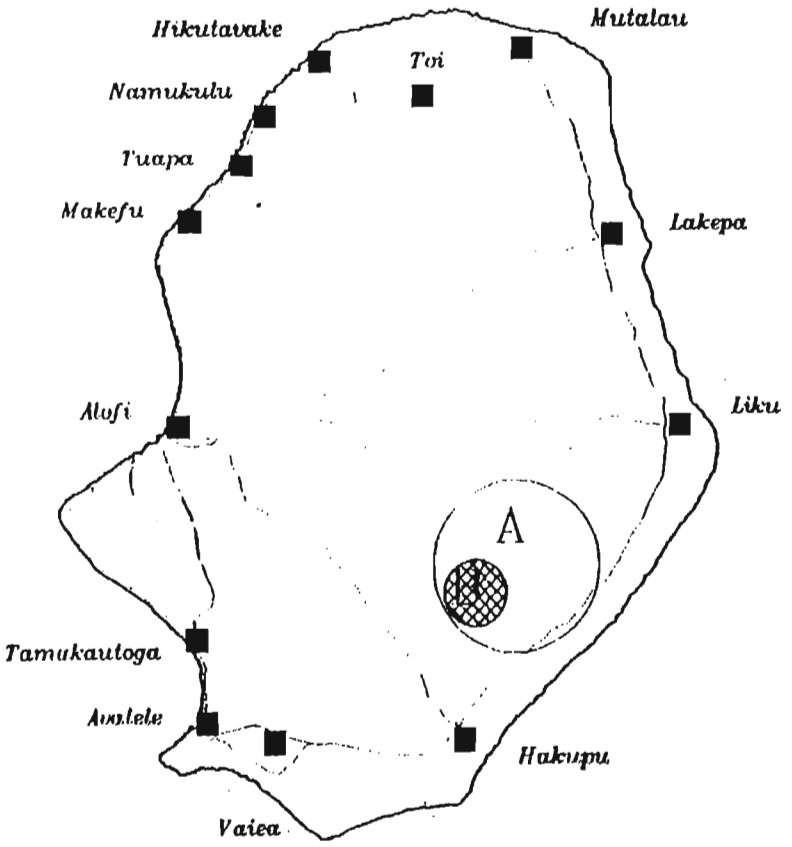
Introduction

The Hakupu Tapu Forest and Wildlife Reserve is approximately 70-100 hectares in size, and is situated within the Huvalu Forest on the eastern side of the island (see Fig. 1). Historically the area has been well known to the people of Hakupu village for many years and many generations. The respect and recognition accorded by the village people is an on-going tradition and **'mana'**, passed on by the ancestors to the present generation.

The area has never been surveyed or registered as a National Reserve. Day to day protection and management of the area is mainly done by the soul or spirit of the ancestors. This spirit is re-enforced by the pastor of the village, and elders who at times perform a special ceremony outside the area. This ensures that a curse and evil spirit will strike anyone who dares to challenge the existence of the spirit of the area. The principal purpose of this ceremony is to ensure that the area will continue to be observed as a sacred place.

Today it is believed that those who intentionally or unintentionally enter the area have been cursed, and so too their children and grandchildren.

Fig. 1: Niue, and location of the Hakupu Forest and Wildlife Reserve



FOREST

Niue total area 259 sq km

Total forest area 3 200 ha (1981)

A - Huvalu forest area 700 ha (approx)

B - Hakupu Tapu area 70 – 100 ha

Traditional Knowledge of the Reserve

Traditional knowledge of the origin of the Hakupu Forest and Wildlife Reserve has never been legally registered and/or documented by the village elders. The only link to ownership is through word of mouth, mainly through the elders of the village. Most of the elders have a good knowledge of the purpose of the Reserve, and have a strong say in the village, the church and all village groups. Many scientists and researchers have tried to get special permission to go inside the area but with no success, therefore the bio data of the area is unknown. Only those who at times got lost while hunting entered the area, and have given some description of the abundance of wildlife especially coconut crabs, pigeons and bats.

The wildlife is totally different from other areas that are used by the village for hunting. Many people will not remove any item from the area, or else face direct or indirect consequences.

Traditional uses of the Resources in Huvalu Forest

The forest provides a home for all types of wildlife. Many forest trees and undergrowth are protected. The protection of the forest therefore protects a vital ecosystem for all wildlife, which in turn serves as an important food source for the people.

Since early days and up till today the eastern side of the island is known to be rich in wildlife from the forest. Land crabs, especially the coconut crab *Birgus latro* and others, are common, and the same applies to pigeons and bats. Many other species of birds are also found in the area in large numbers. Hunting them for food is common on the outskirts and adjacent land, however bird shooting is only permitted up to three months per year. Most of the species are migratory in nature so move in and out of the area at any time of the year. Birds go out of the reserve to look for food and land crabs go out especially to breed in the sea. This movement also helps to restock other areas outside the reserve.

Will the Hakupu Tapu Forest and Wildlife Reserve Help to Conserve Niue's Biodiversity?

In the present social and economic circumstance, the Hakupu Tapu Forest and Wildlife Reserve will not be sufficient to protect and conserve Niue's Biodiversity. It will only serve the needs of Hakupu village. This is more so now in light of the increasing pressure for agricultural development. Large areas of forest are now being cleared with bulldozers for commercial taro growing. This is encouraged by Government to increase income generation from the land.

It is believed that the island of Niue, before being settled say 1 500 years ago, was covered by natural primary forest. Today only 10% of this forest is still intact. This figure reflects the urgency of Niue's involvement in biodiversity conservation which will also contribute to the conservation of biodiversity in the region.

Villages to Participate in Establishing Other Areas

In previous times, other villages have protected similar areas for conservation purposes. However most of the other areas have lost the **mana** and respect of the new generation. It is only recently that some people are again interested in re-establishing these areas. This will be very important for Niue if the next generation is to enjoy the same resources from the land and sea as the present generation.

The Role of Non-Government Organisations in Conserving Biodiversity

Key Issue Paper:

The Role of Non-governmental Organisations in Conserving Biodiversity in the South Pacific

Caroline Sinaavaiana
O le Vaomatua
Pago Pago
Amerika Samoa

Abstract

With an emphasis on social/cultural perspectives, this paper explores various issues relating to the unique potential of NGOs to conserve biodiversity in the South Pacific region. Approaching these issues at both 'macro-' and 'micro-' levels, I argue for (1) the essential correlation between cultural and biological diversity; (2) the integration of cultural and historical perspectives into resource management debates, which have for too long been dominated by the assumptions and biases of the natural sciences and western-style government bureaucracies; (3) the necessity to build and cultivate the capacity of 'local' NGOs to act as cultural mediators between their communities and governments.

Introduction

Because my academic training is in the humanities and social sciences, as opposed to the natural sciences, I must confess at the to feeling somewhat like the proverbial "fish out of water." However, I do hope to contribute certain perspectives that you might not necessarily hear otherwise. In essence, my primary orientation to environmental work is twofold: (1) that of an indigenous daughter of the South Pacific and (2) that of a cultural mediator with over twenty-five years of experience in the South Pacific region and the U.S. A word of clarification about definitions at the outset: I will be using the term NGO in this discussion primarily to designate community-based or local, grassroots organisations, as opposed to international organisations.

My academic background is interdisciplinary with a specialisation in the social/cultural dynamics of colonialism, in particular, that between the western nations like the U.S. and non-western indigenous societies, like those of Samoa, for example. Speaking then, from an intersection of cultural studies, social history, and political analysis, I will argue for the idea: that the single most important approach to increasing the meaningful role of NGOs in conserving biodiversity is by working to re-vitalise and renew indigenous cultural practices. Notice, I do not say, preserve or restore. I say re-vitalise and re-new. But more on that important distinction in a moment. And I do not mean focusing only on practices of resource management, but rather on all the vital arts of indigenous cultures, including for example, performance, language, and other artforms, political systems, land tenure. In short, the entire fabric of our indigenous cultures - not simply one aspect, not only the environment. Instead, we must attend to the renewal of indigenous cultures as whole entities, as ancient social systems with the longest proven track record of responsible stewardship, if we are to have any hope whatever of conserving biodiversity.

My main argument will focus on the essential correlation between biodiversity and cultural diversity: we simply cannot have former without the latter. The keys we are looking for to solve environmental (and other) crises of our time lie embedded within the wisdom and ancient practices of indigenous societies. Another key we will need in our search for strategies and solutions is a more integrated understanding of the historical origins and causes of environmental abuse in order to devise appropriate, corrective strategies at the present time. How, for example the

historical experience of colonisation by the west continues in certain important ways to undermine our best attempts to responsible resource management. What those keys are and how they might be used to unlock the doors of ecological balance and sanity once more will thus be the major currents underlying the discussion that follows. In other words: culture and history - without the benefit of these critical perspectives, we condemn ourselves to a futile exercise in tunnel vision and ultimate failure.

Having suggested several macro-issues I turn next to some specific logistical concerns, and then finally, by way of conclusion, I will take up a discussion of how those concerns relate to the larger issues at hand.

The relationship between NGOs and governments

In the past decade or two, this relationship has developed into a vital, increasingly high-profile linkage. A formative moment in my early understanding of NGOs in a global context came shortly after our fledgling environmental NGO in Amerika Samoa went public. I was clued in by a prominent environmentalist in the U.S. who told me that more and more donors preferred dealing with NGOs rather than governments. After reflecting with delight on this amazing thought, I was struck with the extraordinary potential ahead for our little band of eco-volunteers in Samoa. At the same time, I also realised then, as now, the potential for conflict between NGOs and governments, especially neo-colonial governments, who might easily consider NGOs as a threat to their civil authority and erstwhile monopoly on development resources. While the potential for conflict between the two entities is quite real - governments being by nature conservative and NGOs tending more towards change - there appears to be a shift underway, in perception at least, towards an assumption of complementary, rather than opposing roles.

Noting this perceived shift, one commentary on the NGO treaty process growing out of UNCED characterises NGOs as "key catalysts in the change process. moving from being critics of governments to being inventors and builders of sustainable society" (*The NGO Treaties: What Next?*, p. 1). This scenario depicts a shift in focus and strategy: NGOs moving away from criticising government, towards building more creative institutions. Implied here is a movement toward greater complementarity between NGO and government. However, all too often, the reality is still one fraught with conflict, whether openly stated or not, especially from the government's point of view. In Pago, our NGO certainly has its share of open conflict with the government, including lawsuits, administrative appeals, and other forms of public pressure.

My point here is that by nature, governments and NGOs are in a sense, *structurally disposed* towards conflict - at least from the government point of view - given their respective orientations towards the status quo. Governments tend to be conservative; they have a structure of authority to maintain. While NGOs, on the other hand, tend more easily towards change and innovation; they have, after all, a sustainable society to "build and invent." In addition to this essential distinction in orientation towards change, there is also a cluster of opposing values underlying governments and NGO's. It is to that complex of underlying values that I would call your attention for a moment, in hopes of illuminating some of the deeper meanings at work here.

In Fig. 1, you will see a standard comparison of traditional cultural values often used in the social sciences to distinguish between Western and "non-western*" or "indigenous*" societies. (*For purposes of this discussion, I am conflating these terms.) I also correlate the categories, "Western" and "government" as distinct from "indigenous" and "community." (Again, these categories are suggested here for purposes of discussion only.) My rationale for these correlations is based on (1) the historical phenomenon of colonial "conquest" of indigenous peoples by the West, and (2) the historical legacy of that invasion on present-day realities, for example, the imposition of western style, bureaucratic government structures.

As used in the social sciences, the idea of 'worldview' is meant to convey critical mainstream cultural characteristics; it is not meant to impose cultural stereotypes. Our worldview indicates the deeply imbedded values and assumptions through which we deal with the external world. While these values and assumptions may in some cases be shared with the people of other cultures, as a rule each separate culture develops its own distinct combination of sub-conscious assumptions, expectations, and values which distinctly shape the social and personal actions of its members.

While local NGOs, by definition, are rooted in community - being both in and of communities - they are at the same time situated in the unique position of mediating between their communities and their governments. Thus, to those key NGO functions of inventing and building 'sustainable society,' I would add the pre-requisite role of linking or mediating between government and grassroots community. Which leads us to a second logistical concern, that is,

The Capacity of regular NGOs.

In addition to mediating between community and government, NGOs also serve to bridge a historical gap between past and present. Another way of thinking about NGOs is as the post-modern equivalent of tribal units. That is, they unify and regulate like-minded people around articulated, consensual goals and projects. In other words, NGOs have the potential to re-vitalise indigenous practices of cooperation and community. This restorative function is especially important in neo-colonial contexts such as ours, given the displacement of basic cultural institutions of indigenous societies by the invasion and subsequent cultural hegemony of colonial powers. Today, these indigenous institutions - traditional governance systems, political economies, communal land tenure - struggle to survive against the mounting odds being tallied up in the boardrooms of multi-nationals in London and Tokyo, New York and Hong Kong.

Again, NGOs are uniquely situated to bridge such chasms of culture and history. One example of this kind of restorative bridging is the use of indigenous artforms to communicate and reinforce environmental concepts. "Theatre in development" is one such practice, with a long history of effective community-building around collective issues like public health, for example. In Samoa, my own work focuses in particular on the practice of traditional humor - social satire - to convey environmental concepts, at the same time, reinforcing traditional ethics of managing resources. Recently, for example, I organised two public performances of *fale aitu*, Samoan satire, to highlight the importance of wetlands management and wildlife preservation. These projects were actively supported by our local environmental NGO, LeVaomatua, as part of our cultural action strategy. In a neo-colonial context, such integrative approaches serve to re-claim and re-inscribe our cultural "text" with indigenous values and meaning.

Fig. 1: An Informal Comparison of Traditional Worldviews. (un-packing our "cultural baggage")

WESTERN/ "government"	INDIGENOUS/ "community"
1. the individual	1. group & relationship
2. "private property"	2. communal "ownership" viz stewardship/relationship
3. ability to view/react to others vz isolated parts or roles vs total personality	3. view of others as whole & indivisible
4. humans as separate from/ superior to nature	4. humans as interrelated with nature
5. objective/impersonal	5. subjective/personal
6. materialistic	6. spiritual or intangible
7. direct, confrontational communication styles	7. circumspect, indirect communication style
8. entralised mode of soc. organisation	8. de-centralised, factional modes of social organisation

Worldview:

Deeply embedded values and assumptions through which we deal with the external world. While these values and assumptions may, in come cases, be shared with the people of other cultures, as a rule each culture develops its own distinct combination of sub-conscious assumptions, expectations and values which then shapes the social and personal actions of its members.

Other key functions of NGOs include advocacy, education, and information sharing/networking with others. To illustrate with few examples from my own experience, in Fig. 2 I have mapped various other projects of LeVaomatua. For example, in the area of advocacy, we operate as a "watchdog" organisation devoted to the art of encouraging government compliance of existing regulations. In one instance this took the form of mobilising community support to resist contruction of an unnecessary harbor at Leone, thus saving the sole remaining climax coral reef on Tutuila from being dynamited. At several other sites (Nu'uuli, Leone, Ofu), we continue to exert legal pressure to preserve endangered wetlands, largely through encouraging local compliance of federal regulations from the U.S. Environment Protetion Authority (EPA). We have also been actively engaged in supporting the establishment of a National Park through lobbying and letter-writing campaigns, as well as ongoing programs to preserve endangered species like the flying fox.

In the area of education, LeVaomatua is working on several fronts including reseach and development, as well as various forms of community education. Here, we sponsor monthly lectures, seasonal nature walks, a weekly environmental page in the *Samoa News*. With support from the MacArthur Foundation and East-West Center, we have also produced a protected areas study (Volk, Knudsen, Kluge, and Herdrich, 1992) which was a first step in our islands toward identifying those areas in which biodiversity is most critically at risk.

Finally, in the area of international cooperation, information sharing, and networking with other NGOs, LeVaomatua has also been active. For example, in the earliest stages of the Tafua rainforest preservation project, we served as local agent and cultural liaison for the Swedish Nature Foundation and community groups in Western Samoa. In a current project, we are coordinating, via Peace Satellite (PEACESAT) Tele-conferencing, an international network of NGOs in the South Pacific to support the Plutonium Free Future movement. With this brief outline of sample projects to illustrate NGO capacity, we might turn now to a brief review comparing:

Some Advantages of NGOs over Government Organisations.

A major advantage of NGOs is their potential for autonomy from the quagmire of business interests and political partisanship. The strenth of this position allows NGOs the freedom and creativity to devise 'win-win' solutions and strategies for complex problems, for example, the implications for foreign policy changes implied in the invention and implementation of plans for sustainability.

Another powerful advantage of NGOs lies in their potential to model social change. By nature of their own diversity, in fact, NGOs exemplify the very spirit of biodiversity. Indeed they can and often do embody the social/cultural parallels of biodiversity.

Because local NGOs are situated within communities, they are at least conversant with indigenous forms of social organisation and customary practices, for example, information-sharing, consensus-building and decision-making. Governments, on the other hand, tend more towards Western/continental models of social organisation, for example, centralised bureaucratic politics. Given the cultural 'baggage' embedded within Western-style bureaucracies, we might consider the resulting cultural situation as somewhat similar to the biological danger posed by the introduction of any foreign organism. The analogous danger, of course, is to the viability of native species, in short, to biodiversity.

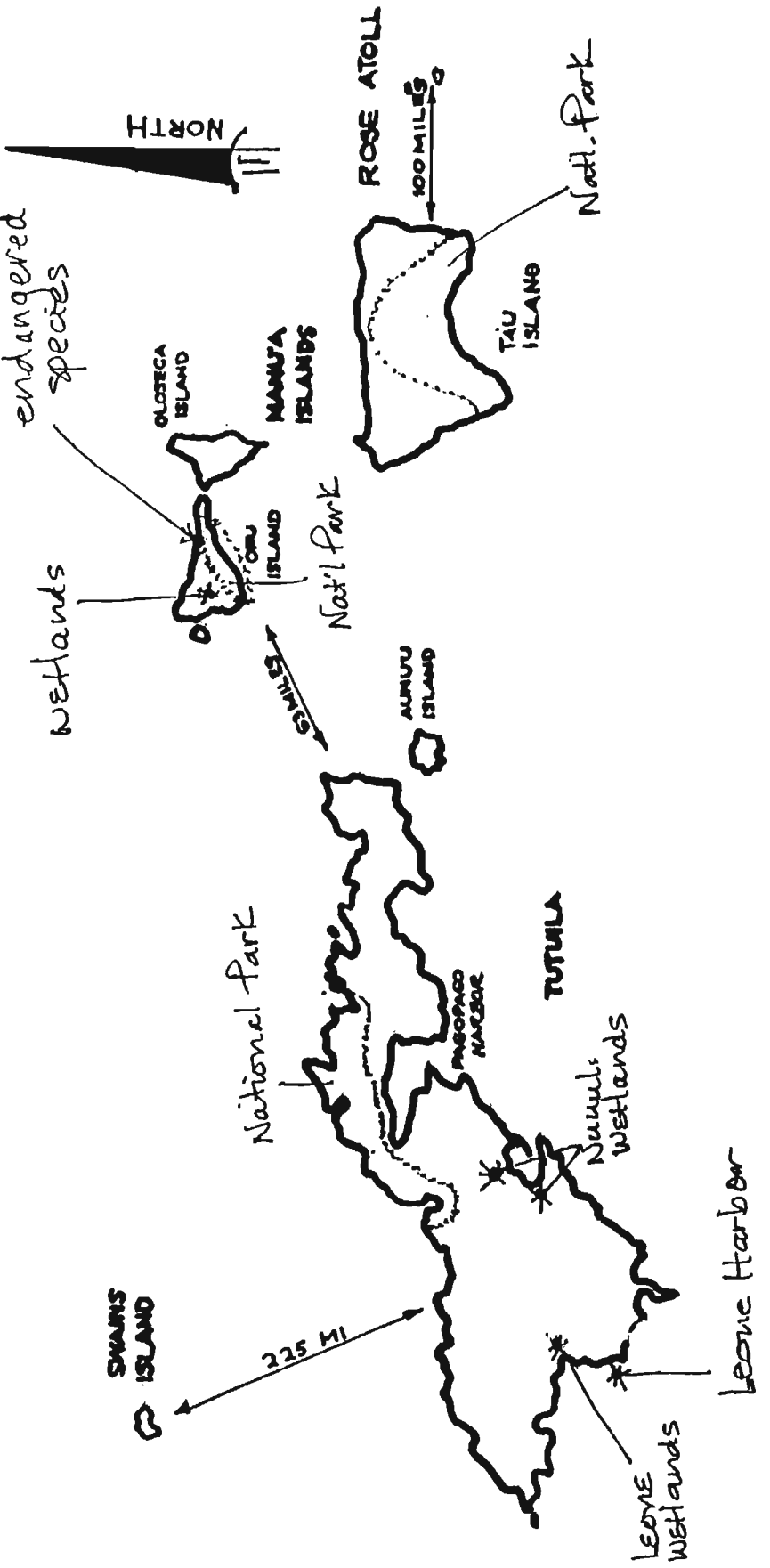


Fig. 2: Location of National Parks and reserves in American Samoa

NGO access to information and funds.

NGO access to resources depends on cooperation with other NGOs, especially in an international arena. One disturbing trend at this time is the increasing polarisation between politically powerful international NGOs and smaller local groups. According to one of the Earth Charter treaty documents, "Indigenous Peoples are being affected by the impostion of economic-development models by the West. In this context, some NGOs have imposed their models through different projects, contributing to the destruction of the environment and the cultures of Indigenous Peoples" (1992, p.44). As though eco-colonial threats from other NGOs, such as those described here, were not bad enough, there is also the danger of the big NGO's monopolising the pool of environmental funds. We need to address the potential of the powerful 'internationals' to gradually develop into an NGO version of a multi-national conglomerate. As NGOs, we really do not need to be colonising ourselves and each other. This would hardly be an example of modelling social change.

In one of the commentaries on the Earth Charter treaty process, the point is made that "numerous 'opportunities are emerging for input to the policy making process. Both the UN commission on Sustainable Development and the Global Environment Facility will have room for NGO input. Do we need to develop ground rules on how these opportunities are approached?" (*NGO Treaties: What Next*, 1993, p.5) In view of the potential for international NGOs to dominate the discourse, we need to address the question head-on. Because of the danger posed here of undermining our collective task, we need to act swiftly and deliberately to work through this mutual problem. The importance of such collaborative soul-searching, so to speak, cannot be over-estimated. If NGO's are to model social change - and we must - we have got to learn to "walk the walk," in addition to talking the talk.

Another aspect of the need for international cooperation among NGOs is stated in a document called "Peoples' Initiatives for Participatory Development." In their final evaluation of an international workshop, participants agreed on the following two principles, (1) that the most effective learning came "through reciprocal exchange of models, experiences, strategies, materials and the process of collaborative dialog;" and (2) that the "principle and most effective" resource in development work is people, their knowledge and potential (1990, p.33). This assertion is echoed in one of the informing principles of the Earth Charter treaty process, that is, that "international cooperation is required to build consensus among NGOs to replace current institutions, policies and processes and to envision new ones that are more equitable, just and sustainable." (*NGO Treaties: What Next?*, 1993, p.1).

Another type of access problem is the autonomy of NGOs to receive and disburse monies independent of government interference. In one recent case, a local NGO in this region was denied access to an independent award granted from overseas. The funds were intercepted by a government board established specifically to dictate the disposition of all foreign aid entering the country. Clearly, there are questions of legality and governance here. The point is that complete autonomy for NGOs needs to be established legally, in both international and local contexts. In order to fulfill their mandate as agents of change, NGOs must be able act independently.

Finally, by way of concluding, I would like to offer the following

Suggestions for increasing the meaningful role of NGOs in protected area management

In general, the single most critical task facing NGOs at this time is to build and cultivate their own capacity as cu*ltural mediators between their communities and governments.* In order to accomplish this task, NGOs need to include in their repertoires of approaches to community work, initiatives for cultural action. Such initiatives would engender a *re-vitalising and renewing of indigenous cultural practices by* enlisting the use of indigenous media, for example, traditional theatre and other art forms. The goal here is that of devising methods and approaches to biodiversity conservation that are cu*lturally appropriate to* local communities. But how to realise these goals? How do we get from here to there?

As a beginning, at least, NGOs at all levels need to consider the following:

1. *Translating "biodiversity" as a concept into indigenous idioms at the grassroots level, clarifying the essential correlation between biodiversity, and economic survival;*
2. *Developing the use traditional cultultural art forms and other indigenous media to convey environmental concepts;*

3. *Devising development goals that are generated, guided, and driven by grassroots communities as mediated through the pro-active participation of NGOs at all stages, including planning, implementation, and evaluation;*

4. *Developing sustainability plans based on holistic perspectives, thus replicating and revitalising indigenous management practices;*

5. *Developing holistic, interdisciplinary-team approaches, including expertise in both natural and social sciences, humanities, arts, and inter-cultural mediation;*

6. *Designing projects structured (a) to include members from particular communities as trainees and/or consultants and, (b) to facilitate the exchange of skills between visiting team members and their counterparts from local communities;*

7. *Joining and developing international NGO networks based on de-centralised models of social organisation and committed to workable, accountable models of cooperation;*

8. *Devising ground rules for such networks of NGOs to effectively approach policy-making and other opportunities in ways that are most beneficial to all concerned, from village to town.*

To maximise the likelihood of achieving such initiatives, governments can help by committing themselves to require that acceptance and disbursement of any external aid be contingent upon: (a) the above criteria. (b) a commitment by donors to support local initiatives for advanced scientific and other training, for example, locally run centers for applied research and development studies.

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The Response of Pacific Christian Churches and Their Communities to the Conservation of Biodiversity

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The Setting and Operation

The Pacific Conference of Churches (PCC) is one of eight regional ecumenical organisations recognised by the World Council of Churches (WCC), Geneva. It is a coordinating and facilitating body founded in 1961 which promotes the movement of local Christian Churches towards an ultimate expression of world visible unity. As a concept this is a perpetual challenge in response to the mandate of the Gospel. As a reality it remains a distant possibility requiring constant initiative and perseverance.

The PCC is comprised of 31 Member Churches, National Councils of Churches and Bishops' Conferences from 22 Pacific sovereign states and territories. Its area of operations encompasses the same as that administered by the South Pacific Commission extending from Papua New Guinea in the west to French Polynesia in the east and to Saipan in the Northern Marianas. Its member Churches include all the so-called mainline Churches in the Christian tradition. It thus speaks for 90 per cent of Pacific Christians.

PCC policy is determined by a General Assembly held every five years monitored through the annual meeting of the elected Executive representing all Members of the organisation. It is coordinated through the Secretariat and Working Committees at the regional office in Suva, Fiji. Programmes for women, youth, mission and unity, communications and justice, peace and development actively express policy through regional, sub-regional and national workshops, seminars and consultations. Funding comes from Member Church subscriptions and from other partner organisations in Europe, North America, Australia and New Zealand.

The Programme for Justice, Peace and Development, which is relevant to the total context of this Conference is primarily concerned with social justice, human rights, conflict resolution and environmental awareness from a Christian perspective.

The Dilemma

Biblical tradition which is enlivened by the revelation of God in the Christian faith has maintained that the whole of cosmic history in time is the work of the Creator. The Christian Churches, while enabling and fostering this belief, have not always throughout their history and mission fostered a love for the care of the only planet inhabited by life as we know it. With the ingenuity of the Enlightenment, which later became the ravages of the industrial Revolution and the colonial conquest of new lands, the historic Churches of the West countenanced the policy of earth exploitation for the so-called development and progress of the human species. For many, it was an open debate between dominion or stewardship of the earth as being the mandate of the Creator given to humankind. The concept of conservation was virtually alien to European thought.

Writing in 1920s and '30s of the present century, the American forester, professor and ecologist, Aldo Leopold, remarked that conservation was getting nowhere because it was incompatible with our Abrahamic concept of land. Elsewhere in his book *A Sand County Almanac*, he explains that Abraham knew exactly what the land was for. It was to drip milk and honey into Abraham's mouth. He concludes that the assurance with which we regard this assumption is inverse to the degree of our environmental education (Leopold, 1970, 240). This harsh comment, while not doing justice to our biblical tradition of care and respect for the earth, does touch the nerve of the Christian Churches' late entry into environmental awareness. For Leopold, education included the sensitivity that indigenous people had for the pulse of the land and oceans, and the intuition that others enjoyed, that to "wantonly destroy a living species was to silence forever a divine voice". (Berry, 1990, 46).

Writing in the prestigious journal *Science* in 1960s, Lynn White laid the blame for the environmental crisis at the door of Judaism and Christianity. He argued that Jews and Christians lived by God's command in the Genesis stories that they were to have dominion over nature and thereby subdue it. The twentieth century's ecological disaster is the end result of practicing this scriptural injunction. He concluded that we either jettison Judaism and Christianity or substantially re-think the fundamental God-humanity-nature relationship (White, 1967, 1203-7).

The shock that emanated from this single statement provoked a tide of responses. In 1983, the WCC Vancouver Assembly called upon the Christian Churches to engage as a priority in a process of mutual commitment to justice, peace and the integrity of creation. We are told that these three are inseparable. They are a continuum. Thus it took some 250 years in this age of modern science for a definitive challenge to be issued to world Christians.

The Response

It is therefore, this precise process which becomes the very basis for a justice, peace and development programme at PCC. It is this commitment which brought PCC to work with SPREP at Workshops at Nadi in June 1991 and at Port Vila in October of the same year. It took the Desk Secretary to the Earth Summit at Rio de Janeiro in June of the following year where, with WCC, we worked for a Christian response to UNCED, and as a consultant to the WCC, we have continued to work currently on a world statement to the Churches and other agencies on the potential hazards of climate change and the life styles that promote this.

In the Pacific, PCC has endeavoured to bring its Member Churches into this process of environmental awareness and education by conducting national consultations in the process of justice, peace and the integrity of creation. In one such workshop, just recently completed in Western Samoa, and for another planned in Vanuatu for 1993, and Tonga in early 1994, we have worked or will work with delegates from the Churches through their National Council of Churches. In their own language we are able to reach their constituencies at congregational levels - men, women and youth. We are able to use local resource people from government and non-governmental agencies. In the July Seminar in Apia, the SPREP environmental education officer gave a most perceptive paper on environmental awareness and the availability of educational programmes. As a result of this, at least one Church has approached SPREP to collaborate with that entire community at diocesan level.

The concept of the conservation of biodiversity is an essential component of such a programme. In the Christian ethic such variability among living organisms quite naturally includes the ecosystems which sustain them and this essentially infers the inclusion of the human species as well. Pacific land is a very limited commodity. It is difficult to create parks in land, reef or ocean which are to be closed to people in traditional societies. Conservation must be the proper management of all resources with people being regarded as part of the environment. It is here that sustainable use of resources can be promoted and nurtured at village level and a viable future assured for all.

When the presence of PCC was first welcomed at SPREP workshops it was a question of all parties being educated in a new dimension of mutuality. It was not the presence of "the Church" that should have been noted but rather a representative of an extended Christian community whose constituency reaches to grassroots level and who was making some first tentative steps into this dialogue. Pacific Island Christians are not Christian in the token sense. They are actively Christian in their family and village settings.

The Future

It is the readily organised availability of people that constitutes the challenge of working with Pacific Churches and National Councils of Churches for such regional government agencies as SPREP and other national government and non-government organisations in the area of the conservation of biodiversity. Both cultural and religious traditions support this involvement. For Churches, however, there is still not a ready familiarity with what is a time-honoured and ancient truth. This requires overtures from both sides for active collaboration to be achieved so that all parties may feel at home in this process.

The natural conservatism of many Churches needs to be challenged to take the fullness of life beyond the confines of the pulpit to encompass the total environment at local level. PCC has endeavoured to work in both the secular and religious arenas to bring this about. Currently, we have initiated a mutual programme of environmental education with the South Pacific Programme of the World Wide Fund for Nature to be co-ordinated through PCC Member Churches. Such strategies can be extended. We are happy to work towards such facilitation at any time and place within our region. The future of our Pacific environment continues to call for such joint action.

We believe the earth is the Lord's and the fullness thereof. We must do more than talk together. We must learn to act mutually and urgently on such an agenda.

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The Role of Women in Nature Conservation in Palau

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Introduction

In Palau, 14 of the 16 villages which we now call states have at least four (4) traditional women's organisations. These organisations correspond to an equal number of men's traditional organisations. They form the traditional organisational structure for each village/state. Their strengths, roles and functions vary from place to place, but is not unusual for a Palauan man or woman to belong to three or more of these organisations across a number of villages.

Over the last 10 years we have seen the emergence of a number of non-religious, non-governmental organisations (NGOs) in Palau. These are interest groups concerned with meaningful and appropriate community development, literacy, and environmental conservation and protection Women fill a number of roles, supporting communities' development efforts, business activities and so on.

Overview of Palau Resources Institute (PRI)

I represent one of the newest NGOs in Palau called the Palau Resources Institute (PRI). PRI is a three year old organisation with a belief that Palau must develop in a balanced manner. That is, development must balance the needs of the local people, the environment and the economy. Of the five (5) known women-driven NGOs, PRI is the newest. The four others are Kltarreng, EKEI, Otil A Beluad and Didil Belau, Inc.

PRI was formed to focus its work and efforts in Palau, although some work has been done in Pohnpei in the Federated States of Micronesia, and in Kiribati. The organisation attempts to work toward balanced development by making sure that:

- significant development projects involve local people during the initial planning stages; environmental impact statements are carried out and mitigation measures explored;
- local people become more aware of issues critical to the development of Palau, and to the other countries of the Pacific region;
- research conducted in Palau utilises Palauans as principal advisors and/or researchers, instead of Palauans just being subjects or informants; and
- input by local people is used to help bridge the gap between Palauan daily life and abstract research conducted by non-Palauans. Currently the three women founders of PRI perform consultancy work. They are the sole consultants, officers and directors of PRI. Part-time staff are recruited for specific projects.

Issues of Interest and Concern

There are numerous issues and problems which PRI is concerned with. I will discuss only those which are felt to be critical at this time. They are a) the current rapid rate of development or inappropriate development; b) the insufficient level of awareness, knowledge and appreciation of the natural resources that exist in Palau; c) the fact that environmental conservation, protection and appropriate management of natural resources is not a priority concern in Palau; d) the increase in the non-indigenous population; and e) a growing alcohol and drug abuse problem.

(a) *Rapid Rate of Development or Inappropriate Development.* People are often not informed about proposed development projects. There is insufficient discussion about the potential impacts of developments: these could be: impacts on local people and infrastructure; the stress placed on natural resources; and increased crowdedness which leads to other social problems.

(b) *Insufficient Level of Awareness, Knowledge and Appreciation of the Natural Resources that Exist in Palau.* Awareness, appreciation and understanding of the natural resources and various ecosystems that exist in Palau is increasing, but slowly. This has resulted in slow passage of important natural resources-related legislation, and inadequate implementation of existing laws on environment protection, conservation and other related areas.

(c) *Environmental Conservation, Protection and Appropriate Management of Natural Resources Are Not Being Considered Priority Areas of Concern.* There are a number of well developed programmes and competent personnel in the areas of natural resources conservation, environmental protection, marine resources management and other related areas, but the percentage of the national budget appropriated to these areas is still very limited. PRI believes that protection and conservation of the natural resources in Palau should be made one of the top priories within the national government as is the case for health and education.

(d) *Increasing Non-Indigenous Population.* The increasing non-indigenous population is an issue which needs to be dealt with seriously, as developments occuring in Palau indicate that this situation will continue. Potential impacts include: the additional stress to public services and infrastructure; increased stress to natural resources due to inappropriate use and unsustainable harvesting or taking of natural resources; and social and racial problems.

(e) *Alcohol and Drug Abuse.* Alcohol and drug abuse is an important public health problem which plagues young people, men and women. It affects the development of children and families and results in a less productive society. Environmentally speaking, some of the most visible things around the community roadsides are beer bottles and cans. They pollute not only the minds and bodies of our people but also our environment.

Funding

Funding for PRI is generated mostly through consultant fees and donations.

Community Involvement

Community Perceptions of the Organisation

Since the birth of this organisation community perceptions of the of the organisation have been mixed.

It has been perceived as the following: a political organisation; a business organisation; a community services organisation; a women's organisation; an anti-development organisation; a development organisation; a support group for outsiders and insiders who need assistance; a non-governmental organisation; an environment and conservation organisation; an activist organisation; an education organisation; a consultant firm; an employment facilitating agency; a resource centre; a secretarial services agency and more. We are a non-government organisation that performs consulting work to support our existence.

We have provided support and services to all types of people, many of which perhaps fall into the categories mentioned above.

Gaining Community Involvement and Support for the Organisation

PRI has gained community involvement and support through networking and cooperation among community groups, interests groups, government agencies, parent and teacher organisations, youth and other NGOs. Involvement of the Directors of the PRI in other sectors of the community have helped built support and a positive image for the organisation.

Type and Degree of Community Involvement

PRI interacts with other organisations, agencies and groups as a partner, as a consulting agency, as a research organisation or simply as organisers or facilitators of activities. Examples of activities which have provided opportunities for participation and community involvement are literacy projects, projects for children, education and environmental protection and conservation projects, and general women's support.

Relationship with Other Non-Governmental Organisations

PRI has developed positive relationships with other registered and some unregistered non-governmental organisations, including traditional women's and men's organisations. PRI is also an active member of the Palau Chamber of Commerce, an association of businesses in Palau.

Advantages and Disadvantages of the Organisation in Helping to Conserve Biodiversity

Advantages

(a) PRI is a local agency made up of local people who have done socio-cultural impact assessments for a number of proposed projects, and these assessment processes have been beneficial for biodiversity conservation. By doing the assessments, the development process has been assisted in the following ways.

- informing grassroots people about the project being proposed;
- providing accurate and up-to-date information about the proposed projects;
- informing the people about local environmental conservation and protection laws and other laws pertaining to development projects;
- informing the people of their right to know what is happening on their island;
- informing them that it is acceptable and legal for ordinary citizens to take part in the decision making process by making their views and concerns known to policy makers, business developers and others; and,
- increasing people's awareness and knowledge and helping to empower them by developing their confidence to seek facts and advice and to ask questions.

(b) PRI is currently developing a solid working relationship with the Bureau of Natural Resources and Development, The Nature Conservancy, the Palau Environmental Quality Protection Board, and environmentally conscious people to help Palau remain clean, and its environment protected and conserved for present and future generations.

(c) A conscious decision on the part of PRI to focus on natural resources conservation and protection at least 75% of the time, has led the directors to continue to self-educate themselves on the nature of biodiversity conservation, and to pass on the knowledge to other people through group discussions, meetings and other means of communication.

Disadvantages

As a new and small NGO which attempts to survive through self support by doing consulting work in various areas, we have observed that although this is a capacity building effort, it presents an image problem. People ask whether PRI is an NGO or a consulting firm. At this point, we are both. To survive, we have created this unique solution.

(a) *Difficulties Experienced as an NGO.* The following are a number of difficulties which we are experiencing: 1) limited resource such as funding; 2) people who are not used to having local consultants are having difficulty figuring out what it is we are trying to accomplish; 3) the gender of the directors of PRI sometimes colours people's views of the organisation;

(b) *The Relationship with Government Organisations.* Recognition of the organisation on the part of government organisations has improved this year, judging from a number small of contracts which have been awarded by various government agencies to PRI; and,

(c) *Challenges in Securing Funding.* Securing funding is the greatest challenge which needs to be dealt with more effectively if the organisation is to continue to survive. PRI is currently seeking funding agencies and grants which could assist in this regard. Securing more reliable funding sources will enable the organisation to focus more on environmental conservation education and outreach efforts into the community, through networking and cooperative efforts with appropriate government and private agencies.

The Future

PRI has made a policy decision to focus on two things in the immediate future. To develop a secure financial base; and to assist the government's current biodiversity conservation efforts to increase and to become more effective. Being effective means that behavioral change will take place eventually all the way from policy makers down to the grassroots level, including children and young people.

Other Women's Efforts in Conservation

Two other women-driven organisations, *Otil A Beluad* and *Kltarreng* mentioned earlier, are organisations which have for a number of years now been involved in conservation and education efforts at the grassroots level. They use videos, group discussions; pamphlets, flyers and discussions with local and international environment groups. Issues such as pollution of land, water and air; use of insecticides; deforestation; global warming and sea-level rise and others have been addressed. The two organisations were formed to protect the local constitution which is perhaps the only Nuclear Free Constitution in the World. This past June 1993 Otil A Beluad was elected to the Global 500 Roll of Honor of the United Nations Environment Programme in recognition of outstanding practical achievements in the protection and improvement of the environment.

Time Considerations in the Establishment of Protected Areas on Native Communally Owned Lands

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Abstract

This paper considers the time needed for the establishment of legally protected areas, based on the Waisali Dakua Reserve example. It also considers some opportunities and approaches that could be used in future projects.

The paper notes that native communally-owned lands need special consideration regarding the time needed for conservation areas to be developed.

Introduction

In this paper I intend to describe the time taken for establishment of a biodiversity reserve on *mataqali* Waisali lands, Cakaudrove Province, Vanua Levu, Fiji, for the purpose of long term conservation of dakua (*Agathis sp.*) forest; and to indicate why both 'real' and 'lapsed' time needs to be considered when costing these types of projects.

The paper suggests that while 'real' time spent on specific actions is small compared to time 'lapsed' between actions, a monetary valuation needs to be attached to 'lapsed' time, as a person is still required to supervise the total process. In most island nations including Fiji, the need for sufficient time for negotiations with communities, funding processes and travel, is often not taken into account when pursuing rural development projects. So that even if a project is funded (more so if it is funded by overseas aid and personnel), the project is subjected to many pressures when deadlines have to be met with little or no consideration of 'lapsed' time. This often results in frustration, or projects finished with little or no local support. sometimes even leading to divisions within communities.

Waisali Dakua Reserve

Waisali Dakua Reserve was first proposed in 1979 by the consultants Dunlap and Singh working on a plan for a system of National Parks and Reserves for Fiji, funded by the International Union for Conservation of Nature and Natural Resources (IUCN) and the World Wide Fund for Nature (WWF).

The consultants discussed with forestry personnel and academics at the University of South Pacific's Suva campus the need for conservation of examples of rainforest existing on Vanua Levu. The need arose as the native forest on this, the second largest island in the Fiji Group, was already the subject of logging concessions. Most of the undisturbed native forest occurred on native communally owned lands (*mataqali* lands). Without the presence of large agricultural or industrial developments as is the case with Viti Levu, the largest island, the land owners were very much in need of cash income to be able to meet the educational needs of their children and to improve their standard of living. This resulted in the land owners agreeing to sign over large tracts of forested land to be logged.

Once the area was identified as valuable for its high density dakua forest, the land owners were contacted with the help of Native Land Trust Board (NLTB) and the provincial administration. An initial approach to land owners was made in 1979 to gauge potential support for the proposal, and after a whole day of discussing various issues such as road access and the need for a village health centre etc., the visitors departed having not progressed with the idea. During that initial meeting the land owners did not support the idea as most believed they would lose substantial income if they helped create the reserve.

It was then decided to seek Ministry of Forestry help so that Fiji Forest Industries (FFI) could be approached with the proposal. As the subject area was within their concessional license they had the legal right to log. FFI agreed to the concept but with several conditions, and by this time we were well into 1981.

Another meeting was organised at the Waisali village so that all of the conditions proposed by FFI could be discussed. At this meeting in early 1982 it was agreed that the land owners would be paid a compensation equivalent to the royalties they would have received had their forest been logged. By this stage the transisland road was under construction very close to the subject area and the village.

It was clear that National Trust for Fiji would have to now locate the funding necessary for the establishment of the reserve. The Trust prepared a proposal and submitted it to Ministry of Finance's Aid Section. The proposal included the compensation payment for the landowners as calculated by Ministry of Forests, as well as development costs.

A suitable donor was found in 1986 when Ministry of Forests forwarded the funding proposal to the New Zealand Government. NLTB agreed to the National Trust leasing the land.

New Zealand Government funds became available in 1987, but was misplaced into the consolidated fund by the Ministry of Finance. Once the Trust became aware of the funds it convened several meetings with the Ministry of Forests, NLTB and the Ministry of Finance, to organise for release of the funds. The Ministry of Forests asked that this be delayed so that they could prepare a suitable compensation formula for all their reserves.

In February 1988, the National Trust wrote to the Ministry of Forests to confirm the original proposal and to seek assistance with the release of the funds. In March 1988, the Conservator of Forests informed the Trust that they also were negotiating the release of the funds from Ministry of Finance.

In 1989 the Trust took the opportunity provided by the New Zealand Forest and Bird Society and the Maruia Society to have a quick assessment of the proposed reserve. The recommendations supported the original intent while recommending an increase in area.

The funds finally became available in August of 1991, and the Trust decided to inform the land owners of the desire to proceed with the project through the NLTB.

In January 1992 the National Trust paid NLTB an initial sum of $46 067. Of this $10 000 was paid to the *mataqali* Waisali and the rest was invested as per the Ministry of Fijian Affairs for the benefit of the *mataqali* members.

The Trust hired consultants to prepare a management plan, and this was circulated for comment. The Draft Management Plan, when presented to the land owners, district and provincial officials, was rejected by the land owners, as they had received advice not to lease the land. At a meeting in the village it was explained to the land owners that legal protection for the area and a secure monetary return from rent could only be obtained if land was leased, and this eased their fears.

The Draft Management Plan has been translated into vernacular for the benefit of the land owners. It is at present with the landowners, who have decided that they will offer their comments at a meeting scheduled for the end of September, 1993.

In March 1993 the National Trust requested that survey instructions be forwarded by NLTB to a surveyor contracted to do boundary survey for the reserve and these instructions were not received until July 1993.

The reserve will be established through the issue of a formal lease to the National Trust in 1994, with its boundary clearly marked on the ground.

Creation of the Waisali Dakua Reserve has been a learning experience, and has indicated that while we discuss the 'real' time required while projects formulated, we must be realistic and consider 'lapsed' time as well. If the 'lapsed' time were added to the project funding it would result in an entirely different budget.

Discussion

This project and other rural development projects have helped us to understand that the host communities must have time to consider the new ideas being introduced, especially if the ideas may result in changes to normal patterns of resource utilisation.

Planners often see presentation of an idea at a meeting and the general consensus reached there as having met their goal. It is very rare for proponents from urban centres stay with rural communities for a period longer than the actual meeting, in order to learn about the community's thoughts and aspirations.

What happens at a meeting with the community should also be looked at. Planners arrange for a village meeting to happen during the day and hope that the rural people will attend the meeting at the expense of managing their subsistence gardens or other activities. A delegation arrives from the urban centre and the performance of the welcoming ceremony takes place. After a short time a member of the delegation spreads a map (drawn painstakingly to scale) and presents the highlights of the development proposal. The community members look on and nod their approval, as the proponents have stated that it will bring an increased income to the community and that most of the infrastructure costs would be funded from external sources. The host community, with little appreciation of funding processes, then feels obliged that in return for the government assistance offered they must respond positively to the project. The head of the community at the end of the meeting thanks the delegation from the urban centre and assures support for the proposal. The delegation departs with high hopes.

At the end of the day the other members of the community return to the settlement and learn of the proposal and slowly more questions are asked - Whose farm will suffer? Who cannot hunt in the forest any more? How will he pay for his children's education if he is not employed in the logging company that was to operate on their land? What guarantee is there that tourists will come? What happens when airlines are on strike? Questions and more questions. So that the head of the community, not knowing the answers, feels troubled that he may be letting his community down, and suggests that he should go to the urban area for further discussions.

He visits the proponents who once again present the whole proposal to him and he is asked for his support in writing. He leaves the urban centre satisfied that the project must come to his area.

On arriving in the settlement he advises the community that the project will start soon and that he has given his approval.

Project funding has been secured and the development agency arrives to start work. After the pleasantries are over the workmen start their tasks. They have started to dig into a plantation and a confrontation soon happens. To reach an amicable solution another meeting needs to be called with the proponents from the urban centre participating as well as members of the host community. There is a delay as all concerned need to be informed.

At this meeting a member of the community residing in the urban area feels that if income is generated from the communally owned lands then he must get his rightful share. This then presents a new problem to consider while the project is delayed further.

While the projects are delayed workers brought in to develop the area are paid but do not work, so the cost of the project increases.

I have tried to present a scenario that many of us have already come across, and I hope after this, when dealing with establishment of protected areas on communally owned land, we will not be surprised when the actual time taken to implement a project varies substantially from that listed on the planned time charts.

In Fiji we have had a series of new ecotourism projects being established The primary reason for their establishment is that the land owner is taking the opportunity to participe in an economic activity based on their most important resource - land. The secondary reason is that these areas once developed will also meet conservation aims.

These projects have largely been funded by from external sources. The time has come when we should stop and do a critical analysis of the projects. We need to look at why we have had failures like the Waikatakata; and why Bouma needs more than periodic visits; and why the Taveuni project, where some $300 000 has been spent, is yet to become operational. Are these problems because we moved too fast with concepts and ideas when funds suddenly became available, and because time considerations that would have allowed us a better grasp of the issues were disregarded in our desire to achieve concepts established on paper? Do we still have the time to turn these projects into long term functional entities through local support and training?

Conclusion

I suggest that there is the need for practitioners of nature conservation on native communally owned lands to proceed at the pace of the host community; and not be governed by our desire to develop a large number of sites quickly because funding is available, nor to work within the confines of the yearly budgetary cycles of the donor agencies and host governments. We must not proceed until we feel secure that the host community understands the process and the project.

Rahui, or Traditional Management, Protection and Conservation

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Abstract

Mr Jacky Bryant, from Atu Atu te Natura in French Polynesia, spoke on *Rahui*, or Traditional Management, Protection and Conservation. He described the practice of *rahui*, which means traditional practice, and is found under various names throughout French Polynesia. There are different types of *rahui*, which all refer to ways to manage nature. The historical study of the way in which nature was managed prior to European settlement seeks to answer the universal questions 'where do we come from' and 'where are we going'. Mr Bryant concluded by saying that human pressures on the natural environment have resulted in tolerance levels already being reached. Communities should draw upon their heritage to form a response to these concerns.

Rahui ou gestion, protection et conservation traditionnelles

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Rahui est une pratique traditionnelle que l'on retrouve sous diverses appellations ou vocables dans l'ensemble des îles de la grande Polynésie. Cette tradition a disparu en Polynésie française, à l'exception du *rahui opani* ou *rahui* du coco, qui est encore pratiqué dans l'archipel des "Tuamotu". Cela consiste à gérer la cocoteraie, en vue du ramassage des noix.

Que signifie le terme *rahui* ? *Rahui* est composé de deux éléments.

- *Ra* : le soleil, la lumière source de vie
- *Hui* : c'est fouetter, frapper violemment ; c'est aussi distribuer équitablement, partager.

Il y a donc dans ce mot un concept chargé de symboles, de symboliques, d'une dimension confondant mystère et magie, et connaissances réelles de la nature.

Dans la pratique, outre le *rahui* du coco qui vient d'être mentionné précédemment, le "rahui-maa-tupu", "maa-tupu" signifie arbre fruitier, a existé à Bora-Bora, jusqu'à l'arrivée des Américains en 1942, pour y installer une base arrière militaire.

Il s'agit pour le propriétaire de sauvegarder les fruits d'un de ses arbres fruitiers, un manguier, un *uru*, arbre à pain, un cocotier par exemple. L'arbre en question est ceinturé de feuilles de bananier. Il est alors interdit à quiconque de se servir des fruits. Cette interdiction est d'autant plus respectée, que l'auteur, au moment de sa petite cérémomie y a fait des prières, demandant une protection divine.

Mais l'implantation américaine s'est accompagnée du café moulu, de la farine de blé à volonté, des ananas en boite, etc... enfin, de tout ce qui caractérise une société de consommation

Le troisième *rahui*, le *rahui-tai-roto*, *tai-roto* signifie lagon est certainement le plus important. D'abord parce qu'il a disparu depuis très longtemps. Sa pratique remonte avant l'arrivée des Européens Et c'est une chance inouie que nous avons eue, de rencontrer des anciens qui nous les ont expliqué son fonctionnement. Et grâce à leur témoignage, nous avons pu reconstituer les partages du lagon.

L'île s'est divisée en plusieurs villages, constamment en guerre pour s'étendre, géographiquement parlant. L'étroitesse des surfaces habitables, accompagnée d'une forte densité de la population, définissent pratiquement de toutes nos îles. Ou il fallait quitter l'île à la recherche de nouvelles terres, ou il fallait conquérir le village voisin, s'accaparer la portion du lagon situé en face, donnant aux vainqueurs les moyens alimentaires de survivre. C'est la gestion de la survie.

Le cérémomial autour des contrevenants ennemis était exemplaire. Ils finissaient toujours sur le *marae*. Et à l'arrivée des missionnaires, l'interdiction de cette pratique fut prononcée. Les maladies inconnues décimèrent en outre la population.

Le *rahui* l'interdit, le sacré d'une communauté, disparu jusque dans la mémoire collective, quand certains *arii* réussirent à s'imposer par les armes à feu, des nouveaux découvreurs. Ainsi *tapu*, fait du Prince phagocita *rahui*. Seul le *arii* peut prononcer le *tapu*.

Ces informations sont consignées dans un document disponible à la conférence, de même qu'une vidéo cassette, en tahitien.

Cette approche historique de la gestion de la nature, n'est certes pas de ramener la mise à mort sur un *marae*, vous l'aurez devinée, mais de satisfaire une curiosité universelle. D'ou venons nous ? La seconde interrogation, vous la connaissez, ou allons nous ?

Depuis le début de notre conférence, tout un chacun souligne le fossé grandissant entre les considérations d'autrefois de nos communautés et celles qui prévalent aujourd'hui. Sauf, lorsqu'il s'agit d'intérêts financiers. Mais pire, la notion de protection de notre patrimoine est attribuée à un lobby occidental, apportée par les descendants de l'homme navigant sur une pirogue sans balancier.

La gestion de notre capital-nature dans nos sociétés traditionnelles a existé. C'est un fait historique. Que cette conférence puisse servir de tribune supplémentaire. En 1991, le territoire de la Polynésie française sensibilé à cette approche culturelle, mit au point un plan de gestion et d'aménagement du lagon de Bora-Bora, avec le concours d'organismes reconnus, dont le PROE. Mon amie, représentant le territoire, pourra développer amplement ce travail. Malheureusement, l'actuel gouvernement n'a pas su enchaîner la dynamique de ce dossier. Le déplacement prochain d'une délégation du PROE en Polynésie pourra-t-il bousculer la lenteur administrative ?

La pression humaine sur le milieu naturel, les activités économiques font apparaître des voyants lumineux, clignotant au rouge, indiquant que des seuils de tolérance ont été atteints. Faut-il pimer la recherche du niveau de vie au détriment de la qualité de vie ? Faut-il être ou avoir ? Serions-nous acteur de notre avenir ou simple figurant de notre développement ?

A ces préoccupations, les communautés doivent puiser dans leur patrimoine des éléments de réponses. La conservation de la nature est un chantier condamné à réussir. Auquel cas, nos enfants, les enfants de nos enfants ne s'identifieront plus qu'à une simple cannette de Coca.

Mauruuru

Funding Mechanisms

Key Issue Paper

Steps Toward Financing Effective Conservation Action

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Introduction

Raising more money does not guarantee successful conservation of biological diversity. To be successful, we must be clear the kind of support is most needed. We start, therefore, with the premise that the strengthening of our capacity to manage, and our ability to identify and develop constituencies, is paramount. Worldwide, park managers face a crisis, as threats to our resources mount while our financial resources and management capacities shrink. As we seek additional funding to augment our shrinking budgets, we require a clear strategy to get money that increases our capacity.

In this paper, I will provide a brief overview of the range of options currently being employed by managers, and the importance of planning strategically to meet needs. I hope to set the stage for a dialogue concerning the elements of effective support, and suggest a possible mechanism for meeting the most profound conservation needs. Let us begin by reviewing some of the current trends in conservation finance, and some implications for managers at the site and system level.

Acknowledgement of Needs

Our dilemma is clear. Many of our parks exist only on paper, and others are chronically under-funded. Globally, our opportunities to conserve biodiversity are vanishing. At the Fourth World Congress on National Parks and Protected Areas, an Action Plan was developed. Amongst other things, it called for increased financing and revenue-generating capacity, and the expansion of international cooperation in the finance, development, and management of conservation areas.

The regional overview for Oceania presented at the Parks Congress noted that the island states of the Pacific had special circumstances and needs. Much of the land is held under traditional land-tenure systems. The overview called for new, innovative models for conservation areas that promote partnerships with customary land-owning groups. Linkages to sustainable economic activity which provides benefits for the community were called for. Government agencies were called upon to coordinate and channel resources to assist these initiatives, and to develop a policy and legislative environment that supports and encourages both government and private conservation initiatives.

The report also called for a dramatic strengthening of government conservation agencies, through increased support, to enable provision of financial and human resources for the establishment of new conservation areas in the region and effective management of existing ones. It also cited the need for resources to strengthen and support domestic NGOs involved in the conservation of biological diversity, and to encourage their establishment where they don't already exist.

In a region of island states there is often a need for regionally centralised services to augment national capacities. The need for regional services is usually understood to be technical in nature, meaning that these services develop the capacity to assess in great detail precisely how bad your problems are. But they also have the potential to solve problems, for example a regional investment service matching donors and recipients. Assistance in identifying both national and collective regional needs can be an important tool for increasing management capacity.

We hope that national priorities will change in our favor, and that existing resources will be reallocated for conservation. We work to persuade our leaders of the values of conservation areas. But the reality is that no matter how much our governments understand the importance of action, we are a long way from receiving the necessary levels of support from national governments, in these times of fiscal restraint. We have all been asked to do more with less. Greater efficiency and new fund-generating techniques will do much in some cases to close the funding gap. In many other cases, international assistance is required to achieve our conservation goals. If we are to meet our goals, with external assistance, it is critical that the absorptive capacities of the institutions and communities concerned be taken into account. In many cases, effective assistance will have to focus first on institutional and capacity issues.

An Overview of Current Practices and Trends

Because funding is always uncertain, managers cannot afford to be dependent upon any one source of funds. We must diversify our sources of income. To do this we must approach finance in a structured, methodical fashion, using funding plans. Conservation finance expert Ruth Norris, in her forthcoming IUCN publication *Paying for Parks* (an output of the Fourth World Congress on National Parks and Conservation areas last year), catalogues the main mechanisms for financing conservation. Drawing on her work can provide us with a brief overview of some of the most interesting mechanisms. In the time we have today, we can't devote more than cursory attention to most of these. Instead, our purpose is to illustrate the current trends and focus on one type of mechanism with particularly high potential.

Norris divides the mechanisms for financing conservation areas and biodiversity conservation into four broad categories.

The first, and most obvious, category is **funds allocated from the Treasury** by a government for official management agencies. In most cases, governments will have the long-term responsibility for management of conservation areas. Most benefits from conservation are shared benefits; and to the extent that governments promote the common welfare, they should be responsible for conservation. Governments will continue to be called upon to play a leading role in conservation, and we will continue to press for policies and resources supportive of our efforts.

The second category of finance identified by Norris encompasses **revenues and special funds** generated for conservation. These can be national or specific to a single conservation site. These include funds from debt-for-nature swaps, national trust funds, and fees and taxes that may be established by state agencies, like a special hotel or airport tax. They are usually used at the discretion of the management agency, or a governing body established to manage the fund.

Norris' third category incorporates the mechanisms that **raise money from donors**. This may be an important element of national-level strategies, especially when financing is available from bilateral and multilateral assistance agencies. These mechanisms commonly fund activities defined as projects with a fixed duration, and are generally restricted to activities defined by a project proposal.

Fourth, funding can be obtained from development banks as **loans**. Because they must be repaid by the government, these funds are most attractive when the benefits of the activity are clearly understood by donors.

According to Norris, in the case of official assistance from bilateral and multilateral agencies, it is important that only agreed upon national priorities be put forward for consideration. Thus, a national context for agreement on priorities in the form of a national strategy or action plan, is an important element in an effective strategy for funding.

Certain types of donors (private foundations, corporations, and individual philanthropists) tend to support the private sector, while others (official assistance agencies) tend more toward support to governments. Occasionally this type of support may be 'unrestricted', and can be used at the recipient's discretion - as in the case of individual contributions from private citizens - but in general, donor funding requires a significant investment in monitoring project achievements and finance, and in reporting back to the donor.

Every System and Site should have a Funding Plan

To be effective, support must strengthen our capacity to address our priorities. We need to take a strategic approach to funding, understanding clearly what our priorities are, and pursuing options which will fulfill these fundamental needs. We need to recognise that some options are more important than others. Once we have identified our priorities, we can develop a funding plan. A funding plan is the product of a structured process for assessing needs and opportunities. It enables us to maximise funding possibilities and develop a long-term stable funding base. Both individual conservation areas and national systems need to develop a funding plan.

The plan should identify the amount needed for each priority management activity, and a schedule of when those requirements will arise. This assessment can be matched with a program of activities to generate funds that meet those requirements. It sets out goals and objectives for securing national appropriations, international assistance and self-generated revenue. The plan should take into account goals and objectives over the short, medium, and long term. According to Norris, the overall goal of a plan should be to create a diverse, and therefore stable, portfolio of funding sources that can be counted on to provide a continuous stream of funding over time. She advises that the strategy include contingency planning, with identification of alternative sources that may be called upon if local economic conditions, or other factors, change over time.

For managers, the funding plan serves to direct and guide fund-raising and income-generating activities as part of the normal work of the site or protected-area system. It can also serve as an 'early warning system' to show when cutbacks may be needed in case income does not keep pace with expectations.

For prospective financial contributors, national governments, and other collaborators, the existence of the plan, and the articulation of priorities, can be persuasive arguments in favor of support. It helps justify the amounts requested for the conservation area covered by the plan, and supports the reasonableness and importance of our requests.

The funding plan needs to be intimately linked with master plans for the protected area system as a whole, and for the individual areas. The activities that are priorities for funding should be the same as those identified by site and system managers as priorities for action.

Norris describes three basic elements essential to any strategy for funding conservation areas:

- a determination of how much money is required to plan, develop, and operate the system and its component parts;
- a reliable plan for selecting and working with the funding sources which will provide the necessary money; and,
- concurrence from government at the highest levels in the objectives and strategy for funding the protected-area system. The government should be willing to make policy changes (for example, enacting laws that will permit revenues to be placed in dedicated funds) and to prmote conservation areas among its highest priorities before development banks and assistance agencies.

The funding plan should consider an array of potential sources of funding. Plans should identify alternatives, and when possible, show shifts among sources over time and as needs change. The funding plan should establish criteria for choosing among alternative sources of funding. Over time, it is wise to shift reliance away from one-time donations, and toward more permanent sources. Reliance should also shift over time away from international sources and toward national sources. Even if the enthusiasm of international funders for conservation continues, it is unlikely that funders will wish to support a particular conservation area or a particular management programme indefinitely.

A common problem is that major donors are less interested in covering recurrent costs than they are in planning and infrastructure. For this reason, it is imperative that local sources of financing from governmental or non-governmental sources become available. It generally takes several years to develop these sources of funding from the time that initial studies are undertaken, so it is important to begin this aspect of our work quickly. Examples of locally generated funds include entrance fees, permits for extraction of resources; user fees for water or electricity, special taxes such as tourism taxes, voluntary contributions from business interests dependent upon the resources such as hotels or airlines, and interest earnings on trust funds.

Many of the benefits resulting from conservation areas, such protecting biological diversity or reducing the risk of flooding, are public benefits. Governments should commit funds from the public treasury to maintain these public benefits. Financial planners must understand what kinds and amounts of funds governments can make available to conservation areas. A major challenge is to structure mechanisms which guarantee the long-term availability of those funds.

Although promising, the concept of financially self-sufficient conservation areas is far from becoming a reality. Conservation areas that are also world-class tourist destinations have the best opportunity to pay their own way, provided that tourism revenues contribute to park management. Tikal National Park in Guatemala, Royal Chitwan National Park in Nepal, Nairobi National park in Kenya, and Iguazú National Park in Argentina and Brazil are examples of areas with this potential. Unfortunately, other areas that have high value scenic and biological resources are so remote and inaccessible that tourism will never provide substantial funding, certainly not enough to meet management needs.

Funding plans, when based on carefully considered and agreed-upon needs, provide future directions. What we lack is a mechanism that supports the kind of work we know we need to do. Investments that increase our capability to meet our own needs are the kind that really achieve long-range conservation objectives. The old saying "give someone a fish and feed him for a day; or teach someone to fish and feed him for a lifetime" illustrates our institutional needs. (Provided of course that his capacity to manage his marine resources sustainably is attended to!). But how easy is it to find support on the scale and for the purposes for which we truly need it?

Many of us have experienced support of the type that 'gives', but does not allow experience of the process of identifying and setting priorities, learning from mistakes, and being held accountable for decisions. We have also seen capacities erode as institutions are left dangling during interruptions in a donor's funding cycle. This condition is a failing of our current system of support for conservation areas. It serves neither the interests of the donor, nor the interests of the recipients.

The achievement of appropriate institutional capacity is a necessary component of a sustainable conservation effort. Capacity may be achieved by growth stimulated by direct support. It is also nurtured indirectly, through technical assistance in constituency building, training, and in continued services to improve the funding base. What is lacking in most places at the present is the existence of a sustained funding effort that explicitly promotes the strengthening of institutional capacity to manage natural resources at the local, national, and regional levels.

IUCN, in a recent discussion paper, mapped some elements of success in conservation finance. We observed that the call for new financial resources and innovative action comes at a time when there is a growing consensus on the essential ingredients for success. Key among these is the realisation that success can only be sustained if local communities and national governments are committed to environmental goals. This commitment can only be built on a foundation of participation - in setting priorities, designing approaches, and managing programmes over the long term.

Building and sustaining local commitment is even more essential for environmental programmes than for other sectors supported by development assistance. A conservation project successful for years can abruptly fail due to a changing political climate, economic recession, or institutional problems, resulting for example in widespread deforestation. This ever-present vulnerability to policy shifts, momentary lapses in project funding, and the independent decisions of resource users, elevates the strategic importance of creating and nurturing commitment across a broad spectrum. It should always be remembered that whatever the decision-making process, local resource users through their actions essentially have the final say in the fate of biological resources.

Coordinating a funding effort involves a complex mix of actors at the local, national, and international levels. This often includes multiple governmental agencies, civic organisations, and the private sector. This mix of interests and understandings must be reconciled not only nationally, but with the predetermined international development assistance agenda, which may differ from the local priorities. Any strategy intended to meet these challenges will have to be sufficiently broad to satisfy the basic objectives of all concerned parties.

According to a recent review by IUCN's Washington office, national funds have emerged in recent years as a new mechanism with the potential for addressing these challenges. Several new national funds have been in operation long enough to demonstrate their ability to fostering widespread cooperation and commitment through a sustained financing effort.

National public sources of financing for conservation areas include appropriations in the national budget, fees, special use taxes, and conversion of national debt instruments into local currency. National private sources include individual and corporate donations and funding through special techniques such as sales of merchandise or proceeds from entertainment events. All these national private sources have parallel international sources. Non-profit foundations also constitute an important additional source of international private finance.

Co-ordination is Essential

Funding serves as one of the main motivators of institutions. If properly designed and operated, national or regional environmental funds can play a catalytic role in improving environmental management, biodiversity conservation, and sustainable and equitable use of natural resources.

These funds are accounts in which investment is managed for a defined purpose, in our case, conservation. Often, they are capital accounts, which earn interest. The interest is in turn invested in conservation, while the principal remains intact. Some funds require that the principal be drawn down over a period as well, so that at a predetermined point, everything is spent, and the fund terminates. The funds are typically governed by a board of directors representing the stakeholders affected by the purpose of the fund. This generally includes government, relevant community and social groups, and non-government organisations. Sometimes, the governing body includes donors, or the private sector.

The funding problems of management agencies can result from inappropriate competition. Conflicting messages from lead agencies erode donor confidence. In the absence of a clear national position on conservation priorities, they will have no option but to select projects based upon their own perceptions. National and regional funds can give us the power of collective bargaining.

Though experience is limited, those funds that have been most successful have been set up as autonomous entities with broad participation in governance. National or regional environmental funds can be set up as foundations, trusts, or endowments. Capital for national funds can come from a variety of sources, such as debt-for-nature swaps, debt forgiveness schemes, tourism fees, and direct contributions from donor agencies.

Environmental funds can nurture environmental care at the grass-roots level by releasing funds for conservation in manageable amounts fitted to the local context, sensitive to local cultures and knowledge, susceptible to immediate feed-back, and open to a variety of actors and options. If pursued systematically, national or regional environmental funds could be a global mechanism for empowering grass-roots action - a means of merging top-down and bottom-up approaches to management.

When designed with care, national and regional funds have attributes which make them attractive for funding environmental management:

1. **Funds are participatory**. They surpass narrow sectoral interests, and bring together interested parties, such as government agencies, the independent and business sectors, and relevant interest groups. They do this for all aspects of environmental projects, including identification, selection, approval, implementation, monitoring and evaluation. They become sources of empowerment of people and institutions.

2. **Funds are representative**. They encourage the involvement of diverse interests in common activities requiring cooperation and shared control.

3. **Funds build an ethos**. They promote value systems that feature cooperation, participation, and accountability, and that move beyond the limitations of particular professions or sectors.

4. **Funds are robust**. They promote flexibility, and can be designed to accommodate multiple interests and needs through multiple accounts, and multiple sources of funding. Diversity encourages stability, growth, self-reliance, and independence.

5. **Funds permit work at an appropriate scale**. Environmental funds can select the best level to strike the balance between international, national, and local objectives.

6. **Funds can grow with minimal displacement**. Because of their ability to deal with multiple sources of income and multiple clients, national funds help distribute large infusions of capital so that they do not build one institution or programme at the expense of others, or result in 'all or nothing' competition. This encourages greater efficiencies within the system, and greater net benefits overall.

7. **Funds have an absorptive capacity**. National and regional funds can accommodate donors' needs to move large sums of money with fewer staff, while respecting recipients needs for stability, steady growth, multiple small initiatives, and long-term institutional growth. They serve as a reservoir, protecting fragile institutions and programmes from inundations that outstrip their absorptive capacity, yet meet donor needs to disburse funds with maximum efficiency. They regulate the release of funds, helping to ensure that the funds will be there when they are most needed.

8. **Funds create a focal point for donor and recipient interactions**. They can jump-start long term processes that encourage synergy among donors and recipients, create platforms of potential interest to an ever widening-spectrum of capital sources, and serve as a vehicle for building local capacity for mature and responsible decision-making.

Progress to Date

According to our review, most of the work to date on national or regional environmental funds has been catalysed by international non-government conservation organisations (especially the World Wildlife Fund-US, The Nature Conservancy, and Conservation International), bilateral programmes for technical cooperation (especially U.S. AID), and international programmes such as the Global Environment Facility. These agencies have worked in close cooperation with each other, development banks, a variety of bilateral donors, national governments, non-government organisations, and financial institutions. They have demonstrated the potential of this mechanism for democratising, stabilising, and making environmental management more efficient.

The result of this work over the past five years is impressive. So far, environmental funds have been initiated in 20 countries, or groups of countries. Together, these funds have received funding commitments of almost US $300 million, and have had more than US $50 million actually transferred to them. Funds in the Philippines, Bolivia and Jamaica have developed to the point of making grants to field projects (a total of almost 90 to date).

Impressive as the record of action is, much more can be done to accelerate and improve the process. There is no central clearing-house for accurate and up-to-date information. Analysis of results to identify what approaches have worked best has been sketchy, and subject to institutional biases. Fund organisers and donors alike are sometimes suspicious of the motives of the international non-government organisation intermediaries. Donors are wary about the capacity, representativenes, and accountability of nascent funds.

What is Needed

Much remains to be done to promote and encourage the further development of national or regional environmental funds. There is a need for exchange of information between practitioners so that ideas and insights can be shared. Guidelines for the development and management of environmental funds, based on experience to date, are urgently needed. These might some day provide the basis for the definition of standards of 'good practice' and for certification of individual funds by an independent and trusted auditor as a means of building the confidence of both donors and recipients.

There is a growing need to broaden the sources of fund capital, especially to include more in-country sources. Additional investment and technical assistance are essential to broaden the fund start-up process, which can be long and costly. Once a fund is established, technical assistance is frequently required over a number of years to improve governance, enhance the involvement of local interests, and improve fund management, accountability, and grant-making capacity.

Conclusion

While a significant amount of money is available for conservation, not all of it is equal in terms of improving our institutional capacities. From our position of relative weakness, it is sometimes difficult to know what our options are. Thus, it is important that we identify what our true needs are, and represent them to potential supporters in compelling ways. Strategies and action plans help to identify needs and convince supporters; national funds provide us with a mechanism for action. In this way, it is within our power to break the cycle of dependency upon donors, on the one hand, and the syndrome of paper parks, on the other. As managers, we should take the following actions:

We should create funding plans at both the individual site and the system levels. Doing this requires that we know what our needs are. So if we don't have management plans for our parks and park systems, we must set this in motion. I don't want to suggest that we can't begin to raise funds until we have completed our planning. Our fundraising will be more effective, however, if we do have a plan.

We must put some teeth in our biodiversity action plans and park system plans by putting resources and commitment behind them. This requires that we embark on a common programme, involving everyone who has a stake in the outcome, and present this programme to donors, with the clear message that we have thought these issues through. We must find credible ways to fill the vacuum created by our disarray, and be perfectly clear about our own wants and needs. National and Regional Environmental Funds provide us with a flexible way to meet our needs and increase our own capacities.

National and regional funds can help regulate the flow of resources, capturing larger amounts of money than individual agencies could, holding it in reservoirs, and disbursing it in smaller, more easily absorbed amounts, over longer periods of time. If they are of sufficient size, they can monitor donor programmes, and experiment with innovative disbursement mechanisms. National funds can increase their impact even further, when they invest their own capital in sustainable development.

But most importantly, the value of this approach lies as much in the potential for new ways of societies working together towards a common goal, as it lies in attracting funds. Cooperation and consensus are ultimately the deciding capacity.

Ecotourism as an Appropriate Form of Development in the South Pacific

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Introduction

Ecotourism is generally perceived as a 'friendly' form of tourism which implies a potentially symbiotic relationship between the tourist, the host community and the environment. Essentially it is a special interest segment of the tourism industry. As Western values have shifted from economic development with the emphasis on economic inputs and outputs to sustainable development which favours environmental conservation, ecotourism has increasingly been accepted as a highly desirable goal. In the South Pacific, where most of the island nations have scarce natural resources and options for economic development are highly restricted, where high population growth rates are impacting significantly upon existing natural resources, and where traditional conservation measures have wilted under the various manifestations of modernisation, ecotourism is seen as a viable alternative. As a concept which offers conservation of the environment, assumed low socio-cultural impacts, control by local communities over their own venture, income and employment generation, opportunities for decentralisation to counter the urban drift, and the potential to replace exploitative practices such as logging with (perceived) benign utilization of landscapes and seascapes, ecotourism would seem to have all the qualities sought by development agencies.

Despite this appeal, however, the tourism sector has historically received relatively little input from aid donors, and development banks in the region have been reluctant to finance locally-owned projects. If we are to examine the concept of ecotourism as a funding mechanism for conservation we must first examine the perception of tourism as a whole in the development process.

Much of the early enthusiasm for tourism in the South Pacific centered on its potential as a vehicle for economic development which would provide a number of specific advantages such as securing foreign exchange, increasing employment, widening the export base and assisting in decentralisation. A review of much of the more recent literature over the past decade is more critical and suggests that in the South Pacific tourism has:-

- contributed little or nothing to decentralisation of the population;
- generated less indigenous employment than often anticipated;
- led to 'de-agriculturisation';
- generated environmental degradation and pollution;
- adversely affected socio-cultural structures, systems and values and commercialized culture;
- problems of seasonality and dangers of sole source market dependency;
- had unwelcome distributional consequences; and,
- exaggerated hopes for a country's balance of payments because leakage has often been high.

All of these may, in specific cases, be accurate. But to generalise about the adverse impacts of tourism *per se* in respect of some of them is misleading and overlooks the interplay of concurrent factors. Tourism development needs to be assessed as part of the whole development debate about the South Pacific. In particular, the potential for ecotourism to be a vehicle for conservation efforts requires serious attention.

A particular focus of this paper is to examine the amount and type of aid resources which have been devoted to the agricultural sector since it is often portrayed as being adversely affected by the development of a tourism industry. Australia's aid program to the South Pacific is reviewed in this context as a case study.

'De- Agriculturisation'

The concept of a rural population being lured away from traditional farming pursuits because of tourism is a major fallacy. The single greatest factor in this trend in the South Pacific has been the result of contact with western civilizations and the concomitant introduction of western styles of education and religion (Christianity). Once children went through an informal schooling process (or for special skills such as canoe-building through a form of apprenticeship) in which they accompanied adults during farming and fishing activities and so absorbed the major elements of their traditional technology. This education incorporated environmentally-sensitive practices, with ancestral figures, folk heroes and a wide range of cautionary tales sanctioning various conservation measures. But the advent of formal lessons for six or eight hours per day five days per week divorced the new generations from traditional learning processes and isolated them for significant periods per day over a number of years from their parents and other adults. The 'new' knowledge was in most cases inapplicable in the traditional society. In addition, Sunday observance (i.e. no labor on the Sabbath) has been rigidly enforced in a number of South Pacific countries (Tonga, Western Samoa, Fiji, Niue, for example, where legislation supports the Christian ethic) so that all sections of the population have been divorced from traditional agricultural pursuits according to a timetable at variance with traditional needs.

In short, western education and Christianity have fostered several generations of Pacific Islanders who are less and less able to understand and participate in traditional agricultural practices. Their societies are in transition and a new set of values and aspirations has been inculcated which downgrades village society and physical labor as a satisfactory form of employment. Tourism has been only one factor in the modernisation process since the 1950s whereas western educational and religious systems have been at work modifying traditional society for 200 years. Where traditional agriculture, however modified, cannot make much use of western education, employment in the tourism industry often can make such a contribution. In this context, tourism cannot be interpreted as a cause of 'de-agriculturisation'. Rather, 'de-agriculturisation' may be seen as a manifestation of the process of modernisation with tourism as only a minor factor in the equation. As Lattimer (1985) has commented, "Correlation is not causation."

Aid Policies

This issue raises the complex question of whether the relatively large amounts of development assistance directed towards the agricultural sector in the South Pacific have been misplaced to a degree. The issue also needs to be addressed in the context of the relatively scarce land resources of most of the island countries AND the limited capacity of current village-based societies and technology to be adaptive and serve as a vehicle for economic development. The adverse long term environmental implications of moves to transform essentially small, hand-worked, bush garden plots into more productive units, especially plantation type agriculture, have only belatedly been recognised. They are rarely taken into account in the design of development assistance for agricultural projects. Neither recipient governments nor aid donors insist upon environmental impact assessments of agricultural projects.

The socio-cultural factors which inhibit development have been recognised for much longer. For example, the Government of Western Samoa in a policy document outlining its development strategy and assistance needs noted that the traditional land tenure system effectively prevented an-used land being acquired not only by non-Samoans but by local people who were short of land or wanted to increase production.

The Government also drew attention to resistance to innovation at the village level because of socio-cultural characteristics:-

> "Under the Samoan system, goods and services are transferred on request as gifts or assistance and carry with them an obligation on the part of the recipient to reciprocate at some time in the future. Gift giving adds to social prestige. ... Although this system may ensure a fairly equitable distribution of wealth it also acts as a disincentive to accumulation (of wealth). On the whole the villagers are not orientated to the monetised economy." (Western Samoa Government, 1982)

In Western Samoa and the other Polynesian societies of Tonga, the Cook Islands and Niue, motivation to produce more from village land is also blunted because desired consumer goods are obtainable through the flow of remittances from relatives overseas. All four countries have very large numbers working in countries like New Zealand, Australia and the United States (e.g. Cook Islands - 16,000 in-country and some 23,000 in New Zealand, 2,000 in Australia and 1,000 in the USA and elsewhere; Niue-2,000 in-country and 12,000 in New Zealand; Tonga - 99,000 in-country and 35,000 in New Zealand; and Western Samoa - 150,000 in country and about 50,000 overseas, some 40,000 of them in New Zealand). In Tonga, Western Samoa and Niue the single greatest source of foreign exchange is derived from remittances from relatives working overseas. Thus in 1989, Western Samoa received WS$32 million in project grant aid (the total from all aid donors), WS$39 million from tourism and a record WS$87 million in private remittances from Samoans residing abroad, a WS$13 million increase over the 1988 level (Central Bank of Samoa, 1990).

The appropriateness of the subsistence sector for national economic development has sometimes been questioned. It is often inconsistently addressed in the literature and by national planners and decision makers. Thus, on the one hand, the concept behind many economic development programs, sanctioned by orthodox growth theory, is that a modern, urban-based industrial sector is essential to achieve both expansion of employment and economic dynamism; and on the other, "rural development" by subsistence societies is advocated to transform the economy into thriving twentieth century consumer oriented communities. Fairbairn (a Samoan economist) presents an image of this dichotomy in *Island Economies*, for in Chapters 8, 9 and 10, he and Tisdell present three models which suggest that subsistence economies cannot sustain economic growth of the kind favoured by development plans, especially those which depend upon capitalist, export oriented industries. Such plans run the risk of disruption - perhaps even destruction - of the subsistence sector and therefore traditional society in the longer term without an enduring replacement (Fairbairn 1985). Yet in subsequent chapters, Fairbairn argues that rural development should replace the plans of the 'growth economists' for national development and that there is a large reservoir of untapped potential in subsistence village communities.

There is no suggestion by many economists that attempts to change the present land tenure systems of the Melanesian, Polynesian and Micronesian societies of the South Pacific and to increase agricultural and marine resources productivity at the village level may have serious environmental impacts. Rather "progress" is to be achieved by "greater emphasis on commercial agriculture and fisheries, more productive use of land, high value -added industries, technical innovation and a greater effort by the subsistence sector" (Fairbairn 1985, p.322). The economic rationalist sees un-used customary land as 'available' for exploitation without consideration of the impact of semi-permanent or permanent loss of rainforest cover, erosion, siltation of streams and waterways, downstream impacts on coastal marine life and off-shore reefs, etc - in short the ecosystem is not seen holistically.

But it is not only change induced from outside which may cause serious environmental degradation. A recent study in Solomon Islands suggests that with population growth in north Malaita in the past two decades, the traditional slash-and-burn cycle of 50-plus years has in some areas retracted to less than ten years. Large areas of low secondary growth and grasses are being burned rather than small plots of more mature rainforest, with consequent increases in soil erosion, decreases in soil fertility and a lesser nutritional value of crops. Malnutrition is appearing apparently for the first time (Sofield, 1986).

In this context it is suggested that a detailed study of the impacts of non-traditional agriculture might well indicate far greater adverse impacts on both the bio-physical and socio-cultural environments than tourism development. One has only to look at the acreage of land now under non-traditional agricultural use in the South Pacific and to compare it to the relatively tiny amount of land utilised for tourism development to appreciate this point. The Australian aid-funded Kolombangera livestock project in Solomon Islands, for example, utilised 5,000 hectares of clear-felled former tropical rainforest; ALL tourism plant in the Solomons occupies less than 100 hectares by comparison. Since ecotourism by definition would contribute to conservation and the preservation of biodiversity, it should occupy a central position in development assistance towards a country's tourism development.

Australia's Aid Program to the South Pacific.

A review of Australia's project aid to the South Pacific between 1976/77 and 1989/90 indicates that Australia directed more than AUD$400 million to the agricultural sectors of the South Pacific countries (AIDAB, 1987 and 1991a).

Approximately AUD$190 million delivered through Australia's annual budgetary grants to Papua New Guinea was expended on the agriculture sector directly (5% of Australia's annual grants to PNG, which between 1976/77 and 1989/90 ranged from AUD$190 million p.a. to AUD$315 million p.a. - AIDAB (1991b) evaluation). AUD$226 million was provided for agricultural projects in the other South Pacific countries.

To the combined total of $316 million must be added:-

- agricultural personnel recruited by the South Pacific countries under the Australian Staffing Assistance Scheme (ASAS);
- expenditure under the Small Projects Scheme (the majority of which are agricultural projects);
- the Development Imports Grant Scheme or DIGS, which provides a lump sum for a recipient country to use on the importation of Australian origin materials, equipment, machinery and other goods;
- developmental food aid, of which about 90% in the South Pacific is used for rural development projects;
- the range of scholarship and training schemes which would have covered the cost of agricultural tertiary education and vocational training.

Since these various schemes provide about $50 million annually in grants to the South Pacific countries it is reasonable to assume that 10% - 12% is expended directly and indirectly on the agriculture sector, so increasing the total of Australian assistance to the South Pacific countries' agricultural sectors by another $85 million over the 1976-1990 period to around $405 million.

By contrast, the tourism sectors of the South Pacific received a total of less than $5 million during this period, including a very small percentage of PNG's annual budgetary grants (AIDAB, 1987 and 1991a)., as seen in Fig. 1.

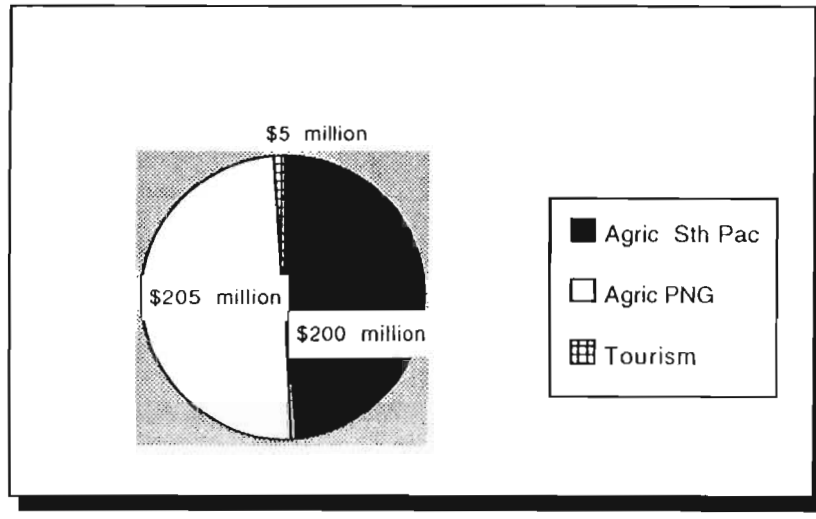

Fig. 1: Australian Aid to the Agriculture and Tourism Sectors of the South Pacific - 1976-1990.

Australia's aid program to the agricultural sectors of the South Pacific has tended to follow the path of large, technically sophisticated schemes directed towards import substitution and production for export (e.g. a cattle breeding and silviculture project in Solomon Islands), and multi-sector rural development schemes (e.g. $2.5 million for the 'Simbu Rural Development Project', PNG). This approach is a seemingly logical path to follow if the limitations of increasing village-based productivity are accepted. But many of those projects and much of the expenditure have been less than successful.

In Tonga, for example, a desiccated coconut factory provided by the Australian Government cost more than A$5.3 million and after numerous problems was decommissioned in 1989. During its operations, Tonga's total output of desiccated coconut fell in value from A$0.7 million p.a. to A$0.3 million p.a. in five years (Tonga National Central Bank, Annual Report 1990) - not exactly a profitable rate of return.

In Solomon Islands, Australia expended more than A$3.5 million on the 'Cattle-Under-Trees Project' on Kolombangera to provide the nucleus of a breeding herd for the country as well as a viable timber resource. Aid was discontinued in 1985 after eight years with the project failing to meet its objectives for a variety of reasons including inappropriate technology, inappropriate choice of tree species (tow value), and inappropriate extension services.

In the first of a series of annual sector reviews of the Australian aid program, AIDAB (1991b) acknowledged from a study of sixteen evaluations of AIDAB agricultural projects made over the period 1985-1990 that:-

> "the agricultural sector has proved to be a difficult one to design and implement successful projects, especially if the alleviation of poverty is an objective.

Key lessons emerging included:

- There was a lack of proven technologies for improving rainfed agriculture. Recommended practices must be of low risk to households with limited capital and land resources, and real benefits at the farm or operational level must be demonstrable.
- There was an over-emphasis on institutional research rather than operational activities related to the socio -economic environment of target groups.
- Inadequate attention was accorded to extension, which was invariably the weak link in the technology transfer chain. Where support was provided for extension, the strategy was often inappropriate.
- Projects often promoted technology that did not generate attractive financial returns. This was often the case in projects promoting the introduction of large ruminant animals.
- The provision of subsidies to encourage the adoption of a new technology had an inhibiting effect on sustainability."

In evaluating nine of the fourteen agricultural projects completed under AIDAB funding in the period 1 July 1989 to 31 December 1990, an analysis of the 'Project Completion Reports' revealed *inter alia* that:-

> "the potentially far-reaching environmental effects of project activities were not always taken into account. Not only the effects resulting from the project itself must be considered but also the possible effects of environmental degradation on sites not involved in project implementation.

For example, in one project salinisation from aquifer recharge on a geographically removed site affected the viability of crop and pasture species selected for the project site." (AIDAB, 1991b).

A scan of the aid programs to South Pacific countries of other aid donors (New Zealand, Britain, France, the European Community, and Japan, for example) and the work programs of the South Pacific Commission and the South Pacific Forum over the past two decade reveals that more than A$350 million has been directed towards a variety of agricultural projects in the South Pacific states. The projects undertaken share similar characteristics to those funded by Australia. Large amounts of aid are spent sometimes with little return.

A coconut oil factory built under EC aid in Lakeba in the Lao Province of Fiji closed down after six years of operations because its running costs were greater than its earnings. A major input into onion cultivation in Fiji collapsed after two years. In Niue, more than one million New Zealand aid dollars were spent on passionfruit and lime production; the processing plant closed in 1983 having absorbed large losses. A major problem was the lack of indigenous bees so that pollination had to be carried out by hand.

Fifteen years ago in the Cook Islands, pineapples and oranges, developed under New Zealand aid, were being exported to New Zealand and there was a fruit juice factory in Rarotonga: the factory has since closed and both industries are in decline. Cocoa was mooted as a major new cash crop for PNG, Solomon Islands and Vanuatu in the 1970's and aid donors poured more than AUD$10 million into rehabilitation schemes. Production and the value per tonne of cocoa is less in 1990 than it was in 1980. Yet in Western Samoa between 1987 and 1991 the Australian Government provided more than AUD$2 million under the "Cocoa Rehabilitation Project" (AIDAB, 1991). At the end of the period, Western Samoa's cocoa exports were nil.

Only coffee in PNG and New Caledonia, sugar in PNG and Fiji, oil palm in Solomon Islands and PNG and beef cattle in PNG, Vanuatu and New Caledonia (all of them, with the exception of coffee, being plantation or ranch operations not village cropping) have shown a degree of profitability over the decade. Fisheries, particularly skipjack tuna, holds potential for some countries and there has been major investment in tuna boats in PNG, Solomon Islands, Fiji and Kiribati. There are small canneries in American Samoa, the Solomons and Fiji and PNG has been negotiating for the past four years with tuna interests to establish a cannery in that country. Note, however, that Solomon Islands investment of more than SID$40 million in two purse seine tuna boats resulted in massive operational losses and the two boats were finally disposed of after 4 years for less than 25% of their estimated value.

Two crops, copra and bananas, have received particularly high levels of aid funding in the South Pacific. Numerous efforts have been made over the years to revitalise the copra industry, the backbone of indigenous cash cropping throughout the region. More than A$60 million has been expended by a variety of aid donors on coconut related projects in South Pacific countries in the past 25 years (SPEC, 1986). The South Pacific produces only six percent of the world's copra supply and is totally dependent upon foreign-controlled (largely European Community) markets for its exports so that it can exert no control over global prices (SPEC, 1986). Despite the concerted effort and relatively large expenditure directed by both aid donors and recipient South Pacific governments towards the coconut industry it has been in constant decline throughout the region for a number of years. Bananas have suffered a similar decline.

The 'Leakage' Factor

As noted by AIDAB (1991) much of this development assistance has been towards the 'high technology' end of the spectrum, not involved with mass numbers and not generating large employment or greater efficiency in traditional practices because of its inability to be applied at the village level. As a result much of it carries a high leakage factor; i.e. there is a requirement for importation of fertilisers, pesticides, machinery and equipment, fuel, and expatriate expertise.

In several of the region's major cash crops (e.g.. sugar in Fiji, coffee, palm oil in PNG and Solomon Islands, beef cattle in Vanuatu) the leakage factor is deemed to be high although very few studies appear to have been carried out. One study of the Fiji sugar industry in 1989 indicated that it had a leakage factor of 49 against 57 for tourism (i.e. for every dollar earned by sugar, 49 cents was expended on imports while 57 cents in every dollar earned by tourism left the country for that industry's requirements - Sawailau, 1990). However, this study failed to take into account the costs of transport (mainly by trucks and railways) of the cane to the crushing mills. The costs of environmental degradation, with increasingly large amounts of artificial fertiliser and pesticides being necessary to maintain productivity on lands which in some cases have been continuously farmed for sugar for 80 years, was also ignored. When these costs are added, the leakage factor of the sugar industry is on a par with tourism.

In fisheries development projects, a similar leakage factor may be observed especially where 'hi-tech' purse seine trawlers and canneries are involved (e.g.. Solomon Islands, Kiribati, Fiji). Even in village- based fisheries projects, favoured by aid donors because they are community based and appear to be an excellent vehicle for income redistribution, there is an often unrecognised but significant leakage factor present. Locally made craft may be used, but items such as outboard motors, nylon nets and diesel fueled generators to power ice making machines, with fiberglass eskies for transport of the catch to more distant markets are often standard equipment- which of course require foreign exchange. Such fisheries projects are typical of community assistance to most South Pacific countries by Australia, New Zealand, Britain, Japan, the EC, and Germany.

In stark contrast to these projects, ecotourism ventures, when developed and controlled by local communities, have minimal leakage. The Guadalcanal Rainforest Trail in Solomon Islands (Sofield, 1992), the Bouma rainforest park in Taveuni, Fiji (Young, 1992), and the Navua River Cultural Tour in Fiji (Sawailau, 1990) require little foreign exchange and imported goods for their operations.

Tourism In the South Pacific

Throughout this period the region's receipts from tourism earnings have increased each year. International tourism is not only one of the largest industries in the South Pacific, but one of the fastest growing. The development of tourism, after a cautious acceptance of its potential by most of the South Pacific countries, is now a major objective for all of them as a means for securing much needed foreign exchange. It also has a high priority on the list of policy aims for many of them as a vehicle for increasing employment, widening their export base and assisting in decentralisation. International tourism has demonstrated a steady increase across the region as a whole.

In 1975 there was a total of 682,629 visitors to the region. By 1985 that had grown to 1,069,999, an increase of 57%. By 1990 that figure had expanded to an estimated 1,852,000, a further increase of 42% in only five years. (PATA, ASMAL and Tourism Council of the South Pacific - visitor statistics).

The overall growth in regional tourist numbers has occurred despite individual countries experiencing uneven patterns of visitation. Fiji, for example, attained some 240,000 visitors in 1986, then experienced a sharp decrease to less than 180,00 in 1987 and 208,000 in 1988 as a result of the military coups. In 1990, however, it achieved a record level of 280,000 visitors. Similarly, Vanuatu received more than 30,000 visitors per annum from 1979 to 1983, which fell in 1985 to only 12,000 visitors when direct flights between Australia and Vanuatu ceased. By 1989 that figure had risen to 24,000 and in 1990 the total visitation for the year was again back at the 30,000 mark (ASMAL, 1991).

The Micronesian countries of Guam and the Northern Marianas have experienced the most dramatic growth as they have responded to surging Japanese demand. In 1980, Guam received only 203,000 tourists with the greatest number coming from the United States. By 1990 that figure had spiralled to almost 774,000 with more than 650,000 (80%) originating from Japan (Guam Economic Research Center, 1990).

There has been no attempt to quantify the value of the tourism industry across the region. In approaching an assessment of the economic impact of tourism on a regional basis it is axiomatic that caveats be drawn for individual countries. For example, the level of tourism activity, the size of the industry, the degree of foreign participation, and the rate of tourism development all differ markedly from country to country.

Thus, Kiribati receives less than 2,500 visitors per year but Fiji in 1990 received one hundred and twelve times more - 280,000. In New Caledonia, foreign (i.e. non-Kanak) ownership of tourism plant and attractions is 98% with only a handful of village guest houses owned by the indigenous people; but in Tonga there is little foreign ownership with only one major resort and one hotel owned by foreign interests. The two countries thus exhibit highly different leakage factors, with minimal repatriation of profits from Tonga, Tahiti, Guam and Fiji have several five star hotels each; Niue, Tuvalu, Solomon Islands and Kiribati have none.

Based on 1985-88 visitor expenditure levels of A$1964:56 per visitor for six countries (WTO estimates), the extrapolated figure for total receipts for all 21 countries and territories of the region would be in the order of A$3.638 billion. It must be stressed, however, that this figure is NOT an estimate; expenditure patterns for different countries differ widely and until real data is available it is extremely difficult to put forward a figure with any confidence.

Aid to and Foreign Exchange Earnings from Agriculture and Tourism:

Three Country Sketches

A brief comparison of aid flows to the agricultural and tourism sectors and gross foreign exchange earnings derived from those sectors for Fiji, Tonga and Western Samoa may be found at Annex 1. While these three countries were selected at random, it is likely that the other South Pacific island countries would demonstrate similar trends (PNG and New Caledonia excepted because of the value of their mineral exports).

In sum, during the' five year period 1984-1989, Tonga's agricultural exports earned AUD$33.8 million while tourism receipts totalled AUD$56.1 million. Aid to the agricultural sector amounted to about AUD$25 million; to tourism - AUD$1 million. For Fiji, over the 20 year period from 1970-1990, sugar earned AUD$2,432 million while tourism receipts totalled AUD$2,584 million - with tourism out- performing sugar in the past seven years. During the two decades, Australian aid to Fiji's agricultural sector amounted to AUD$42.5 million and to the tourism sector AUD$0.5 million, a ratio of 98:1. For Western Samoa, tourism out-performed agriculture in foreign exchange earnings for the period 1985-1990 by nearly 25%, with tourism receipts totaling almost WS$190 million as against WS$153 million for agricultural exports. An estimated $52 million was provided as aid to the agricultural sector, and $3 million to the tourism sector.

Contrary to popular opinion, it is the tourism industry in these countries and not agriculture which has provided a superior degree of economic stability in foreign exchange earnings.

Development Assistance to Ecotourism

As the Proceedings of the Conference on Ecotourism Business in the Pacific (Auckland, October 1992) concluded, those wishing to venture into ecotourism "must match idealism with economic survival to ensure that the businesses reflect high ethical standards yet are financially viable. An unrealistic business proposal which cannot meet customers needs achieves nothing for a proprietor and one which denies ecological principles will fail to appeal to clients if it contributes to environmental degradation." (Proceedings, p.174). These principles are also vital for any venture to be considered by an aid donor.

There must be adequate planning which takes into account not only environmental factors but socio-cultural impacts and economic viability; an environmental impact assessment must be accompanied by a rigorous feasibility study which encompasses a sound marketing plan, a business plan and a financial management plan. If a venture is proposed by a community it stands a much better chance of acceptance by development assistance donors since income redistribution and social justice are sought-after objectives in the ethics of 'development'. A single proprietor on the other hand is likely to be advised to approach a bank for private enterprise funding if the proposal is economically viable.

The Tourism Council of the South Pacific (TCSP) is active in promoting ecotourism by emphasising the prospects of increased economic benefits to landowners. In preparing Ten Year Tourism Development Plans for Western Samoa, Solomon Islands and Tuvalu, the TCSP emphasised the opportunities for ecotourism and has undertaken a number of detailed site surveys as the first steps towards realising some of those suggestions. Several experiences where landowners have opposed ecotourism projects (e.g. Lauvi Lagoon crocodile habitat, "Weather Coast" of Guadalcanal, Solomon Islands) and small scale village based tourism developments (e.g. Vavau Village, Western Samoa) have highlighted for the Council the problems of traditional land tenure systems.

Convincing landowners that their land may serve them better if it is unexploited (i.e. retained in a wilderness state) rather than exploited and the need to raise awareness of the issues involved in environmental degradation and the possibilities of ecotourism as a vehicle for both conservation and income generation require urgent attention. It is a slow process, however, as the four-year period of intermittent consultations with four land -owning clans demonstrated in the moves to set up rainforest ecotourism in Guadalcanal (Sofield, 1992).

One of the fundamental elements of ecotourism - that any revenue derived from the ctivity should be utilised for the better management of the resource - has a comfortable fit with the so-called "user pays" principle of much contemporary nature-based tourism and the traditional land tenure systems of Melanesia, Micronesia and Polynesia. "User pays" refers to charges paid by users of protected areas. The fees charged "should be closed loop charges" (Aukerman, 1987, p13) such that the fees are used directly for the management of the protected area (Dixon, 1988).

As Eaton records: "Land tenure is concerned with rights to use land and access to natural resources" (1985, p 114) and traditionally compensation for use of the area by outside groups has been negotiated by the land-owning groups. This can be equated to the recent strategy of user pays in western tourism, with land owners the equivalent of taxpayers and outside groups the equivalent of tourists, the funding requirements for extra management being funded by outsiders as the number of users increases.

The 1989 SPREP Action Strategy for Nature Conservation in the South Pacific Region suggested that at a national level countries plan to"..develop and apply levies on resource users, including the tourism sector, to assist with establishment and management of cost of conservation areas ..." (p5) & to "..evaluate the application of 'user pays' concept to tourism related activities...." (p15). These suggestions indicate that there is strong support within South Pacific countries for the strategy of user pays being applied to planning for tourism in the region.

This may assist in overcoming the two major impediments for planning of protected areas in the South Pacific which have been recognized by the SPREP, i.e. land tenure systems (SPREP, 1985a) and financial constraints (SPREP, 1985b). As the demand for ecotourism experiences grows, less developed countries such as the small Island nations of the South Pacific have the opportunity to gain economic value for their protected areas. The use of user pays can be politically utilized to indicate the importance of protecting and conserving the natural environment. Ecotourists, by definition, are willing to pay to enjoy the experiences gained through activities in natural areas and funds raised through user charges can be used to finance planning for and management of tourism in protected areas.

As a special segment of the tourism industry, ecotourism projects may have particular appeal to donors of development assistance because they embody many of the principles used to justify such assistance. However, to date relatively few ecotourism projects have attracted donor assistance and this must be seen in the context of the tourism sector at large being regarded buy aid donors AND recipient countries as of lesser priority than most other sectors.

Conclusions

There is a need to de -bunk some of the myths surrounding tourism, and ecotourism in particular as a form of development which may or may not be appropriate for small island states. Some of these relate to the perceived 'superiority' of other sectors vis-a-vis tourism; and the agricultural sector in particular. It is suggested that this emphasis may be partly historical. In pre-independence times, as colonial regimes dealt with the 'problems' of modernisation of rural, village-based societies whose livelihood and lifestyle was dependent upon an agricultural subsistence economy, it seemed - and almost certainly was - appropriate to focus on ways to build upon that base by improvements in quality, quantity and crop diversification. In countries like PNG where more than 85% of the population remains directly dependent upon subsistence agriculture with some cash cropping, agriculture remains an ideal vehicle for widely distributing the benefits of economic growth

In post-independence times the ministries of agriculture of most South Pacific countries have remained as among the largest and the oldest of their ministries, in many cases supported by commodity boards, statutory marketing authorities, and development banks. They have within their ranks one of the largest sectoral corps of tertiary graduates in the region. Over time they have developed a strong corporate identity with considerable political influence, a not unexpected outcome given that more than 90% of the politicians in South Pacific Governments come from rural not urban electorates. This depth of human resources and political clout contrast starkly with government attention to the tourism sector- most of the countries do not have ministries of tourism (e.g. Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, PNG, Tonga, Tuvalu, Vanuatu, Western Samoa) although most have small visitors bureau or tourist authorities. Departments of the environment are in even shorter supply.

One consequence is the inability of government planners and decision makers to focus on tourism and ecotourism in particular. The impact of the historically derived bureaucratic and political alliance between ministries of agriculture on the direction of development assistance should not be under-estimated.

One result is that concentrated effort has been put into often non-productive or counter-productive agricultural development without the opportunity costs of investments in other sectors, such as tourism, being fully considered. Certainly it is a pattern of activity by both donor and recipient governments that has- and continues to be - operative throughout the South Pacific. There have been many successful agricultural projects- but there have also been many expensive failures; and this fact should be examined in the context of the long term decline in production and prices of major village based crops such as copra and other agricultural exports of the South Pacific countries. The economic effects of this situation are serious and donors, including Australia, "must acknowledge their implications in the design of programs and projects" (AIDAB, 1991, p.3).

These comments should not be interpreted as an attempt to write out development assistance to agricultural ventures. The South Pacific countries obviously continue to have very substantial needs in this sector. Some 70 percent of their populations currently live in rural villages. Rather is it an attempt to question accepted orthodoxy about development assistance and to provide a perspective on tourism which tends to be lacking in much of the literature and in the planning processes of both aid donor and recipient. The provision in 1991 of A$400,000 by the TCSP for the construction of a community-run, village-based resort of six *fale* (traditional Samoan houses) in Upolu is, one suggests, a rather better placement of assistance than A$400,000 invested in the coconut or cocoa sectors of Western Samoa. Linkages between agriculture and tourism need to be actively investigated, since there is an unrealised potential in virtually all of the South Pacific countries for local agricultural effort to provide a much greater proportion of the food and beverage requirements of the industry.

As modernisation proceeds apace in the smaller island countries, the situation requires re-assessing. The lessons of slow progress - and in some cases, such as with copra, cocoa and bananas, regression - appear to have been discounted. The high leakage factors inherent in much agricultural and fisheries development and their environmental implications appear not to have been seriously addressed. The appearance of a new sector such as ecotourism with potential for making a significant contribution to individual and national incomes and conservation of the environment has in most cases not received donor and recipient government interest and financial investment and support commensurate with tourism's current economic role.

Some tourism areas such as capital-intensive resort and hotel plant are probably inappropriate recipients of aid, although it should be noted that the single largest tourism project undertaken by Australia to date- more than AUD$660,000 - was used to' refurbish the Government-owned hotel in Kiribati in 1988/89 (the Otintai). Other areas such as the development of supporting infrastructure (airports, roads), of nature trails and village-based guest houses supported by their communities, may be better than more orthodox projects in other sectors. The potential to increase linkages between the tourism industry and local agricultural sectors *(vide* the efforts of the TCSP) should also be pursued. An Australian National University study (1987) of the major hotels in Western Samoa, Tonga, Fiji and Vanuatu revealed a high import content for their food and beverage requirements, some of which could be supplied locally. The TCSP has undertaken several pilot studies, including market gardening for a range of vegetables in the Sigatoka Valley of Western Viti Levu, Fiji, and a study into the viability of setting up a tropical fruit and juice processing plant in Vanuatu to utilise local products. There is a deal of unrealised potential related to harnessing and developing local agricultural effort to service the needs of the tourism industry.

Tourism in specific instances may not be able to promote ideal economic development; and there are social and cultural factors which need to be carefully assessed before particular developments should be permitted. But controlled growth may well be in the national interest. There is a need to undertake a comprehensive survey of aid and other investment into the agricultural (and other) sectors in an attempt to measure return on investment, opportunity costs and the comparative benefits of re-directing some aid at least towards the tourism sectors of South Pacific countries. The need is for a more balanced approach in which aspects of tourism development such as community- based ecotourism ventures could receive rather more attention and funding than has been the case in the past.

Annex 1: Aid to and Foreign Exchange Earnings from Agriculture and Tourism: Three Country Sketches

A brief comparison of aid flows to the agricultural and tourism sectors and gross foreign exchange earnings derived from those sectors for Fiji, Tonga and Western Samoa may be found at Annex 1. While these three countries were selected at random, it is likely that the other South Pacific island countries would demonstrate similar trends (PNG and New Caledonia excepted because of the value of their mineral exports).

- **Tonga**

During the years 1984 to 1989, gross foreign exchange earnings from Tonga's major export crops - coconut products, vanilla and bananas totalled AUD$27.5 million. Other agricultural exports realised $6.3 million. During the same period, visitor arrivals increased by 10% p .a. and gross foreign exchange earnings from tourism totalled AUD$56.1 million (National Reserve Bank of Tonga, 1989, 1990 and Tonga Visitors Bureau Annual Reports, 1984-1990). See fig. 2.

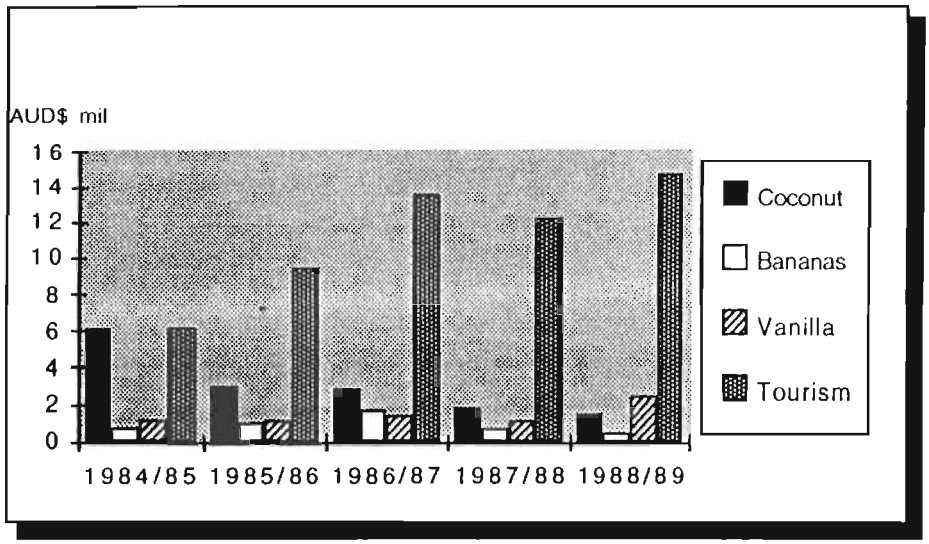

Fig. 2: Foreign Exchange Earnings from Agriculture and Tourism in Tonga, 1984/85 to 1988/89

During this period aid donors directed more than AUD$12 million towards the coconut and banana industries. Other agricultural industries (e.g. forestry, fisheries, cocoa, vanilla) received a similar amount. They directed less than $1 million towards the tourism industry (Tonga Government, Annual Budgets, 1984-1990). Some development assistance went towards airport and wharf improvements which have benefits for tourism but in each case the justification for the projects was based on improving trade- related infrastructure and communications rather than on contributing to tourism. The Japanese Government also constructed a National Cultural Centre (for approximately AUD$3 million) which has since become a major tourist attraction - although in the first instance it was constructed to preserve and promote Tonga's traditional culture. (See fig. 3.)

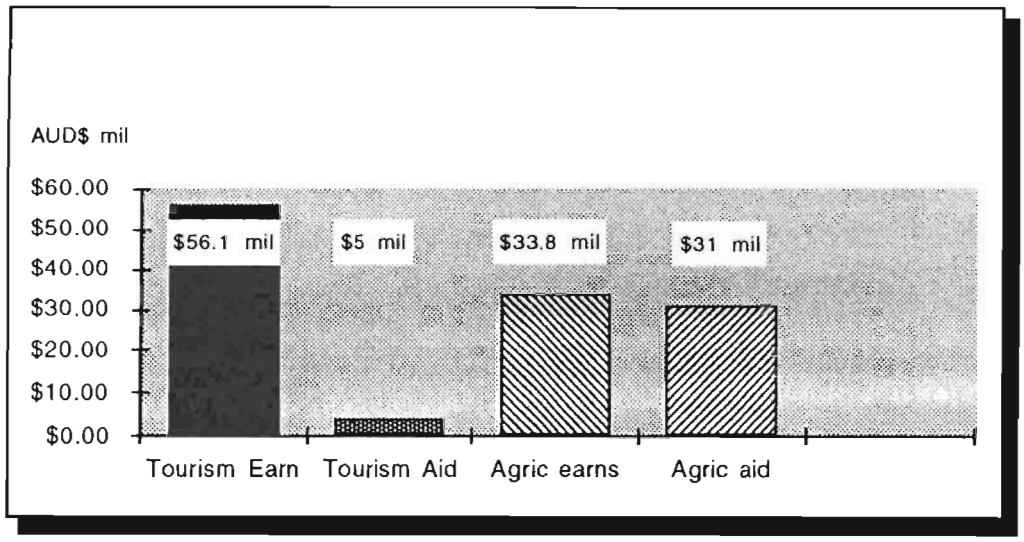

Fig. 3: Foreign Exchange Earnings and Aid for Agriculture and Tourism in Tonga, 1984/85 to 1988/89.

These aid figures provide only one small part of the total picture of government inputs into agriculture in Tonga of course. They do not take into account the different levels of government support through such structures as the Ministry of Agriculture (more than 300 staff), the Tonga Development Bank, the Agricultural Commodities Board, and other specific agencies designed to provide a range of services and assistance which have also been the recipients of foreign aid. For example, between 1985 and 1990 Australia granted AUD$1.502,186 to the Tonga Development Bank, AUD$1 million for staffing assistance (of which about 20% was expended on agriculture-related expertise), and AUD$8,368,311 on tertiary scholarships and special training (AIDAB, 1991a). No detailed breakdown was available for the latter but AIDAB (private correspondence with one of Australia's former High Commissioner to Tonga) estimated that about 10% to 15% - AUD$850,000 to $1 million - was for agricultural training of different kinds. Other aid donors provided varying inputs which totalled more than AUD$5 million in the same period (Tonga Government. Annual Budgets, 1984-1990).

By contrast, the tourism industry has only one officer in the Ministry of Labour, Commerce, and Industries (which is responsible for tourism), and nine staff members of the Tonga Visitors Bureau. During the period 1984-1990 Australia provided four tertiary scholarships for tourism studies and three fellowships for short term tourism courses at a total cost of less than AUD$220,000. Only New Zealand and the European Community (through the training programs of the Tourism Council of the South Pacific) appear to have also provided aid for tourism related human resources development (HRD), at a total cost of less than AUD$200,000. Manpower resources and aid funding for HRD are heavily weighted towards agricultural ends.

- **Fiji**

In Fiji, tourism has shown consistent growth in gross receipts in the past decade (excepting decreases in 1987 and 1988 due to the political unrest surrounding the military coups) and in 1990 tourism receipts exceeded sugar by more than F$120 million - an estimated F$310 million for tourism and P$187 million for sugar. The following fig. 7 compares foreign exchange earnings from tourism with sugar, coconut and gold exports over the past twenty years. Tourism receipts exceeded sugar by more than F$100 million - F$2,548 million as against F$2,432.2 million. Gold earned F$304.9 million for eighteen of those twenty years and copra languished with total earnings of only F$134 million. Tourism foreign exchange earnings exceeded sugar earnings in 11 out of the 20 years, and 7 out of the last 10 years (Fiji Bureau of Statistics, 1991). Comparisons are shown in fig. 4.

Fig. 4: Total Foreign Exhange Earnings of Major Commodities in Fiji, 1970-1991.

During the period 1975/76 to 1989/90, Australian aid to the agricultural sector of Fiji totalled AUD$42.5 million. During the same period, assistance to Fiji's tourism sector totalled AUD$433,000 (AIDAB, 1991) a ratio of 98:1, as shown in fig.5.

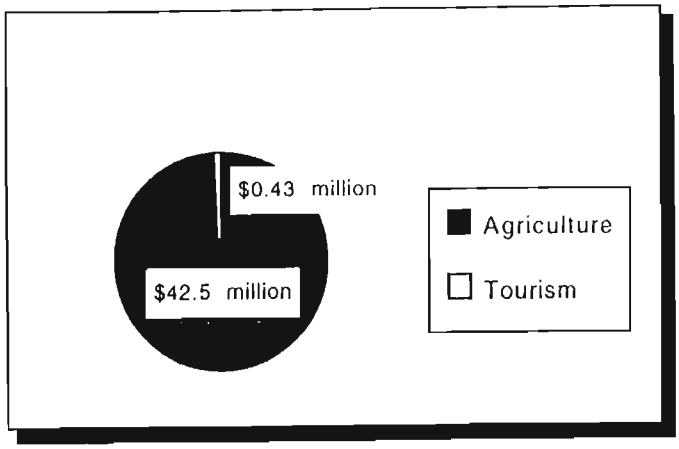

Fig. 5: Australian Aid to Tourism and agriculture, 1975/76 to 1989/90

- **Western Samoa**

A review of gross export earnings for Western Samoa from all agricultural products and gross foreign exchange receipts from tourism since 1985 to December 1990 reveals that tourism grossed 23% more than agricultural exports -a total of WS$190 million as against WS$153 million. During this period coconut products (coconut oil, copra meal, copra and coconut cream) grossed WS$83 million in foreign exchange earnings.

Agricultural exports behaved erratically, foreign exchange receipts peaking at WS$32 million in 1985, falling to WS$22 million in 1986, rising to WS$23 million in 1987 and to WS$30 million in 1988, before falling to WS$27 million in 1989 and only WS$7 million in the first six months of 1990 (and this period contained "windfall" increases in copra and coconut cream due to the collection of a larger number of nuts than normal, blown down by Cyclone "Ofa") (Central Bank of Samoa, 1989 and 1990). A further $12 million was earned from agricultural exports in the last six months of 1990 (Central Bank of Samoa, 1990 and 1991). 1991 was a year for agricultural recovery so receipts were expected to be only marginally better than in 1990; and Cyclone Val had an even greater impact on agricultural output and foreign exchange earnings.

Tourism receipts on the other hand rose steadily from WS$15 million in 1985 to WS$19 million in 1986, WS$20 million in 1987, WS$33 million in 1988, WS$39 million in 1989 and to WS$47.1 million in 1990 despite the impact of Cyclone "Ofa" (TCSP, October 1991). In Western Samoa, contrary to the general picture often painted of tourism in the South Pacific it is this industry which has demonstrated a degree of stability superior to that of the agricultural sector.

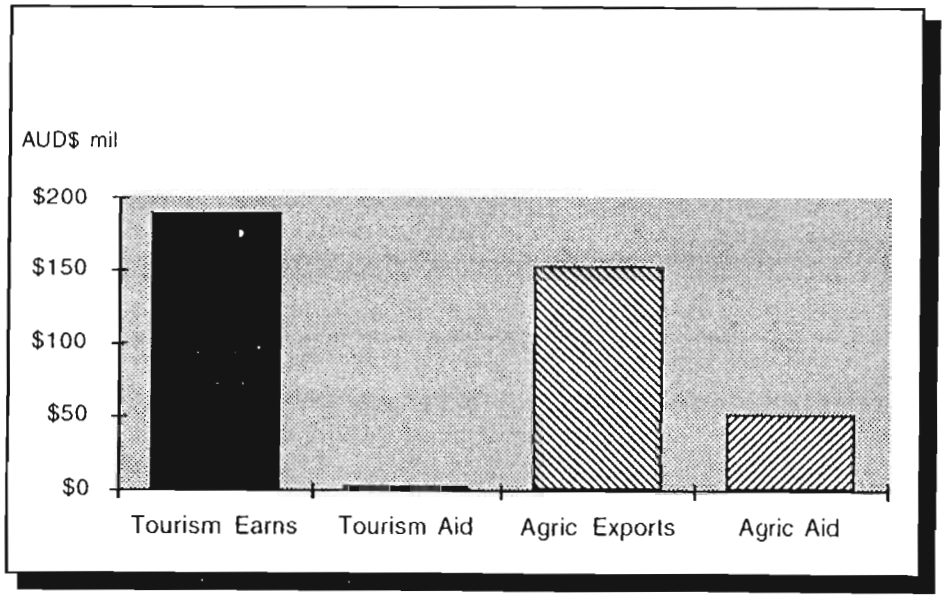

Fig. 6: Compaison of Gross Foreign Exchange Earnings and Aid for the Agriculture and Tourism Sectors in Western Samoa, 1985 to 1990.

Australia contributed an estimated $15 million to the agricultural sector between 1976/77 and 1989/90. By contrast it contributed only $25,000 directly to Western Samoa's most successful export industry, tourism (two short term training scholarships).

In addition $8 million was expended on upgrading Faleolo International Airport and another $1.5 million on the purchase of a Nomad for inter-island communications. Although both sectors have been beneficiaries of these projects they have contributed perhaps more to tourism than to agriculture.

For the calendar years 1985 to 1990, Western Samoa received a total of about AUD$135 million in grant aid from all sources (Central Bank of Samoa, 1991). While a detailed breakdown of sectoral recipients of this aid is not available it is estimated that some AUD$52 million (including Australia's $15 million) was directed towards the agricultural sector and related rural development; and that about AUD$3 million was directed towards the tourism sector ($1 million from New Zealand and $2 million from the European Community through the programs of the TCSP).

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The Profitable Environmental Protection Project: Will conservation pay its own way?

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Abstract

The purpose of the Profitable Environmental Protection Project is to develop and disseminate examples of profitable enterprises that safeguard priority biological resources. The project provides technical assistance to design or modify appropriate enterprises to maximize conservation benefit and to support the pursuit of such enterprises in rural communities. Services to businesses include help with planning, access to credit/capital, marketing, training, and seed money. Social support includes community organizing, environmental education, participatory planning and management, monitoring and evaluation. The profit from the enterprises, and the enterprises themselves, provide motivation for and finance conservation activities.

Introduction

The Profitable Environmental Protection (PEP) Project is an integrated conservation and development project that began field operations in September, 1992. Its purpose is to explore the linkages between private enterprise and conservation of biological systems, developing and disseminating examples of profitable enterprises that successfully safeguard priority biological resources. The funding mechanism involved is the same as the primary reason the enterprises are undertaken: profit. Our intention is to demonstrate that enterprises that are ecologically beneficial, or at least benign and sustainable, can be profitable, and that development can be integrated with nature conservation. If it is profitable, and competitive with returns from other activities, the enterprise itself will provide sufficient motivation to sustain the conservation activity, or to preclude profit-destroying, destructive activities.

Discussion of Key Concepts

Priority Biological Resources

PEP is funded by the United States Agency for International Development (USAID) and is part of the US contribution to the Global Environment Facility (GEF). As such, priority biological resources for PEP are ecosystems that are exceptionally diverse, or that include endangered, threatened, or rare species, critical habitat for such species, or a high proportion of endemic species. Biodiversity as such is not recognized as a priority by rural Pacific Islanders--developed-country scientists and donors are imposing this value upon Pacific peoples (e.g., Cox and Elmqvist, 1993).

Biodiversity, or the variety and variability of plants and animals of any given place, is like a bank account from which people draw both their subsistence and cash incomes. Like any capital asset, the biota can be managed to maximize returns, both as income and as quality of life. McNeely et al. (1990) define the elements of biodiversity that can actually be managed as "biological resources". As the material basis for life, biodiversity, in the form of biological resources, is appreciated by rural Pacific peoples. Priority biological resources from this viewpoint are not those with the greatest numbers of taxa, but those which are most important to maintaining and improving the material economy, and to a lesser extent, at least in Vanuatu, those which have cultural significance. Over the long term and on the large scale, the conservation of biodiversity is synonymous with the maximization of human welfare, because biodiversity (encompassing biological resources) is a prime source of human wealth and well-being.

It has been my experience first in Micronesia and now in the South Pacific that the perception of what resources are needed in what condition to maintain or improve the material economy varies tremendously among Pacific Islanders, as among all people. Some articulate and follow all the arguments of developed-country ecologists, fully appreciating that biota not directly exploited may be necessary to the maintenance of populations that are, or that habitat quality is critical to the maintenance of useful organisms. Others can identify and locate many economic species, but fail to display comprehension of the critical dependencies among these species and the qualities of their habitat. Unless the people with inherited rights to biological resources appreciate these relationships, they will not be willing conservationists. The source of funds imposes biodiversity as the first criterion for determining priority for PEP intervention. However, a better motivation for participation by rural people is increased understanding of the way in which they now draw upon biological diversity and environmental quality as the basis for their livelihood, and illustration of the way in which maintenance of biodiversity and environmental well-being maintains and expands economic opportunities. PEP has recently instituted an environmental education component, not part of the original project plan, to develop these ideas.

A second criteria for determining priority for PEP intervention is ecological services-- the range of ecosystem functions that the area encompasses. Ecosystem functions are beneficial processes provided by the presence of a healthy ecosystem. For example, a forest may be valuable because it contains very many species and provides products such as pharmaceuticals and timber. Among its ecological functions are watershed protection, conserving soil and water and preventing stream and lagoon siltation. Ecosystems with many functions typically link other systems, such as mangroves which couple terrestrial and marine systems, and are important to both. These values are sometimes perceived but expressed non-scientifically. The value to humans of ecosystem functions is not always evident to non-ecologists, but can be taught.

The third criterion for designating priority biological resources within PEP is the degree of threat that the species, community, or ecosystem faces-- biologically important areas that are under risk of degradation or conversion are those where PEP seeks to work. PEP will not use scarce project resources protecting what is not threatened.

Linkages between private enterprise and conservation of biological systems

Few societies can afford to sequester significant natural resources in strict preservation programs. Pressing human needs and legitimate economic aspirations drive individuals and governments to seek to finance development by exploiting natural resources. In order to illustrate that maintaining environmental quality and ecosystem integrity provides economic opportunity, PEP attempts to assist individuals, partnerships, companies, and communities to sustainably profit from environmental integrity.

People will use their resources. PEP's role is not to judge whether, when, or how exploitation is acceptable, but simply to assist in the generation of options for exploitation, including the best available selective exploitation controlled in space and time, and designed to maximize overall benefit to the human community. Groups of individuals exercising long term usufruct or ownership, and seeking to maintain cultural identity, tend to wish both to maintain their environment with all its attributes including biodiversity, and to enlarge access to goods and services available in developed economies.

These aspirations are usually depicted as opposing forces, but we think they can be successfully combined both to maintain environmental values and to improve material economy. Market forces alone often lead to over-exploitation because many of the costs are external to those doing the exploiting. PEP attempts to constrain its intervention so that environmental costs as well as the fruits of exploitation remain internal to the resource-holders who are the project participants. Local resource users are usually local-level decision makers. We assume that their decisions will be affected by enlightened self-interest. PEP's central hypothesis is that if people realize benefit (profit and otherwise) from conservation practices that meet their needs, they will determine that conservation is in their best interests and practice it. The PEP project is a test of this hypothesis, examining results of attempts to implement examples of types of linkages between enterprise and conservation.

Our current typology of linkages and their assumed conservation values includes:

- Provide more sustainable exploitation practices and sufficient incentive for their adoption and people will change their behaviour. This is a very broad linkage-- many subtypes fit here, including intensifying production (farming) of a desired product in one area to reduce its exploitation in another; removing a resource from consumptive exploitation and using it instead non-consumptively, e.g., ecotourism in which beautiful forests are featured instead of clearing the land for market gardens; using agroforestry instead of clean cultivation, and so on.
- Give the threatened resource new or increased economic value, which encourages its conservation.
- Provide alternative sources of cash; this will enable people to reduce destructive exploitation of a threatened resource and with appropriate support, they will do so.

A fourth category, so far not approved for the PEP project because it does not target the least disturbed or most diverse areas, is:

- Mitigate negative environmental impacts by creating enterprises that solve environmental problems, such as recycling.

Most PEP interventions now active fit more than one type of linkage. Examining the efficacy of any one type of linkage will be difficult when multiple linkages operate. Replication of interventions with varying combinations of linkage types may enable us to isolate effects of individual linkages. Some level of replication is required in any case for reliable conclusions.

The PEP Work Process

PEP operates in selected "Ecological Management Units" (EMUs), which are areas of varying sizes with their associated human communities. EMUs represent the range of resources used by the designated human community, so usually involve more than one type of ecosystem. For example, a given village may fish near shore and on a reef, have gardens and housesites upslope from the beach, and hunt and gather materials from undisturbed forest upslope from the gardens. The shore, reef, gardens, forest, and the people using them are all part of the EMU.

Project EMUs are selected first on the basis of their priority for conservation. PEP selection then involves an evaluation of the human community's desire and ability to combat threats to the resource base through ecologically sound enterprises. Such factors as demographics, experience with development projects, and community cohesiveness are considered. Site visits are made to detail enterprises, listing cash and subsistence activities in progress and noting factors supporting or suppressing enterprise in the EMU. Business opportunities in the form of unmet demands for goods or services with high potential conservation impact are sought.

Initial discussions with community leaders and selected contacts within the EMU are conducted to screen for PEP enterprises. Project staff facilitate a community assessment of their own biological resources, aimed at cataloging local knowledge of the biota, identifying problems with resource scarcity or environmental quality, and enterprise opportunities. Existing and potential enterprises are assessed with regard to potential for conservation impact. Two or more enterprises per EMU aimed at the same conservation goal are sought, thereby seeking social and economic resiliency, better monitoring network efficiency, and efficiency of social interaction. The community participates in the situation assessment and economic and environmental goal-setting, and guides the selection of enterprises. Other interested parties, including government agencies, NGOs, and community special interest groups are asked to review the program of PEP activity in each EMU.

The PEP/community or PEP/entrepreneur partnership involves mutual commitment to the PEP intervention, which includes not just the enterprise(s), but also community organizing to support the enterprise, environmental education, monitoring, and evaluation. Threats to resources are simultaneously economic, social, and cultural. Response to threats must also operate on all these levels, with guidance from the partner at all stages of activity. PEP provides services to the enterprises as needed: technical advice, business planning/advice, access to credit/capital, marketing, training, and seed money where needed. The enterprise program includes a conservation plan focusing on the environmental aspects of the enterprise, and which provides the base-line for assessing the enterprise's conservation value.

An Initial Environmental Examination is required for every proposed enterprise. The examination reviews the degree to which an enterprise is compatible, physically and economically, with the ecosystem complex in which it will operate, and establishes criteria to monitor and assess the environmental management procedures of the enterprise. A social soundness assessment is also required for most enterprises.

Brief Examples of PEP Interventions

A PEP Ecological Management Unit or EMU, was selected on the north coast of the island of Ambrym, Republic of Vanuatu. The EMU, encompassing five main villages and five smaller ones, totals 750 people and 4,400 hectares. The terrain is finely dissected, narrow ridges and valleys generally steeply sloping down to the west-north-west and defining one large watershed. The area is valued for the remaining intact rainforest protecting the steep slopes above the limits of the present cultivation and because it includes the northern access to the Marum and Benbow volcanoes and surrounding wildlands. Expansion of cultivation threatens the forest.

Wild yam cultivation is one activity underway to reduce the loss of forest cover in the North Ambrym EMU. Certain wild yams, unlike domesticated yams, can only be grown under forest cover. The forest of North Ambrym is now being reduced to accommodate expansion of subsistence gardens and clean-cultivation cash-cropping of copra, cacao, peanuts, and kava. The forest now yields no products traded for cash. Production and sale of wild yams grown under forest cover will provide both food and cash from the forest. An investigation of wild yam cultivation and harvesting found these to be non-detrimental to the forest ecosystem. The PEP project is encouraging production through collecting traditional knowledge relating to wild yam cultivation, distributing planting stock, demonstrating successful wild yam farming, discussing the rationale for wild yam cultivation within its environmental education program, and furthering an existing produce distribution enterprise to buy the wild yams from growers, transport them to urban markets, and sell them to consumers eager for fresh, traditional foods. Monitoring for this intervention includes tracking areas of gardens and forest cover, the extent of wild yam plantings, and income from wild yam sales.

Another EMU is proposed for the southeast corner of the island of Santo, Republic of Vanuatu. This EMU encompasses the land of only one village, Casaveia, approximately 450 hectares. The terrain straddles the Adsone River, sloping from the north to the seashore at the south. The site was selected for its known populations of *Carpoxylon macrospermum*, a palm in what is probably the only endemic plant genus in Vanuatu, botanically important as a very distinctive genus with few close relatives, and clearly endangered (Dowe, 1989, 1991; Dowe and Uhl, 1989). The palm was apparently an important food for coconut crabs, flying foxes, and to a lesser extent, people (edible fruit) before its population declined. *Carpoxylon macrospermum* was thought to be extinct prior to rediscovery in 1987; only about 20 individuals are known to exist.

The village of Caseveia consists of one extended family, which we think will facilitate a community project. PEP is evaluating the conservation value and business feasibility of promoting the horticultural production of *Carpoxylon macrospermum* as a means to preserve the species. If horticultural production is found to be favorable to the conservation of

Carpoxylon macrospermum, and if the villagers decide that this is the type of income generation they seek, the PEP project will establish a nursery business to produce the palm. Palms could be sold first to the domestic market, which includes a number of collectors and landscaping firms, and later, once the population is sufficiently large, perhaps to the lucrative international palm trade, directing sales first to botanical gardens and research institutes.

Other ecologically sound enterprises include such things as an agricultural crop or technique that is protective of soil and water resources, or a business that provides income while protecting resources by removing them from direct exploitation. Tourism that is small-scale and based on the natural beauty of an area is an example of the latter. Many types of businesses, whether cash or subsistence, fit the PEP model of environmental protection. A PEP enterprise must be one that can be integrated easily into existing activities. Entrepreneurs may need tools to achieve their ends of both maintaining environmental values and generating cash. The required assistance to develop or adjust private enterprises to serve both these ends varies with the enterprise in question and the skills, capital, and technology already available in the community.

Status of the Use of Profit to Finance Conservation

Sustainable, for-profit use of natural resources is a very old idea deeply rooted in Pacific traditions. For example, many agricultural practices were designed to conserve and enhance soil fertility while producing crops for trade. Fish trapping and farming, to increase the abundance of food fish and improve ease of catch, is associated with many Pacific cultures. The explicit coupling of such activities to conservation goals is new in the region but not limited to the PEP project.

South Pacific examples of private-sector, cash-economy enterprises that are clearly profitable and environmentally protective are few. Several NGOs in the South Pacific are involved with projects to collect and market rainforest nuts, which falls under our conservation-enterprise linkage (B), adding new or increased economic value to a threatened resource to encourage its conservation. Trade in non-timber forest products has been used extensively in the New World tropics to further this conservation linkage (Counsell and Rice, 1992; Plotkin and Famolare, 1992), and with appropriate marketing support such as that provided by Cultural Survival Enterprises, has had some success. In Asia, trade in so-called minor forest products such as rattan have also contributed to forest retention (Godoy 1990).

FSP and other NGOs seek to use small-scale, portable sawmills to protect forest resources by providing an alternative to the wasteful exploitation typical of large-scale, commercial logging. The portable sawmill gives the landowner a means to convert trees to cash without harvesting large tracts or using heavy equipment. This falls under the PEP linkage category (A), providing more sustainable exploitation practices and incentive for their adoption. With more and better forest management and business training, and with a suitable monitoring and evaluation program, the portable sawmill programs may fulfill their promise of linking environmental protection and profit.

An example of a profitable, environmentally protective enterprise wholly under a government is the Insect Farming and Trading Agency within Papua New Guinea's Division of Wildlife. This project teaches farmers to enhance habitat for valuable insects and butterflies, and to collect and preserve them as high quality specimens (Parsons undated). Materials for collecting and handling the specimens are provided free to farmers. The agency purchases the specimens from the farmers and sells them to collectors worldwide. The putative conservation value of this project is that it increases the populations of the specimen animals, some of which would probably have been overcollected without the ranching component, assigns them a market value, and delivers environmental education in a very applied form. No endangered species are traded.

Protected area management has long been linked with local economic development (IUCN, 1980); a more generalized approach to self-financed resource conservation has grown from this beginning. While projects attempting to use profitable enterprises to encourage conservation are new in the South Pacific, the popularity of this idea suggests that its time has come. The South Pacific Regional Environmental Programme's South Pacific Biodiversity Conservation Programme, Asia Environmental Partnership's Biodiversity Conservation Network, and programmes of other NGOs such as the World Wildlife Fund all have sustainable community development components, some explicitly focused on income generation.

Participation in the PEP Project

PEP is active in Papua New Guinea, Vanuatu, and Tonga. Other countries eligible for PEP projects include Fiji, Western Samoa, and Kiribati. We prefer projects identified by the resource-holders themselves, and because the project has a short life span, we are now seeking existing businesses rather than starting new ones. Anyone who has an existing project that would benefit from PEP technical support is invited to send to the PEP Project Manager a description including: the biological value of the area, the type of threat that it faces, and the types of enterprises that are proposed or exist to combat the threat. Because of the short time available, well-defined projects will receive priority attention.

Support for ecologically favorable businesses is available from many agencies (Delphos, 1990). The Environmental Enterprise Assistance Fund, Cultural Survival Enterprises, numerous divisions of USAID, Overseas Private Investment Corporation, and Department of Energy/Committee on Renewable Energy Commerce and Trade are a few of the many US-based sources.

Will it Work? The Future of the PEP Idea

Many paths to the conservation of vital ecosystems are open. One way is to develop conservation goals and emphasize their actualization on the ground (e.g., goal is to protect forest, action is to create a reserve). Another way is to develop and test approaches that can be applied and replicated to achieve conservation goals; in the PEP case, the approaches are the various linkages between enterprise and conservation. The emphasis in the second case is on tools for conservation; in the first case it is on the conservation action itself. While the PEP project hopes to achieve conservation of specified resources, our primary purpose is to contribute to the array of tools used to advance conservation.

The PEP project is to demonstrate working examples and approaches to profitable enterprises that enable the long-term conservation of biologically and economically vital ecosystems. If the interventions pursued are carefully selected to represent categories of linkage between enterprise and conservation and sufficiently replicated, testable general inferences can be drawn about the effectiveness of these linkages. Information about which types of linkage are most effective under what circumstances can be used to duplicate successful initiatives.

The most difficult stage in the PEP process has been identifying enterprises that gain significant conservation ground, have solid business potential, and can be implemented with local resources. Of those that have been identified, only long-term monitoring will disclose whether in fact they persist beyond the three-year life of the PEP project and pay the expected conservation and economic dividends.

Acknowledgement

This publication was made possible by support provided by USAID under the terms of Cooperative Agreement No. 879-0023-A-1241-00 supporting the Profitable Environmental Protection Project. The opinions expressed here are those of the author alone and do not necessarily reflect the views of USAID.

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The Komarindi Catchment Conservation Area Model:

Providing for Sustainable Management of Conservation Areas Through a Resource Rent and other Income Generation.

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Abstract

A proposal for an integrated hydroelectric development scheme and land-owner managed Conservation Area for the Komarindi River catchment area and access corridor, Guadalcanal Province, Solomon Islands led to the investigation of opportunities for the sustainable management of the Conservation Area through charging of a resource rent and other income generation.

The Solomon Islands Government requested SPREP to organise a Planning Team to develop a concept plan (1991) and comprehensive phase II report (1993) for these matters. The Planning Teams found that the Komarindi Catchment Conservation Area is a high quality natural area worthy of conservation; and that the 'run of the river' hydroelectric scheme development requires a reliable high water yield catchment, and therefore could not proceed unless the permanent protection of the catchment's water yield and quality is guaranteed.

Agreement was reached with the proponent of the hydroelectric scheme, the Solomon Islands Electricity Authority, that the principle of investing in maintenance of the catchment was a legitimate operating cost for the scheme, on equal terms with other maintenance requirements such as plant and infrastructure investment.

The catchment maintenance contribution (in the form of a resource rent) was calculated on the basis of the catchment protection needs, and what the hydroelectric scheme could afford on a sustainable basis. The resulting resource rent will provide landowners with an annual budget and financial capacity to manage the conservation of the catchment. This was derived after detailed costings and feasibility discussions with the Solomon Islands Electricity Authority were completed.

The Planning Team also investigated other opportunities for income generation, and mechanisms such as offsetting capitalisation costs through the utilisation of facilities developed as part of the hydroelectric scheme developments.

Introduction

Like many of the island states of the South Pacific, the Solomon Islands are facing acute problems arising from population growth and migration from outer islands; and these factors have combined to place serious pressures on the urban infrastructure of Honiara, the capital. Located on the island of Guadalcanal, Honiara suffers from a lack of housing and faces a rapidly growing demand for water resources and electricity. In an effort to meet this demand and at the same time to reduce the country's reliance on imported fuels, the Government of the Solomon Islands undertook a feasibility study for a small hydroelectric scheme in the Komarindi Catchment, part of the Lungga River Catchment, near Honiara, in 1989/90 (map 1). The study recommended that an 8 megawatt 'run-of-the-river' hydroelectric scheme be developed. This would involve the construction of a low weir to divert the flow of the Mbetikama (Komarindi) River into a two kilometre tunnel, where it would rejoin the river downstream after passing through power station generators, thus maintaining the normal flow of the river below the powerhouse. Run of the river hydroelectric schemes do not involve an impoundment, and rely totally on the natural flow regime of the river.

Hydroelectric schemes such as this are considered to be particularly suitable for those island countries of the Pacific where the necessary water resources exist. Careful design can minimise long term environmental impacts, and short term construction impacts can be considerably mitigated with close supervision. However, the long term operational viability of these schemes depends on the protection of the catchment which is the source of the water resources, from any form of disturbance which might adversely affect water or soil values. Thus one of the conditions for the success of the Komarindi hydroelectric scheme is that the catchment receive permanent protection as well as active management to maintain its catchment values. The catchment and adjacent areas essential to the operation of the scheme are also high quality natural areas, worthy of conservation (called the Komarindi Catchment Conservation Area (the Conservation Area) [map 1]); and the proposed hydroelectric scheme is therefore recognised as having the potential to achieve both sustainable development and conservation objectives.

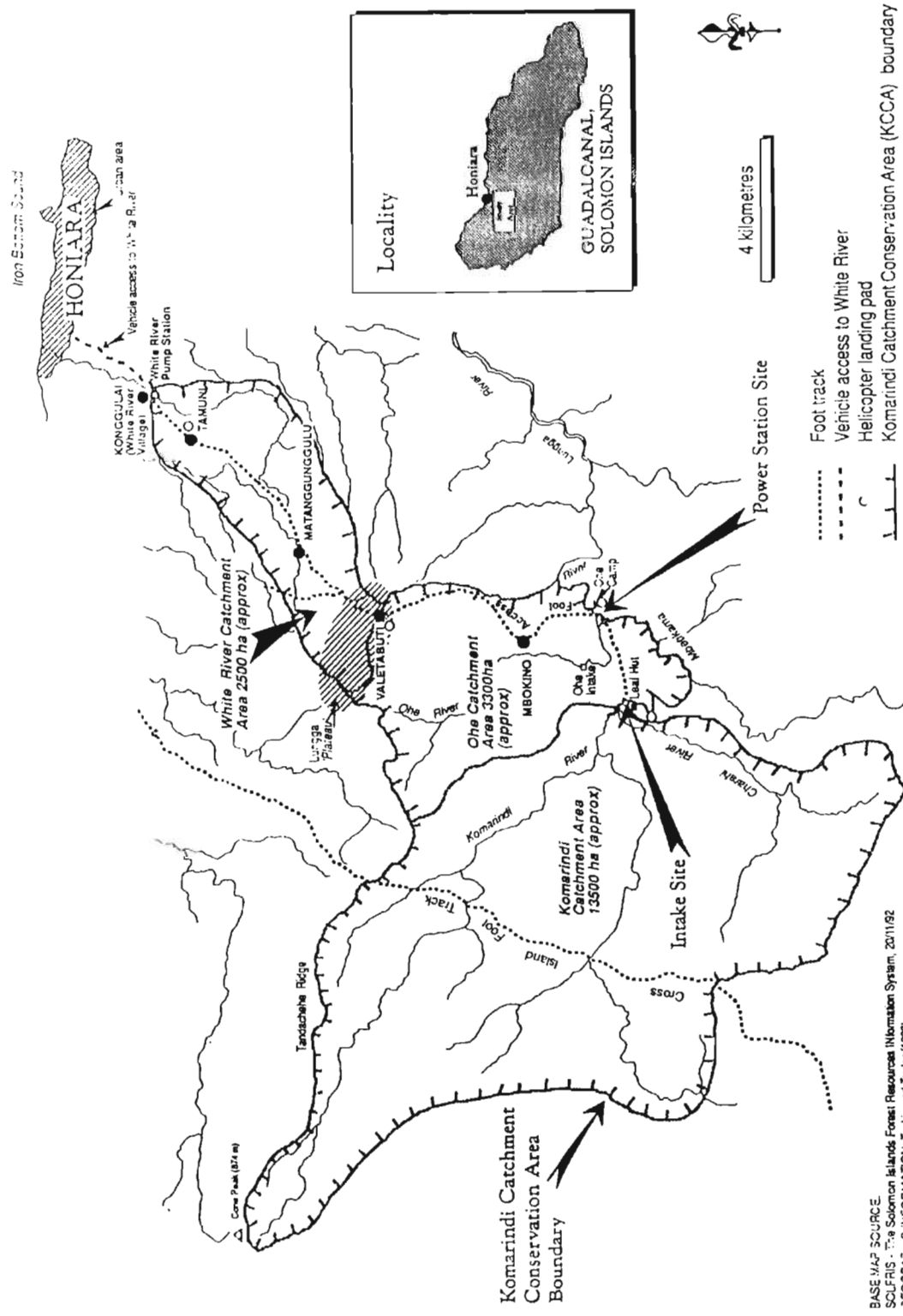
An international based inter-agency Planning Team co-ordinated by the South Pacific Regional Environment Programme (SPREP) was requested by the Solomon Islands Government to prepare a concept plan for the management and development of the Conservation Area as an integrated project to maximise biodiversity conservation values and income generating potential. The Planning Team recommended, *inter alia*, that the Conservation Area project involve the customary landowners in all facets of management; maximise the potential for landowner income generation; have a formal legal basis; and, most importantly, be self funding (SPREP 1991 and 1993). Emphasis was given to the latter principle out of concern to avoid the mistakes of the past whereby protected areas have been established usually with donor aid funding or linked with economic development, without sufficient attention being given to funding needs for long term management, infrastructure maintenance, and investments in the conservation needs of the area (Wells et al 1992).

Proposed Administration of the Conservation Area and the Resource Rent

In order to provide a mechanism to administer funds accruing to the Conservation Area from sources such as the resource rent, and to help channel the funds towards the ongoing long term maintenance and management costs of the Conservation Area, the Planning Team proposed that a Landowners Trust (the Trust) be formed to represent the landowners on the overall hydroelectric and Conservation Area project. The Trust would become the beneficiary of any income accruing to the landowners from both the hydroelectric power and Conservation Area projects, and have the power to investment finances on the landowners' behalf.

It was also proposed that two different management entities should exist side by side for the project: the Solomon Island Electricity Authority (the Electricity Authority) as manager of the hydroelectric components of the scheme, and a separate Komarindi Catchment Conservation Area Authority (the Conservation Area Authority) as manager of the Conservation Area. The Planning Team recommended that the Conservation Area Authority would report directly to the Trust, and the Electricity Authority would continue to report directly to the Solomon Islands Government. All the financial dividends from the Conservation Area Authority would accrue to the Landowners Trust. As an interim measure until the formation of the Conservation Area Authority the Planning Team recommended that a Conservation Area Co-ordinating Committee be established.

Map 1: Komarindi Project Area



Finally, it was proposed that the resource rent be paid to the Trust, and passed on to the Conservation Area Authority, to be used to fund the basic but essential conservation management operation. This was seen as a reinvestment by the landowners in the maintenance of their land and water assets, which will return significant financial dividends in the longer term (18 years+) when the hydroelectric scheme construction loan has been repaid and revenues are available for distribution to landowners and other shareholders.

The Resource Rent

The concept of a resource rent is relatively straight forward. As described above, the power supply for the run of the river hydroelectric scheme is totally dependent on a guaranteed supply of water, and the protection of the catchment must therefore be guaranteed in order to guarantee the supply of electricity. Catchment maintenance funds are therefore required as part of the cost of supplying electricity, to manage the catchment so that water yield and quality are conserved in perpetuity.

The maintenance investment is to be paid conditionally to the Landowners Trust. The conditions are that the catchment is always managed as a protected area, and that the landowners actively use the payments for the protection and conservation of the Conservation Area. The payment is therefore a rent, paid to the landowners for the retention, management and maintenance of the catchment resource. This resource rent should not be confused with the dividend ultimately returned to the landowners by the hydroelectric scheme at the completion of the loan repayments for the scheme.

The development of the resource rent concept, from discussions of its feasibility to a detailed account of the calculation of the resource rent formula is described below. Resource rent and its relationship to capitalisation and landowner benefits are also discussed further.

Resource Rent Feasibility

The SPREP Planning Team initially discussed the idea of a resource rent with the Electricity Authority, which is responsible for the hydroelectric scheme, and found general agreement with the concept that a re-investment of funds into the Conservation Area project for catchment protection was an essential condition of the operation of the hydroelectric scheme in perpetuity, and that a resource rent was an appropriate mechanism for achieving this.

Calculation of the resource rent

The resource rent was calculated after considering a number of critical inputs which included:

- the conservation investments needed for the Conservation Area, based on its intrinsic characteristics;
- the management and administration setting and the needs of the landowners;
- an evaluation of the minimum management investment required and the cost of that investment;
- an evaluation of the management requirements of the Electricity Authority;
- an evaluation of the electricity pricing structure in Honiara levied by the Electricity Authority, and its ability to pay a resource rent within the prevailing political environment; and,
- the ability to achieve independent capitalisation funds in the short term, and to self-generate capital funds in the long term.

Each of these critical inputs helped to define the investments needed to conserve the Conservation Area. Each parameter is discussed in more detail below. The final calculation of the resource rent was, however, also dependent on a fine judgement between the management needs of the Conservation Area and the ability to fund the resource rent in perpetuity from the hydroelectric scheme.

Intrinsic characteristics of the Conservation Area

The intrinsic characteristics of the 19 300 ha Conservation Area partly define the intensity and the nature of the management presence required. The Conservation Area is relatively undisturbed, though its rugged and steep terrain, high rainfall and complex, unstable geological substrate (including limestone Karst terrain) mean that the catchment area is prone to natural slippage and destabilisation (eg. through earthquakes). The effects of tropical storms also mean a basic capability to assist with the rapid repair of disturbed areas within the catchment is required. Action will also need to be taken to ensure that the Conservation Area is protected from introduced pathogens or pests, which could cause dieback or other problems, and that disturbed areas created as part of the construction process are rehabilitated.

Management and administrative setting

Management resources will be required to administer the Conservation Area Authority, report to the proposed Trust, and to satisfy the particular requirements of the landowners such as the desire to strictly control access into the Conservation Area. Other considerations were the fact that part of the Conservation Area (the White River catchment) is part of the water supply catchment for Honiara, and the particular demands that this will bring; the Electricity Authority's management requirements; the broad management predictions for the future visitor use of the Conservation Area; and the future demands of the Solomon Islands Government.

The Conservation Area Authority. How many staff; how much infrastructure?

An 'ideal' but conservative estimate of the resources needed to manage the Conservation Area was calculated based on international protected area management experience (best practice) and the management setting described above. The cost estimates were based on the medium to long term requirements of the Conservation Area and were fully costed in Solomon Islands dollars. An inventory of all aspects of protected area management was compiled as part of this process including staffing, office support infrastructure, vehicles, plant, communication equipment, uniforms, training, travel, rent, power, water, sewerage and other costs. The ideal situation was then compared against the estimated available funds.

The Electricity Authority tariffs. What funds were available for investment in the maintenance of the catchment?

After the Electricity Authority executive had agreed in principle to the concept of the resource rent, members of the Planning Team worked with Engineers from the Authority to establish an estimate of the funds available. Considerations included the cost savings associated with the decline in use of the existing power source (the diesel generators); estimates of the cost of running of the hydroelectric scheme; and the standard engineering formula for the funds required for maintenance of the plant and infrastructure, and for safeguarding the scheme.

The additional maintenance costs available for the catchment were derived from this input and in the context that it would be inappropriate to increase the electricity tariff structure. An annual estimate of what was affordable for catchment maintenance was derived.

Conservation Area and Electricity Authority management requirements

The ideal funding estimates for the Conservation Area were then matched with what was considered to be affordable as part of the routine operation of the hydroelectric scheme. A satisfactory compromise was achieved and the formula for the resource rent was agreed to in principle. It will not be possible to implement this arrangement immediately the hydroelectric scheme commences operation, due to the high costs of servicing the short term loans associated with the scheme. An agreed position was established where the Electricity Authority would provide assistance for the Conservation Area Authority's catchment management capacity in the first 8 years, with the gradual phase in of the full resource rent and the full capacity for the Conservation Area to manage at the end of the 8 years. The agreed basic operational requirements of the Conservation Area Authority are shown in appendix 1.

Resource rent and capitalisation funds

The resource rent as agreed in principle provides no capacity to finance major infrastructure or works, it simply provides a continued capacity to manage and to undertake basic maintenance tasks in the Conservation Area. The Planning Team therefore considered it important to link the infrastructure developed for the hydroelectric scheme, with its potential future use as part of the Conservation Area. In addition, the team considered that capital funds could possibly flow in the short term from grant funds as from well as wise investments with the commercial sector (eg. for tourism developments).

The hydroelectric scheme loans would be repaid after an estimated 18 years. Therefore a nett financial return was anticipated to be returned to the landowners after that time, in addition to the annual resource rent. The Planning Team strongly recommended that a percentage of that return be made available in perpetuity as the principal fund from which the Conservation Area Authority could invest and improve the management of the Conservation Area. This would guarantee the true financial independence of the Conservation Area Authority for the sustainable management of the Conservation Area.

Resource rent and the landowners

While planning the resource rent, the Planning Team was mindful of principles set by the owners of the lands and the Solomon Islands Government, and the nature of the hydroelectric scheme development.

The first principle was that income paid to the landowners was, apart those structures and facilities to be established immediately, to be a long term arrangement. Landowners had expressed to the Planning Team that there had been major problems with up front lump sum payments in the past and that longer term returns would be the preferred approach. The resource rent thus provides the funding mechanism for the landowners to invest in the catchment so that these long term dividends can be realised.

The second principle was the Asian Development Bank loan requirement that the hydroelectric scheme would not proceed unless there was guaranteed protection of the catchment. This requirement has been met by the guaranteed reinvestment in the maintenance of the catchment by the landowners through the Conservation Area Authority, using the resource rent. The incentive for the landowners is that the guaranteed long term dividend returning from the hydroelectric scheme is dependent on the integrity of the catchment being maintained.

Therefore if the hydroelectric scheme proceeds and the landowners became shareholders in the scheme as proposed, the protection of the water supply would result in steady financial dividends and a larger income for the landowners in about 18 - 20 years, once the loan for the scheme's construction has been paid off. These dividends should last for the life of the scheme, which with proper management could possibly be 100 years. It is also recognised that the people of Honiara would benefit greatly from the use of the Komarindi water resource through a reliable electricity supply and the environmental stability of the catchment.

Other Funding and Investment Potential

Rationalising the Hydroelectric Development and Conservation Area infrastructure

The Conservation Area Authority will have its greatest need for investment during the establishment phase. During the first 8 years of the Conservation Area, the Conservation Area Authority will have the least financial and management capacity; yet it is also anticipated that these will be the years when some of the most important Conservation Area establishment works are required.

Some of this investment could be offset by the careful integration of the hydroelectric construction project infrastructure needs with those of the Conservation Area. For example, the buildings, some equipment, communications systems, road etc. required for the management of the Conservation Area will be the same infrastructure used to construct the hydroelectric scheme. However, the tender and design specifications for the hydroelectric scheme will need to stipulate this. For example the Conservation Area Visitors Centre was envisaged as being the original construction site office. A portfolio of site and structure design requirements and specifications for the Conservation Area will therefore be needed to assist the tendering process, and this was seen preferably as a cost against the hydroelectric project.

Donor Support

The Conservation Area project is considered well worthy of significant investment for both its conservation and sustainable income generation components. Because it will have a basic infrastructure, the Conservation Area Authority will have the capacity to effectively manage donor and other funds. Investments could be attracted, for example, to fund the establishment of the Conservation Area, sustainable income generation projects, biodiversity conservation, education and training.

Additional Revenue Earning Opportunities

Sustainable income generation Activities

In addition to the employment, training and catchment protection benefits of the Conservation Area, there will be a number of sustainable income generation opportunities created by the establishment of the Conservation Area and the construction of the hydroelectric scheme. These entrepreneurial opportunities could be exploited by the Landowners Trust, the Conservation Area Authority itself, or individual landowners. The activities could be carried out by any of the parties either alone, jointly, or in partnership with experienced private enterprise organisations.

Income generation suggestions for the Construction Phase

The construction of the hydroelectric scheme will entail the construction of a wide range of works in the Conservation Area. It was envisaged that many of these works could be undertaken by, or in partnership with, the Conservation Area Authority. The Planning Team suggested the tendering documentation and specifications for the construction of the hydroelectric scheme should favour joint ventures with the Conservation Area Authority and ultimately the Landowners Trust. The Team was, however, also mindful that the tendering process needed to be both practical and commercial in the its final form, and targeted towards achieving the project.

Examples of the type of work that could be undertaken include:-

- a guiding service for the construction design and survey teams;
- training course for the construction staff, consistent with the tender specifications, about the environmental aspects of the Conservation Area;
- a heavy plant cleaning service, consistent with the tender specifications, so that heavy earth moving machinery destined for the construction site does not accidentally introduce pest plant species and pathogens;
- establishment of a plant nursery to provide local species for the rehabilitation of disturbed construction areas;
- an official guided tour service of the construction activities in cooperation with the construction company and the Electricity Authority; and,
- franchise agreements for cleaning and catering services to be provided for construction workers.

Income generation suggestions for the post construction phase

With the experience gained during the construction phase, and with the infrastructure established, a number of other conservation-related entrepreneurial opportunities may present themselves. Examples include:

- providing nursery plants to the commercial market in Honiara and possibly the export market;
- providing a soil conservation, soil stabilisation service for contractors on other projects near Honiara; and,
- providing rehabilitation expertise to other projects.

After construction of the hydroelectric scheme has been completed, there is potential for tourism ventures, possibly in cooperation with Honiara-based companies. This is expected to develop incrementally unless external cash injections speed up the introduction of visitor services. Examples include:

- guided bus tours from Honiara hotels or the Conservation Area entrance gate to the power station and return, in co-operation with the major hotels in Honiara;

- guided rainforest walks from the power station site to the intake weir site and return, in co-operation with Honiara-based companies and hotels;
- overnight adventure tours utilising basic traditional camps/accommodation in co-operation with local companies and hotels;
- a small catering franchise at an environmentally appropriate site in the Conservation Area.

In time, and following the completion of more sophisticated Business and Marketing Plans, a number of more complex and commercially sophisticated ventures could be entered into. Examples include:

- the establishment of tourism accommodation and tourism destination features (for example board walks, rainforest canopy observation decks etc.) on the Lungga Plateau, using external or free enterprise funds;
- the establishment of a butterfly observatory, sale and breeding site on the Lungga plateau, given the outstanding aesthetic appeal that these animal have:
- production and sale of handicrafts and provision of entertainment (eg. telling stories);
- collection, processing and sale of forest-derived products such as ngali nuts.

The Future

The Komarindi hydroelectric scheme and Conservation Area projects are closely linked. Progress so far with their implementation has been intermittent. Considerable time has been invested in dealing with landowner-related issues, and it now appears that agreements have been reached which will allow the hydroelectric scheme to proceed, although the availability of all the land identified for inclusion in the Conservation Area is still uncertain, and the Conservation Area is not yet legally established. The payment of a resource rent has not yet been formally addressed by the parties involved (Electricity Authority, the landowners, The Ministry of Natural Resources, Solomon Islands Government). However, it now appears that should the hydroelectric scheme go ahead, substantial grant funding will be made available by the Asian Development Bank to assist with the initial establishment costs of the Conservation Area. This initial investment will strengthen the case for the resource rent by ensuring there is an entity in place to lobby for its payment and to effectively use the funds.

Conclusion

If the Conservation Area is established along the lines suggested by the Planning Team, and managed effectively, numerous direct and indirect benefits will accrue to the landowners and the people of Guadalcanal and the Solomon Islands. It is anticipated that in addition to an eventual flow of direct benefits associated with the hydroelectric scheme and the management of the Conservation Area, a range of associated sustainable income generating activities will be gradually and carefully developed, which will be of direct benefit to the landowners. However, the success of the Conservation Area project is dependent on the ability of the project to secure sufficient funding to ensure stable management and effective operation over the long term. The Komarindi proposal to develop a hydroelectric scheme, together with the need to protect the water supply on which it depends, offers a rare opportunity to demonstrate how conservation and development can be integrated to the benefit of the resource owners and society as a whole.

Acknowledgements

The authors would like to recognise the contributions made by all of the members of the two planning teams assembled to work on the Komarindi Catchment Conservation Area on behalf of the Solomon Islands Government. The original Planning Team [April 1991] consisted of Messrs P. Thomas (SPREP); G. Worboys (New South Wales National Parks and Wildlife Service); N. Clifton, (Department of Conservation, New Zealand); H. Isa (Ministry of Natural Resources, Solomon Islands Government); and N. Rogers (Tonkin and Taylor International, New Zealand). The second Planning Team [November 1992] comprised Ms A. Farago (SPREP); Ms T. Leary (The Nature Conservancy, Solomon Islands) and Messrs P. Thomas (The Nature Conservancy, New Zealand). G. Worboys, N. Rogers (Tonkin and Taylor, Kuala Lumpur, Malaysia), and M. Biliki (Ministry of Natural Resources, Solomon Islands Government).

The resource rent concept could not have been developed without the positive and enthusiastic support of Mr. Bobby O. Kwanairara (OBE), General Manager of the Solomon Islands Electricity Authority and member of the Komarindi steering committee.

Details of the resource rent calculations were achieved by working closely with Mr. Dennis Johnstone, Chief Engineer; Mr. Alaric Rore, Civil Engineer, and Mr. Nelson Ne'e, Chief Administration Officer of the Solomon Islands Electricity Authority. Their positive and constructive assistance to the planning team was greatly appreciated.

Mr. Nick Rogers played a major role in the development and successful completion of the resource rent project.

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Appendix 1: Basic Operational Requirements of the Komarindi Catchment Conservation Area

The basic operational requirements of the Conservation Area are defined as follows;-

- a total staff of approximately 9;
- a professional manager (graduate) as one of the 9;
- a high proportion of field staff recruited from landowners to undertake conservation works in the Conservation Area;
- a senior and experienced administrator; and,
- sufficient vehicles, plant, office space, equipment, administration support funds and other basic funds necessary for the management of the Conservation Area.

It is anticipated that this capacity would be achieved for the Conservation Area Authority after a period of about 8 years.

Helping Conservation Pay:
Village microenterprise development in the Solomon Islands

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Abstract

Even with knowledge about the impacts of destructive development and with strengthened traditional management systems, resource owners in the Pacific will be constantly tempted to develop and exploit their valuable natural assets if that is their only opportunity to generate cash. Conservation agencies wanting to protect resources are having to explore options of establishing alternative income generation projects, providing social benefits or providing other forms of compensation to resource owners. Of these three options, microenterprise development offers a positive and potentially rewarding way of building local commitment to conservation. Conservation managers need to learn basic principles of business development as they relate to conservation if this option is to be successful. Based on field experience in the Solomon Islands (and Fiji), the paper discusses ten issues important to conservation microenterprises: selecting a suitable income-generating project for a conservation area; providing technical assistance; marketing; replicability; environmental impacts of projects; business development by grants; accessing finance; linking conservation and development; working in the local culture; and understanding the impacts of assistance.

Introduction

Most agencies and organisations in the South Pacific working with communities to establish conservation areas recognise that simply educating resource owners about the values of conservation and sustainable management of resources is unlikely on its own to protect forests and reefs in the long term. Even with knowledge about the impacts of destructive development and with strengthened traditional management systems, resource owners in the Pacific will be constantly tempted to develop and exploit their valuable natural assets if that is their only opportunity to generate cash.

Especially where the resource that is being protected is a valuable commercial asset (such as prime stands of lowland tropical forest), conservation agencies are having to explore options of establishing alternative income generation projects, providing social benefits, or providing other forms of compensation to resource owners. Balanced against this is the fact that resource owners themselves receive ongoing benefits from protecting their natural resources - benefits such as catchment protection, access to valuable traditional and subsistence resources, soil and reef protection, and, in some cases, income generating potential such as ecotourism or forest products.

From this concept of balanced benefits comes the concept of shared costs. The costs involved in foregoing development opportunities are shared between the resource owners and the conservation agency. While the conservation programme is unlikely to be able to compensate landowners for the full and ongoing costs to them of protecting their resources, it should contribute to those costs and be aware of the need for ongoing income by resource owners.

The concept of cost sharing for conservation was aired at the 1989 SPREP conference on Nature Conservation and Protected Areas. An activity promoted for national level implementation in the 1989 Action Strategy was to "Develop mechanisms to encourage landowners to establish conservation areas, including recognition of development opportunities foregone".

Since the last SPREP conference, different methods of compensating resource owners for foregoing development opportunities have been explored by various agencies in the Pacific. A well documented case of compensation through the provision of social services is that of Falealupo in Western Samoa where a covenant was established between the resource owners who pledged to preserve and manage an area of merchantable forest, and private donors who provide funds for the construction of an elementary school (Cox and Elmqvist, 1991).

In Fiji, the Ministry of Forestry and Native Lands Trust Board have developed a monetary compensation scheme for landowners who have their forests protected for national conservation reasons. Compensation payments to landowners will provide for a one-off payment based on the value of the timber, and ongoing payments based on the value of the land and on development opportunities foregone (such as agriculture or reafforestation).

These progressive attempts to prevent resource owners being unfairly burdened with national conservation priorities are to be applauded. However compensation schemes on their own are unlikely to be applicable to every conservation area in the region.

A significant problem with compensation schemes relates to problematic attitudes to conservation which they can foster. Successful and long-term local commitment to conservation depends as much on resource owners believing that conservation is in their personal best interest as it does on carefully targeted outside support. Because conservation agreements will never be sealed by the purchase of land in the Pacific, ongoing support for conservation will depend almost entirely on the commitment to it by local people. Compensation payments are not an ideal foundation on which to build that commitment. Instead they may build unrealistic and rising expectations about the levels of compensation payable and a deepening dependency on what can amount to aid payments. A more suitable programme of cost sharing for many places in the Pacific will be a package of social and income benefits - benefits that ensure that resource owners are not unfairly burdened by conservation but that also foster initiative and enterprise to build local involvement in conservation and development.

A second problem with compensation payments is the ongoing nature of their costs. There is a reluctance among Pacific governments and aid agencies to become committed to long term compensation payments. While it needs to be recognised that establishment of protected areas will involve ongoing management costs, adding compensation payments to this increases the financial burden of conservation area establishment.

The need for self-sustaining income generation that actively involves resource owners in development leads to support for small business (microenterprise) development associated with conservation areas.

There are already examples in the Pacific region of microenterprises associated with conservation areas. The traditional megapode egg industry at Pokili in Papua New Guinea was the impetus for the resource owners to secure protection of that forest in a Wildlife Management Reserve. The more recent development of ecotourism stimulated the creation of Bouma Forest Park in Fiji when landowners wished to protect the forest and waterfall that is the basis of their income generating tourism operation. Work is proceeding on establishing further examples (for example USAID's Profitable Environmental Protection Project, SIDT/Conservation International/Maruia Society's Conservation in Development Programme, and the NZODA-funded World Heritage projects in Marovo Lagoon and Rennell Island).

As at Pokili and Bouma, where the microenterprise is dependent on a protected resource it can help secure local commitment to that protection. It also brings the bonus of rural development to regions that are often too remote for conventional development enterprises.

There are however, significant problems associated with microenterprise development. Rural business development is a huge subject in its own right. It is "a field with an immense analytical literature and decades of field experience much of it disappointing" (Wells and Brandon, 1992). Conservation practitioners have not typically had a history of experience in business development. Yet through the essential development requirements of the rural communities we will be working with in the South Pacific, we will need to understand some basic principles of enterprise development. In addition, because resources are still slim for conservation area establishment, it is likely that conservation managers (especially those in the field) will be required to implement entirely or in part, village-based business development.

This paper offers advice to South Pacific conservation managers on the first principles of microenterprise development associated with conservation areas. It is based on field experience in the Solomon Islands (and to a lesser extent, Fiji). It does not attempt an extensive review of literature or experience in this vast field but instead draws on examples that conservation managers are likely to encounter in the South Pacific. Common wisdoms on rural development are described as well as contingency plans when pragmatism has to prevail.

The Ten House Posts of Business Development in Conservation Areas

1. Selecting a suitable income-generating project for a conservation area

In a document on establishing a conservation area in the Solomon Islands, no less than 38 projects were listed as having potential for village-based income generation. The list included everything from establishing a charcoal industry to selling pharmaceutical research materials. A Vanuatu-centred project listed 36 microenterprises (as diverse as ecotourism and specimen rock trade), potentially linked to conservation. With such extensive potential, it is surprising that resource owners in the Pacific aren't already wealthy and forests already protected. Making the list of potential income generating projects is obviously the easy part. Selecting projects to develop and implement is a little harder.

The prevailing wisdom about rural development is that it should build on technologies, markets, and skills that are already present in the village. For example, a project that expands an already existing market gardening system has more chance of success than trying to establish a marine aquarium for tourists.

For the Solomon Islands World Heritage programme which both authors are involved with, there has been an additional constraint: selecting projects that are not only environmentally sustainable but that also can be demonstrably linked to the conservation of reef and/or forest. In one proposed World Heritage site, the Marovo Lagoon, logging companies have been actively seeking forest concessions. In the first six months of the World Heritage programme we were required to come up with alternative developments for resource owners that could be easily associated with a conservation programme. High profile, easy-to-access, and environmentally sustainable projects were required to launch the World Heritage programme and to firmly associate it in local minds with both development and conservation.

Constrained by conservation objectives as well as business objectives, we have been unable to keep to the maxim of supporting only existing enterprises. Many of the financially viable existing income generating projects in the two proposed World Heritage sites did not meet the criterion of environmental sustainability. These include selling marine shells and timber extraction, two enterprises that are a significant source of income, particularly in Marovo Lagoon. This is not to say that with better management they could not become sustainable enterprises and indeed further into the programme this issue will be addressed. However, for the purposes of launching a conservation programme designed to immediately address the issue of imminent forest sales for large-scale logging, we wanted to offer projects that would be free of major environmental constraints.

From the wide range of possible microenterprises, we selected five for further investigation: beekeeping, butterfly ranching, eco-tourism, ngali nut oils, and handcrafts. In their selection we attempted a mix between proven and riskier enterprises, and known and to-be-tested markets. So there is a a mix of locally new technology (butterfly ranching) and existing technology (handcrafts). For ngali nut oil we had assured markets, for ecotourism and handcrafts we wished to expand existing markets, and for honey and butterflies we would be creating markets.

Some of the selected industries had a history of success in the Solomon Islands (beekeeping for example), or elsewhere in the region (butterfly ranching), others were largely untried (ngali nut oil extraction). All five projects met our standards for being environmentally sound and able to be linked (however tenuously) with resource conservation.

The lesson: select enterprises that build on already existing technologies, markets and skills. Where this is not possible, disperse risk across a number of projects. Take advantage of the opportunity to link conservation to development.

2. Providing technical assistance

Ensuring comprehensive technical assistance

The role of outside assistance in microenterprise development is to provide technical assistance (including marketing and management) and/or access to finance. A rural business development system established in the Solomon Islands under the Ministry of Commerce provides a mixture of these two. It is a programme to help establish village-based mechanical workshops to service outboard motors and chainsaws. To be eligible for a loan under the programme, the applicant must have attended a course in mechanics, and must have 35% collateral for the loan. Loan funds (to buy tools and buildings) are administered by the Development Bank of the Solomon Islands, and the Business and Cooperative Division of the Ministry of Commerce provides training in how to service the loan.

The programme has been running for only a year but already has had an encouraging start. The strength of this programme compared with other business start-up programmes in the Solomons has been the comprehensive nature of the technical assistance offered. Applicants are first fully trained in the technology required, they are supported through the loan process and are offered on-going assistance in business finances.

The Monument Syndrome

Unfortunately, technical assistance can fall prey to Monument Syndrome, where donors and local people alike want something tangible, preferably concrete, to centre their energies and funding around. Bouma on Fiji's island of Taveuni suffered the monument syndrome. Bouma is a rare example in the Pacific of a community owned and operated ecotourism venture. An already reasonably successful community-based ecotourism venture was bringing in several thousand dollars a year for the landowners. With the support of the Fijian Government and bilateral aid it was decided to help boost the revenue of the enterprise. What should have happened at that point was the commissioning of a marketing study and business strategy. Questions could have been answered such as what will attract more tourists to Bouma, what will induce tourists to spend more money there, how many more tourists can Taveuni accommodate, how much should be spent on marketing, and who should the marketing be pitched to?

Instead some NZ$140 000 has been spent over three years on extending a pathway into forest above the main waterfall attraction, and on associated small buildings. Around NZ$20 000 more has been spent on a management plan for the forest. A small amount of money has been set aside to develop a business plan for the landowners which has yet to be written. The numbers of visitors to Bouma does seem to have risen slightly since the technical assistance intervention but the increase would probably have been more dramatic if the operation had been treated like the business development that the landowners intended it to be (Lees, 1992).

Linking conservation to technical assistance

Under the Solomon Islands World Heritage programme, we had the added difficulty of ensuring that technical assistance for business development doubled as an opportunity to build local links to conservation. (Because of budgetary constraints, our on-the-ground presence has been initially limited to a business development expert.) We also needed to provide immediate evidence that there are practical alternatives to forest logging for cash generation. We selected beekeeping as the microenterprise that could meet these needs under the first technical assistance that the programme provided.

In the Marovo Lagoon five village-based week-long workshops were held in the first four months of the programme to train farmers in bee keeping. Training was practically based, centred around a living hive. At the end of this time, participants have enough knowledge to keep bees, raise honey and begin to generate cash.

By turning an investigation of beekeeping potential into a working and immediate example of an environmentally sustainable development, we were able to meet several objectives at once. We trialed training methods, checked the feasibility of transporting hives to the region, tested local interest in the enterprise, established enough local hives to trial markets for honey in four months, gained an immediate presence in the five centres where workshops were held, and reached over 200 local residents and held their attention on conservation and development issues for a week each. We were told by local people that there was a strong link between the workshops and the fact that after four of them, resource owners declined to sell their forests to the logging company.

Now that World Heritage has the attention of resource owners because of its demonstrated commitment to local income-generation, we will be following up with developing business plans for each of the microenterprises selected for trial in the two areas. This will provide a market analysis, a marketing plan, analysis of employment and training needs, details of operations, and management and funding requirements.

The lesson: ensure technical assistance is comprehensive and focussed on meeting the requirements long term success. Take the opportunity of linking technical assistance to conservation.

3. Marketing

Analysing the market for a product before an enterprise is developed is an obvious first principle of any business venture. Like everywhere in the world, the Pacific abounds with examples of marketing nightmares for products that rural people have been encouraged to develop and then can't sell. The marketing problem can be compounded when conservation becomes a prime objective behind business development. Then the issue is frequently a conservation problem looking for an income-generating solution and finding markets for the developed product drops on the list of business priorities. Ecotourism is likely to become a common example of this as it is often promoted as the business panacea for conservation area development. Without market research and development however, ecotourism can fail in the same way as many copra plantations.

Ecotourism has been expected to be the single largest income generating project for the two World Heritage sites in the Solomon Islands. We believe that there is future potential for the industry in the World Heritage sites, but only as overall visitor numbers to the Solomon Islands rise. In the mean time, on the back of that expectation, 54 landowning groups in Marovo have submitted permits to the Area Council to build tourist lodges. All have been approved but fortunately only two have been built. These are rarely full.

Our initial efforts to develop the ecotourism industry for World Heritage have been focussed on market investigation and development, rather than supporting more lodges being built. In this project, as in all others under the World Heritage programme, we were required to provide practical demonstration of World Heritage commitment to local development. We combined a marketing and research visit by ecotourism wholesalers with basic upgrading of one of the locally owned tourism lodges. For minimal cost we have made the lodge acceptable to the tourism industry wholesalers in preparation for their visit and at the same time secured further local support for the programme.

The lesson: analyse the market potential before a product is developed.

4. Replicability

Because of the nature of land tenure in the South Pacific, conservation agencies are tending to work with a single landowning group or a small number of closely related groups. The aim, in this time of exploration of how conservation areas are going to be eventually established in the South Pacific, is often to provide a model or pilot project operation. This is a sensible approach while methods are being trialed. It can however lead to an 'overfocus' problem, where at great expense a comparatively small area of forest or reef is protected by an overfunded single development opportunity. Not only is this a poor use of conservation funding (relative to the resource being protected) but it also diminishes the 'model' value of the project. A model is no use if it cannot hope to replicated.

Fiji's Bouma project discussed above has suffered the overfocus fate. At a cost of NZ$140.000, 200 hectares of mostly secondary forest has been protected. The value for money of the project would have been significantly increased if it had fulfilled its touted pilot project role. But its true value as a pilot project has stalled because it is unlikely that other landowners in Fiji will attract such generous donor funds to establish their ecotourism ventures. The lessons learned about how to build a $140 000 walking track are not very useful to other similar enterprises, but a comprehensive marketing and business enterprise development plan for Bouma and for the whole island of Taveuni would have had lasting benefits for a wide range of communities.

In the Marovo Lagoon, 54 people want financial assistance to built their tourism lodges. One community has estimated the cost of building its dream lodge at nearly NZ$95 000. To build 54 of these would cost over $5 million. Apart from the necessary questions to be asked about marketing, viability and the best way to finance this business, conservation agencies need to ask: what is the return for conservation for these dollars, is this a replicable project, is there a better way to spend conservation dollars to protect these resources.

The lesson: aim for replicable, cost effective projects.

5. Environmental impacts of projects

Concerned as we are about resource protection, conservation managers have the added burden over rural developers that the microenterprise selected for support must be environmentally sustainable. To compound the problem resource owners don't always see eye-to-eye with the conservation managers about what are suitable microenterprises for the land or reef in question. In Melanesia, it is classically chainsaws that precipitate this issue. For many resource owners, chainsaws are a desired development tool that enable permanent houses to be built and timber to sold for cash. Conservation managers have seen or heard about the environmental impact of chainsaws and frequently do not see them as compatible with conservation objectives.

A greatly desired development tool will eventually be acquired by a community and this needs to be anticipated by conservation planners. We do not, nor should we have, complete command over what local people will do with their resources. If resource owners regard a chainsaw as a priority development tool, the conservation programme is better to provide management support and training for it than to try and prevent the landowners from acquiring it. This does not mean that chainsaws have to be promoted as a major business opportunity.

The dilemma over chainsaws will be replicated for a great number of microenterprise developments in conservation areas. We do not know of any microenterprise that does not have an environmental impact. The supposedly benign microenterprises we have selected for the World Heritage project all have environmental impacts. The ecological impact of introduced honey bees is unknown, the handcraft industry is already depleting carving trees, a tourist lodge on Rennell already has a waste disposal problem, promoting butterfly ranching might increase the harvest of protected wild species, and so on. The urgency of having to come up with income generating solutions in face of imminent logging proposals means that we are forced to take a number of environmental risks for the sake of pragmatism, small risks we think that are outweighed by the potential environmental disaster of unrestrained logging. Conservation area development budgets should build in the costs of monitoring and mitigation of the risks that need to be taken.

The lesson: be pragmatic in your environmental sensitivities.

6. Business development by grants

That money should not be granted to start businesses is now a commonly held view among aid and development agencies. There are several reasons for this.

Receiving a grant to start a business does not require the receiver to have any commitment to seeing the project succeed. With no personal financial stake in the project, it makes little difference to the successful applicant whether or not the project has a market, whether the applicant has the technical skills to run the project, or the financial skills to manage it. Illustrative of these problems, the Provincial Development Unit in the Solomon Islands, whose funds are given in the form of grants, has a prominent history of funding development projects that fail.

One community we have been working with under the World Heritage programme has been the recipient of business development grants from a variety of aid sources. Residents are able to point out the sites of five failed projects (cattle ranching, pig farming, chili growing, copra plantation and a fishing project), funded through grants of between NZ$10 000 and $15 000 each. The $50 000 lost under these schemes could have gone a long way towards providing badly needed technical assistance for self-funded enterprises. The only two successful microenterprises in the village (a village shop and a bee hive) were funded entirely by their owners.

A further issue with granting business development funds is that it is unfair to individuals who have raised start-up funds for the same business opportunity through their own means. This is an important issue in small communities where rivalries and jealousies can have far reaching impacts. In addition, granting money provides adverse competition to existing funding mechanisms in the community such as savings clubs, credit unions and development banks.

A key element in successful microenterprise development is ensuring that it is the entrepreneurs and business-focussed people in a community that are supported in business development. Requiring individuals to come up with their own funds to start an enterprise is a way of self-selecting people motivated to work for business success.

While it is true that cash for business start-up can be difficult to access in villages, it is also true that families and individuals can go a long way to raising significant sums of money. An example of this is found in one of the World Heritage programme sites. Nine families in one village raised over NZ$5 000 to build a six-bed tourist lodge. The money was raised locally by selling fish and vegetables at the local market and through selling shells, and in Honiara through relatives with paying jobs. Profit from the lodge (around $13 000 to date generated between June 1987 and March 1993), is used to extend and upgrade it. Some profit is also given to the local church.

Under the World Heritage programme, we have not made NZODA funds available for grants for business start-up. Instead, funding has been put into technical support. To use the bee keeping industry as an example, funding paid for the salary of the project coordinator who delivered the training workshop. It covered the cost of supplying the demonstration hive and associated equipment. It paid the costs of transporting interested farmers to the workshop and covered the costs of food during the week-long training (this was to ensure the workshop was accessible to everyone.) About 215 farmers attended the workshops. Although entering the bee keeping industry is not prohibitively expensive (at around NZ$70 a hive), less than half of the workshops participants were interested enough in beekeeping to put up their own funds to order hives. The 70 new beekeepers of Marovo Lagoon, through having to pay for their own hives, have selected themselves.

This then is the ideal - no grants for business development. In practice however, conservation managers need to be prepared for this rule, along with many others, to be broken. In the case of World Heritage, the Solomon Islands Government (SIG) recognises that resource owners in Marovo and Rennell are foregoing development opportunities to protect their reefs and forest for the programme. The Government is supportive of the idea that these sacrifices need to be compensated for and consequently have established a development fund for resource owners. Money will be available from that to fund business start up.

A strategy has been put in place to ensure that under a business grant system, the maximum possible success rate for businesses has a chance of being achieved. To facilitate this, criteria for both projects and applicants has been strictly defined by SIG. On the ground, the projects will be supported through technical assistance offered by the World Heritage programme.

The lesson: avoid grants for business development. Where that can't be avoided ensure funded projects are well screened for suitability and feasibility, and provide technical assistance.

7. Accessing finance

If money is not to be granted for business development, where do resource owners access finance? Lack of sufficient and timely finance is often identified as a reason for failure of business development. In addition, sectors of the community, particularly women, may find it difficult to access finance from traditional sources. These issues draw conservation managers into the field of business financing systems.

Where the money comes from:

1. Banks

Commercial banks throughout the Pacific offer loan facilities but these are not often used by village-based resource owners for two reasons. Firstly banks usually require a third of the loan in collateral. Land is usually the most valuable (or only) asset a villager owns and as land is inalienable in the Pacific it is unsuitable collateral for a bank. Without collateral there can be no loan. Secondly, because of the high administrative costs of small loans, loans are rarely made out for the small amounts suitable for microenterprise development.

As well as commercial banks in the South Pacific, there are development banks which have a government-directed role to facilitate rural development. As a result development banks have taken the higher commercial risks of loaning for rural development. However, the near collapse of several development banks in the Pacific (due mainly to reneged loans) means that they are now reluctant to bear these risks alone. An increasingly common situation is that aid donors deposit funds in the development bank which the bank can use as collateral for rural loans, under specific project objectives. The Solomon Islands mechanical workshops described in 2.1 is an example of such a scheme.

2. Revolving loans

Revolving loan schemes begin with a set amount of money provided by a donor, that is lent out to participants. On repayment, the cash stays with the project for further lending, rather than being returned to the donor. Revolving loans are popular rural development tools with aid agencies although, like other loan scheme, they have a low success rate.

3. Credit unions

In the Solomon Islands, credit unions begin as informal saving and lending operations in the village. These savings clubs are managed by churches, village committees, or women's groups. Participants pool savings and are then able to borrow small amounts. When a savings club grows, it can register as a credit union at which point it is legally required to have an administration committee and a board of directors. There are 100 registered credit unions in the Solomon Islands. Their size varies from 50 members to the country's largest of 2 000 belonging to the public service. The national Credit Union League provides services and training to its Union members. The Central Bank also has a small business finance scheme which provides assistance to the credit unions. The average holding for a village-based credit union is about NZ$6 000 and the majority of loans are for school fees and household items.

Credit unions are seen as valuable sources of credit at the village level, helping families over financial crises. They are less frequently used for business development purposes.

Loaning money to the rural South Pacific

If money is not going to be given away for business development then it must either be raised through saving or borrowed. The issue of loaning to village residents is a complex one. In the rural South Pacific there is a history of reneging on loans. In the words of one Pacific NGO Director, subsistence farmers in the Pacific are not poor enough to have to honour loans. If a business endeavour falls over, the borrower has the option of going back to gardening and fishing. The ultimate sanctions against failed loans elsewhere in the developing world - hunger or loss of land - are, fortunately, unlikely scenarios in the South Pacific. In addition there is often a local history of grants for business development from aid agencies. Often the distinction between a grant and a loan is too fine a point when the loan does not come with adequate supervision and support. As well, in some communities, the provision of assistance is part of a network of social obligations, expected to be dispensed without thought of cash payback (Pestelos, 1992).

A study on the failure and successes of Pacific revolving funds reveals that the most common causes of loan failures are more related to training issues, project development and project management than cultural factor (Pestelos, 1992).

Whatever the reasons, the rate of loan reneging has made bank managers cautious about lending to rural people. To remove this barrier to finance, aid donors have frequently sponsored the collateral required by the bank for rural loans and established schemes such as the one described above at the DBSI for the mechanical workshops.

Commonly, the aid programme will subsidise the interest rate on the loan as well. High risk loans attract a correspondingly high interest rate, again making access to finance further removed. If interest rates are subsidised, care must be taken to ensure they are not subsidised to artificially low levels. An artificially low interest rate means the initial fund established is diminished through inflation, and so it has to receive regular fresh inputs of outside cash. This defeats the purpose of the initial grant - to make a project financially independent. In addition it competes against local sources of credit to the detriment of those systems. It also shelters the microenterprise entrepreneur from the realities of commercial finance. (Although one bank manager told us of rural people borrowing money under a subsidised loan scheme and then investing it across the bank counter at the commercial high interest rate. The manager could only applaud the financial wisdom of it.)

Designing credit schemes

If a conservation programme wants to support resource owners access credit it can do so in a number of ways:

- Provide collateral to a bank for special loans scheme to resource owners in the conservation programme. The advantage of this is that the bank manages the fund, and for a large conservation programme this may be wise. This method is unlikely to be suitable for single-project programmes. Advice here is:
  - avoid subsidising interest rates or at least do not arrange subsidises well below the commercial interest rates;
  - allow for the costs of following up on loans as the bank is likely to be unwilling to do this itself for small amounts of money;
  - keep criteria for loans simple. A good application writer can fit almost any scheme to criteria so criteria can become meaningless;
  - ensure women have equitable access to funds and given special assistance to apply.
- Support an existing village-based credit scheme. The advantage with this is that the programme steps into a credit scheme that has already build credential with local people and it is supervised at the village level. The problem with this scenario is that local credit programmes are usually established to meet household budgetary needs rather than financing business - the two require different skills and priorities to manage. In addition, careless addition of outside funds can swamp and destroy village credit unions and traditional savings systems.
- Establish a village-based revolving loan fund especially for the project. The advantage of this is that the financing can be tailor-made to suit the programme's needs. To avoid the all-too-common failure of revolving funds, all of the issues and problems relating to village based credit must be fully investigated before this option is taken.

  The development organisation Oxfam describes a successful revolving loan fund as having the following characteristics (Pratt and Boyden, 1988):
  - the loans are carefully administered with adequate supervision, record-keeping and a realistic loan repayment timetable backed up by some degree of law enforcement;
  - there is face-to-face relationship between the lender and the borrower which keeps the situation on a more personal level;
  - village-level loan committees made up of trusted locals chosen by the communities act as a primary vetting organisation which also puts pressure on defaulters and has considerable educational value.

  Additional points added from experience from the Pacific Integrated Atoll Development Project (Pestelos, 1992) include:
  - locate the scheme in a larger development context or in an integrated programme (this helps to have it viewed as a means to solve local problems rather than a source of easy money)
  - take into account the cultural factors and the local social organisation.

The lesson: providing credit is a complex issue which conservation managers should not attempt without expert advice.

8. Linking conservation and development

Just because resource owners have access to microenterprise development does not mean they will automatically protect their forests and reefs. For most microenterprises it is possible to have your business and cut down your forests as well. A successful conservation programme tries to minimise this risk by developing a comprehensive agenda that includes education, supporting traditional management systems, legislative support for conservation and so on.

In most cases however, the most locally meaningful and powerful tool a conservation programme has to offer is that of sustainable development. For this reason, the prevailing wisdom of conservation and development projects is that the two components of the project must be linked: "All material benefits of a project must be clearly tied to its conservation actions. Local project participants must perceive development activities as incentives for sustainable management of the resources, the ultimate goal of the project" (Brown and Wyckoff-Baird, 1992).

Despite the firmness of these statements, it is by no means certain how these links can be forged.

Under the World Heritage programme, the links between conservation and development have had to be forged in haste, before logging companies signed over forests of the area. In both proposed World Heritage sites there have been previous activities by conservation organisations running village workshops and producing material on conservation and sustainable development. No development activities had yet been provided as part of these programmes and there was a general local feeling that conservation had good stories but was short on practical demonstrations of earning cash. The development side of the equation was certainly weighted against the conservation side in Marovo Lagoon by the presence of the logging companies.

Local residents already understood that World Heritage was associated with conservation (although because awareness workshops are to still to be held there is a lot of confusion as to what listing would mean for local people). The immediate challenge was to ensure that World Heritage also stood for sustainable development in local minds. We made this link in the first six months of the World Heritage programme by focussing our energies and resources on establishing microenterprises, as described in sections 1 and 2 above. Microenterprises were selected partially because of the conservation profile that each could be given. Every activity was clearly identified as being part of the World Heritage programme. Farmers who bought hives after the workshops have been given World Heritage T-shirts. Every workshop included discussions about conservation.

These are small beginnings but we believe that they have achieved their first important victory with the refusal of the resource owners to sell their forests to logging four months into the programme. A comprehensive conservation education and community resource planning programme will be initiated now that the attention of the resource owners has been captured by the programme.

The lesson: take every opportunity to link conservation and development. Be aware that local interests are likely to prioritise development over conservation and build programmes to capture that interest.

9. Working in the local culture

Successful conservation and development programmes develop long term working relationships with communities, building trust and understanding from both sides. The most important revelations about how to progress with the programme will come from this field work. It is also strongly advised that tools of sociology are used to support these personal relationships. Social surveys and analysis help both the community and the conservation managers to build good programmes.

Every conservation area in the Pacific will be culturally and socially unique and nothing will substitute for building a personal relationship with the resource owners in that area. However, the following general pointers may be useful when planning microenterprises.

Select enterprises that fit in with local lifestyles

Subsistence village residents in the Pacific are busy people. This is especially true of women. They are unlikely to have the time or inclination to work full eight hour days on a business development. In addition, there are seasonal requirements for cash which see cash-generating activity heightened at certain times of the year. For example the books at Batuna sawmill in the Marovo Lagoon record their highest purchase of logs from resource owners at the time school fees are due. Select microenterprises that do not depend on daily, year-round attention.

Ecotourism is a development to be wary of in this respect, as once tourists are in place in a lodge they will expect to be cared for. At one locally-owned lodge in Marovo, the owners are unwilling to provide meals for their guests because of the work involved. Guests should either be warned about this (which downgrades the potential earnings of the lodge), or a system be devised to feed guests that either changes local work habits or fits in with them (such as rotating responsibility around different families).

Be aware of social impacts

- While tourism is seen as a major development option for Marovo, nine out of 14 villages surveyed overwhelmingly did not think that tourism was a good industry to come to the Marovo Lagoon and did not want to see tourists visiting or sleeping in their villages (Juvik, 1987).
- The owners of the lodge in Marovo were concerned when we suggested promotion and marketing of their lodge. They felt that it might attract the wrong kinds of tourists to stay.
- The women at Bouma village in Fiji are concerned that tourists are decorously dressed and behave with cultural sensitivity around their village, but frequently that is not the case.

Discuss locally the potential social impacts of the microenterprise development before it goes ahead. Modify or ditch development plans to take account of local concerns.

Look for ways to include women

There are numerous social and developmental reasons why women and their needs should be specially targeted by development programmes. These will not be repeated here except to say that it is a common wisdom in rural development that women are frequently better business managers than men.

We have attempted to draw as many women as we can into the microenterprise development programme for World Heritage. The beekeeping workshops were specifically promoted to attract women but despite these efforts only 10% of the participants were women. We obviously need to learn more about the barriers women are facing to get to these workshops and attempt to overcome them.

In another effort to involve women in business development, the communities of Marovo and Rennell were asked to select three women to accompany the business facilitator on a butterfly ranching fact finding trip to Papua New Guinea. The rationale behind selecting women was that they would act as role models to other women in at least one of the microenterprises. It would also help to give women local status as valued participants in the World Heritage programme. The result of this exercise may have succeeded in the first of these objectives but not, it appears, for the second particularly on Rennell. The young woman selected from Rennell (after some vigourous dissent from men), was not granted any status by men on her return home. They simply refuse to be trained by her. This does not preclude the opportunity of the women training only other women in the business development and indeed this is an approach we will be trialling.

Understand that the appeal of projects is often beyond their income-generating potential

We were confused by an obvious reluctance of many of the Rennellese to attend the first round of beekeeping workshops under the World Heritage programme. It was eventually explained to us that while producing honey might produce cash, keeping bees was regarded as a "pikinini project" - a small childish pastime. They wanted higher profile, visible and costly projects to be associated with, such as chainsaw milling and tourist lodges.

The power and status conferred by a rural development project in the Pacific is a significant component of its acceptability. Most rural development practitioners in the Pacific have stories about the enormous efforts that individuals will go to build a status-acquiring business for absolutely no profit. Understanding these motives is an important first step to successfully working with them. We have no intention of supplying all the strongly desired developments on Rennell. Instead we will be attempting to raise the status of the pikinini projects on Rennell, particularly when they demonstrate the ability to earn cash. Knowing what is behind the initial reluctance to participate in the workshops has been helpful in designing a possible solution.

Let the local communities solve their own problems

Pacific village communities have a number of conflict and problem solving techniques in place which are usually better able to resolve issues than methods designed or proposed by outsiders. Ensure you leave major decisions about microenterprise development to the individuals and communities that will be living with them. This includes solutions to the issue of family obligations which in the Pacific has seen many rural businesses flounder. Telling people to ignore their family obligations for the sake of profit is unlikely to work for long. Allowing them to design solutions to the problem is likely to come up with a more robust result.

Avoid communal projects

A South Pacific village operates cooperatively in many ways but communal ventures rarely extend to personal income-generation. The cooperative business idea originated in 19th-century Europe. It has been widely promoted in the developing world by colonial governments and more recently by independent national governments and international organisations but rarely are cooperatives successful (Pratt and Boyden, 1988).

In the World Heritage programme we have been carefully questioned by resource owners to ensure their projects do not have to be cooperatives to receive our assistance. The overwhelming local desire is for close family units or individuals to be working on a single project. We are likely to encourage cooperative ownership of expensive items of equipment that can be easily shared (such as honey extractors or ngali nut oil extractors) but will support the local desire to have income-generating projects independently owned.

The lesson: microenterprises do not operate in isolation from the social and cultural world of the village. Put effort into understanding this world and build the lessons into project design.

10. Understanding the impacts of assistance

For most Pacific countries a conservation area will be identified not through the invitation of the local people or the suitability of a site for business development, but because it is a site of biological importance. This puts the social and business development components of a conservation and development area on the back foot. Despite this position, despite the long odds of rural development projects being successful in the long term, conservation programmes are likely to be making a lot of promises to resources owners about the income generating potential of project-supported activities.

Try to ensure that local expectations are not raised too high, and encourage the understanding that the business developments are trials until they are proven successful.

To increase the likelihood that microenterprises are successful, commit the programme to a long-term presence in the community (while it is still welcome there). Most importantly, ensure that local people are being trained in all aspects of business management and development so that although outsiders will come and go, a core of local people gain enough expertise to run the project independently.

The lesson: conservation managers must be prepared to make a long term commitment to the communities that are supporting them in conservation and sustainable development endeavours.

Conclusion

Microenterprise development is likely to be a critical component of conservation area development and management in the South Pacific. It is important therefore that conservation managers understand basic principles of successful rural development. A key lesson learned in their application however, is the need for flexibility and pragmatism. Through frequent monitoring and evaluation, local needs must be addressed as the programme develops.

As described by a small business analysis for the Pacific "Typically, the businesses supported by development assistance are small-scale, decentralised, village and village-cluster based enterprises. In general they will face an uncertain financing and marketing environment and will encounter hazards unknown to more conventional businesses...If after 5 years 25% of the enterprises assisted remain viable the support programme should be considered a real success" (PEP, 1991). Despite the low odds, the efforts are worthwhile when we consider the consequences for the environment if we neglect resource owners attempts to establish environmentally sustainable microenterprises. Motivated by the larger prize of protected tropical forests and reefs, conservation managers should be strongly committed to see projects succeed and to see them linked effectively to conservation.

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Conservation Policy and Legislation

Key Issue Paper

Protected area and biodiversity policy in the South Pacific: Legal Frameworks

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Abstract

Biodiversity conservation demands a range of legal and administrative measures. The significance of customary tenure and use of land and marine areas in Pacific island countries is a major issue to consider in any system. Major international and regional agreements provide an important framework for national action on biodiversity conservation particularly in light of the Biodiversity Convention 1992. Action taken must be compatible with the circumstances of Pacific island countries. Legal and management frameworks can assist implementation of conservation areas as envisaged by the South Pacific Biodiversity Conservation Programme. Other relevant areas of law include effective natural resource control and wildlife protection laws and adequate environmental impact assessment laws. Legislative backing for resource control by customary owners is an option. Institutional issues such as the role of government departments in biodiversity conservation are also important.

Introduction

This paper is based in large part on consultancy work undertaken for the South Pacific Biodiversity Conservation Programme (SPBCP) in 1992/3 by Nicola Pain (then of) and James Johnson of the Environmental Defenders Office, Sydney, NSW. The aim of that consultancy was to prepare a broad analysis of legal and institutional options relevant to the establishment and management of conservation areas. Biodiversity conservation is a complex task given the interlocking nature of species, ecosystem and habitat protection, and the ways human activity can so adversely impact on these. Mechanisms to ensure biodiversity conservation therefore need to be wide ranging in scope. This paper provides a broad overview of some of the important legal and institutional issues concerning biodiversity conservation in the South Pacific.

Each SPREP country has its own unique legal and administrative system but it is useful to highlight some general features in order to discuss appropriate legal and institutional frameworks. The majority of land is held under customary tenure. Decisions are made at the village level about land and marine resource use but there is no formal legal recognition of these decisions by national or provincial governments. There is constitutional recognition of customary law but this will often be expressed as being subject to the laws of the national Parliament. Customary land ownership cannot be overridden by national laws however. Customary ownership and use of marine areas is particularly complex and involves issues under international and national laws as well as customary law. Customary use rights such as fishing and navigation are recognised by national legislation. Customary ownership below high water mark is not always recognised.

In most SPREP countries use of land and marine areas continues at the village level, reflecting the considerable extent of customary land and marine tenure in many SPREP countries.

Legal and Administration Measures for Biodiversity Conservation

There are a number of legislative options to consider when implementing biodiversity conservation. Biodiversity conservation has implications for land and marine use, resource management and conservation, and conservation and protected area establishment and management.

The protection of biodiversity in regulatory systems worldwide has tended to focus on endangered and threatened species protection legislation, and habitat protection through the creation of protected areas such as parks and reserves - often areas where human use is severely limited. It is this dichotomy between 'use' and 'conservation' that the SPBCP is trying to address.

International and Regional Agreements

Responsibilities arising from international treaty obligations can give rise to national legislation. These may be relevant to national government action. The relevant agreements in the South Pacific conventions are both regional and global in scope.

Regional Conventions

There are two major regional environmental treaties dealing with the environment of the South Pacific and both refer to the need to establish protected areas.

The *Convention for the Conservation of Nature in the South Pacific 1976* (Apia Convention) encourages parties to create protected areas. It did not come into force until 1990 and few SPREP countries have ratified it (Cook Islands, France, Fiji, Australia and Western Samoa). It is limited in scope. It prohibits the exploitation of resources in national parks from commercial profit, except after the fullest examination. Other provisions require State parties to generally protect flora and fauna from exploitation, including developing lists of indigenous fauna and flora threatened with extinction. Provision must also be made for customary use of areas and species in accordance with traditional cultural practices.

The *Convention for the Protection of Natural Resources and Environment of the South Pacific 1986* (SPREP Convention) provides for a broad environmental management regime for marine areas. Its provisions concern issues such as marine pollution from boats and land-based sources, disposal of wastes and the storage of hazardous substances. It also refers specifically to the need to create protected areas to protect rare and endangered flora and fauna as well as their habitat. The Convention encourages State parties to establish laws which will discharge obligations under the Convention. There are also two protocols; the Protocol for the Prevention of Pollution of the South Pacific Region by Dumping, and the Protocol concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region. The SPREP Convention has been signed and ratified by Australia, Cook Islands, Fiji, France, the Marshall Islands, the Federated States of Micronesia, New Zealand, PNG, Western Samoa and the Solomon Islands, and has come into force. It has been signed by Nauru, Palau, Tuvalu, the UK and the USA.

In the preamble to both treaties the need to take into account the traditions and cultures of the Pacific people, and their customs and practices, is specifically recognised. Such treaties have been part of the basis for the SPREP 1991-1995 Action Plan For Managing the Environment of the South Pacific Region. The Plan is a regional strategy identifying various priorities for environmental assessment, environmental management and law, species protection and protected areas.

Global Environmental Treaties

There are several international treaties which are or can be important in terms of promoting national biodiversity conservation efforts:

The *Convention for the Protection of the World's Cultural and Natural Heritage 1972* (World Heritage Convention) has not generally been adopted in the South Pacific. Fiji and the Solomon Islands are the only Pacific island countries to have ratified the World Heritage Convention, as its scope and benefits have not been seen as relevant to the South Pacific. Australia and New Zealand have also ratified it. Listing as a world heritage site under the Convention can bring obvious benefits in terms of attractions for ecotourism, but can also create many management and other problems. It is clearly important that world heritage listing of a site has the support of local people, and that management of these areas takes place only with their full participation and cooperation.

The *Convention on International Trade of Endangered Species 1973* (CITES) aims to protect endangered species through restrictions and prohibitions on international trade in flora and fauna. CITES is considered to have been a reasonably effective convention in achieving its aims. Few SPREP countries have signed or ratified the Convention.

The *Convention on Biological Diversity 1992* (Biodiversity Convention) is the most recent convention to arise with direct implications for biodiversity conservation. The Convention was opened for signature at the United Nations Conference on Environment and Development in June 1992. The Cook Islands, Fiji, Marshall Islands, Papua New Guniea,, Vanuatu and Australia have ratified the Convention. Federated States of Micronesia (FSM), Nauru, Western Samoa, Solomon Islands and Tuvalu have signed but not yet ratified it.

Thirty ratifications are required for the Convention to come into force. The thirtieth ratification has now taken place, and the Convention is coming into force on 29 December 1993. The Convention places general obligations on parties, subject to a party's ability to fulfill these obligations (the wording used in the Convention is 'as far as possible and as appropriate'). The general terms of the convention reflect the complexity of the issues it endeavours to cover.

Article 6 refers to the obligation of parties to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. Article 7 refers to the responsibility of contracting parties to undertake identification and monitoring of biological diversity. Under Article 8 parties are required to give emphasis to in-situ conservation of biodiversity; the conservation of ecosystems, natural habitats and species in their natural surroundings. Parties should also develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity. The emphasis is on conservation and sustainable use of biological resources both within and outside protected areas. Linked with in-situ conservation are the promotion of ecosystem and natural habitat protection and maintenance of viable populations of species; promotion of sustainable development in areas outside the protected area system; development or maintainance of necessary legislation and/or other regulatory provisions for the protection of threatened species and populations; and where a significant threat to biological diversity has been identified regulation or management of the relevant activities.

Article 13 requires parties to undertake public education and awareness on the importance of biodiversity. Article 14 requires that parties introduce appropriate environmental impact assessment procedures for proposed projects that are likely to have a significant impact on the environment. Parties are also to introduce appropriate arrangements to ensure that the environmental consequences of programmes and policies that are likely to have significant impacts on biological diversity are taken into account. Importantly, the Convention also raises the need to protect genetic resources from exploitation (Article 15) - an important issue for many SPREP countries. The Convention requires that compensation be paid to developing countries for the extraction of genetic materials from those countries. A number of these clauses require State parties to develop and undertake action programmes to ensure biodiversity protection.

The Convention will provide for the needs of developing countries to enable them to implement the Convention measures, including new and additional financial resources and appropriate access to relevant technologies. Article 20 concerning financial resources specifically acknowledges "... the dependence on, distribution and location of, biological diversity within developing country Parties, in particular small island States."

Marine Area Conservation

In the area of marine protection the *Law of the Sea Convention 1982* recognises the right of national governments to control their inland waters and territorial seas out to 12 miles from national baselines. This area of control or influence is now extended out to 200 miles in the Exclusive Economic Zone. It also places obligations on parties to protect marine areas from pollution and other harmful activities. Although the Convention is not in force, most of its provisions, including all those mentioned above, are regarded as reflecting customary international law and therefore appropriate state practice.

The *South Pacific Forum Fisheries Agency Convention 1979* has provisions related to the conservation of fisheries resources in the region.

The *Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific 1989* requires that State parties prohibit the import of fish and fish products caught using a driftnet. Port access to fishing vessels using driftnets is also restricted.

Effectiveness of International Conventions

The effectiveness of international and regional conventions is determined by the extent to which these are ratified and implemented by State parties. Whether States are interested in implementing international obligations depends on a number of factors such as the relevance of obligations to national requirements, and the significance of an issue at the international level. Conventions can be useful and important in providing an international framework for regional and domestic policies and legislation. For many Pacific Island countries, fulfilling international obligations has important resource implications. The provision of funding for national implementation of conventions is an important consideration.

The Biodiversity Convention is an important international milestone in developing biodiversity protection, and provides a significant impetus for biodiversity protection programme development for State parties. Its importance in the development of national policy in the Pacific cannot yet be fully predicted, but there already appears to be a high level of interest in its implementation in the South Pacific. The availability of resources to assist in implementation under the Convention are important and directly relevant to the effectiveness of the Convention in the South Pacific. Article 21 of the Convention deals with financial mechanisms. The interim funding body is the Global Environment Facility (GEF), and this will provide money only to developing countries.

The Role of Customary Law

An important issue in developing legislation aimed at biodiversity conservation is the significant role played by customary law in many South Pacific countries. Incorporation and recognition of customary law and usage should be part of any legislative scheme. Identifying customary laws is challenging as these often change over time. Mere Pulea has considered the difficulties in codifying customary law because it is not static.[3] She notes that customary law can be determined according to "current customary usage"[4]. Using this wording enables a broad view to be taken when considering the application of custom law under legislative provisions or a management plan.

Establishing Conservation and Protected Areas

Establishing protected areas where human activities are restricted has been a common approach to biodiversity protection legislation in the Pacific and elsewhere. The land is usually owned and managed by the government and established under specific national park or reserve legislation.

The SPBCP programme aims to encourage conservation areas. The activities affecting biodiversity protection in conservation areas will include those of customary land holders, national or provincial government development activity, and also foreign companies wishing to undertake development or resource use. The level of control which it is feasible to implement through legislation will vary greatly between these categories.

Conservation Area Legislation - Is it Necessary?

National or provincial conservation area legislation establishing a framework for each country is one obvious approach (from a lawyers point of view), but needs careful consideration. The need for specific conservation area legislation will depend on several factors, such as whether support for customary control of land use and marine resource use is necessary, and what other existing legislative and administrative arrangements can be amended to support the conservation area concept. Conservation areas can be created by administrative arrangements which do not require legislative backing, for example, by conservation area agreement between governments and local landowners. If national governments become involved in management or wish to formally establish a national conservation area system, legislation can provide a framework for this. The legislation can be prescriptive in specifying how conservation area selection is to be carried out and provide for development of a management regime.

[3] Pulea (1987)

[4] Pulea (1987) at page 34

Managing for Biodiversity Protection - Legislative Support

Appropriate management by of a conservation area is critical to its success. Management includes the control and management of natural resources in the conservation area as well as control of development. Appropriate resource management of areas identified by customary landholders is very important to the conservation area concept.

An important aspect of the SPBCP conservation area concept is that local communities and resource owners should take a central role in decision making. Legislation can assist this approach. For example, legislation can strengthen customary law by requiring that management plans are to be based on customary practices and by providing legal backing for this through enforcement.

Identification of Conservation Areas

There are a number of ways to identify conservation areas. One way is to identify areas with significant examples of a habitat type. This identification may be the result of an inventory of biodiversity resources prepared for government. A problem in using this approach is that the initiative, coming from central governments, has often resulted in restrictions upon local people who have traditionally owned and used the land. Information from such a survey could be important in providing information to customary owners, however, because local communities may not appreciate the national and international importance of the biodiversity of an area.

Another way to identify areas significant for biodiversity is through the wishes of local communities. This approach is found in Papua New Guinea in legislation for the identification and management of Wildlife Management Areas under the PNG *Fauna (Protection and Conservation) Act*. Another recent example is the approach taken in Isabel Province, Solomon Islands, where three new conservation ordinances have been drafted, providing for conservation areas for terrestrial areas and marine areas based on the request of customary landowners.

Identification of Interested Parties

It is important for all parties with a direct interest in the proposed conservation area to participate in decisions concerning the area.

One way to do this is to provide, through legislation, a list of interests that must be represented in discussions and decisions. This should include landowners and those people with customary rights in the land. This approach suffers because of the inflexibility inherent in prescribing beforehand who the participants may be. Another approach is to allow any person to be an interested party simply by expressing their interest (although this may be too broad). For example, in Fagatel Bay in Western Samoa, a draft Plan of Management for marine areas is put on display for comment, and an inquiry is later held at which any interested person can appear. Both of these processes are open to any member of the public.

Representation in Decisions

Some existing protected areas have boards of management which include the traditional landowners as a majority. This ensures representation of the landowners in management, and is an approach that may have benefits if applied over wider conservation areas. A conservation area may need several management groups. Existing mechanisms such as Area Councils could provide a vehicle. To ensure full representation, adequate resources must be made available to encourage participation from all relevant sections of the community. If this approach to management is taken, legislation can assist by providing the appropriate structure with legal backing.

Plan of Management and Enforcement

Conservation areas could require management mechanisms which benefit from legislative backing. By gazetting under law a plan of management drawn up by traditional owners, the legislation can reinforce custom law. This does not mean that custom law is codified - the plan of management should be reviewed regularly, and should evolve as custom law and conservation measures change.

Enforcement of a management plan which involves and benefits local landowners is highly desirable. Legislation which provides for enforcement must include local involvement in that process, and for mechanisms such as the payment of penalties to landowners.

Resource Management and Biodiversity Conservation

There are a number of resource use activities which impinge on biodiversity conservation, whether in a conservation area, or generally throughout a country. The adequacy of laws relating to marine area protection, fisheries, mining and forestry must be considered. Ideally, all laws directly or indirectly related to biodiversity conservation should be compatible.

Control and Management of Resources by Customary Owners

Resource management legislation which has the main objective of providing legislative protection for appropriate resource management and land use decisions made by customary owners and users in conservation areas could be considered. Such legislation should not be coercive on customary owners and users. It should simply provide a mechanism for decisions made by customary landowners, which are compatible with the objectives of biodiversity conservation, to be given legal force. Decisions covered by the legislation applies would be binding on government departments and private companies whose activities impinge on conservation areas. This has particular significance where multiple uses of land and marine areas continue, including resource taking by non-traditional methods. This approach can be incorporated in management planning for conservation areas.

Fisheries Resources

Protection of species requires regulation of fisheries resources, and this already occurs in many SPREP countries with licensing procedures for fishing provided for in legislation. Fisheries are often controlled by a national government agency which issues permits for fishing to non-customary users such as foreign individuals and companies. Full consultation with customary landholders, or those having customary use rights, before permits are issued, is essential. Permits should not be issued for customary use areas if there is local opposition. Information about the permit system should be readily available, and should be written in appropriate languages. Management plans for fisheries resources should also take account of customary use requirements. Monetary penalties or other sanctions for offences, such as exclusion from the fishery for a period, must be adequate, with provision for enforcement by local people. Part, or all, of any fines levied as penalty should be returned to local communities. Fisheries legislation can also provide for the establishment of marine reserves aimed at conservation, as has occurred in countries such as New Caledonia.

Forestry Resources

In many SPREP countries, forestry is required for customary uses, and is also used for commercial purposes by customary and non-customary landholders or occupiers. Permits for logging activity conducted by local and foreign interests are generally allocated through a national forestry department. Laws to regulate forestry should include provisions for management plans made and approved by landowners. Civil and criminal law sanctions for any breaches of forestry laws should exist, with monetary penalties distributed between local communities as well as provincial and national governments. Information on licences should be readily available in appropriate languages. Any contracts entered into by landowners must be equitable and provide for enforceable and effective penalties for breaches. Forestry legislation can also provide for reserves to be established.

Mining

Although not a major issue in all SPREP countries, where mining does take place on the sea-bed or on land, appropriate environmental protection measures are important in order to minimise the impact on the biodiversity values of the affected area. There seems to be a general lack of necessary legislation for controlling mining activity in many cases. Mining should be subject to environmental impact assessment where it is likely to have a significant impact on the environment.

Effective Wildlife Protection Laws

Wildlife protection laws should be considered as part of any package of laws aimed at biodiversity conservation. Most South Pacific island countries have wildlife protection laws, including several countries which have endangered fauna protection legislation. These can include offences particularly targetting non-customary methods of killing wildlife. Offences need to take account of customary usage and needs.

Adequate and appropriate penalties are important. By providing that penalties are payable, at least in part, to local people, encourages their involvement in ensuring that laws are enforced. Customary landowners or those having customary rights should be involved in enforcement measures. Mechanisms to involve them are important. Sanctions should be adaptable to both local and national circumstances. For example, loss of a privilege, or loss of face by being called before the village council, may be effective alternatives to penalties imposed by government officials.

Institutional Arrangements: Integration/Coordination of Government Activity

The role of government departments at national, provincial and local levels in encouraging biodiversity conservation can be important. Several departments may have responsibilities which impact on biodiversity. The role of government departments at every level needs to be clarified and perhaps integrated with the agency coordinating a national biodiversity conservation programme. This will hopefully provide a mechanism for resolving conflicts between various government departments whose activities impinge on conservation areas. Adequate resourcing of the government department responsible for conservation is also important. Several SPREP countries have central agencies responsible for conservation and can build on these.[5]

Environmental Impact Assessment (EIA)

EIA can take place in various ways, as it can apply to either policies or specific projects. At an activity level, EIA should be mandatory for all activities which may have a significant negative impact on biodiversity. The common way to trigger EIA procedures under legislation is to require that the EIA be carried out for any activity which significantly impacts on the environment. EIA for conservation and protected area projects should also be considered on the same basis. EIA procedures can also be implemented through guidelines, as has occurred already in some South Pacific island countries. Conservation area legislation can also include EIA requirements or procedures. Alternatively, specific EIA legislation can be developed.

EIA procedures should include a number of aspects such as criteria to ensure adequate assessment, opportunity for participation and comment by interested parties, and accessibility to information and processes to facilitate this.

Land and Marine Use Planning.

An important aspect of biodiversity conservation is applying land and marine use planning skills and concepts to ensure that usage is compatible with biodiversity conservation. This may be difficult to do in a formal legal structure, such as occurs in the case of planning laws which implement zones restricting use of land and marine areas for some purposes. Many SPREP countries do have planning and building control acts[6]. Application of development and building controls beyond urban areas in areas of customary tenure are likely to be problematic.

However land and marine use planning in some form is important. Planning principles could be applied in management plans for conservation areas. As one example, conservation areas could require some consideration of overall land use as part of the management regime.

Environmental issues which affect the marine environment include pollution from land-based sources, waste disposal, coastal development activity, increased sedimentation due to land use changes, over-exploitation of living marine resources and natural disasters. Marine conservation areas need to incorporate terrestrial catchment areas into the marine conservation areas, or else to proscribe by agreement and/or regulation the protection that must be given to conservation area catchments. Where possible, control of land uses which will impact on the marine environment need to be considered through land use planning principles applied in a management context.

[5] For example, The Conservation Service, Cook Islands; the National Environment Protection Authority, RMI.

[6] For example, Land Use Act (Cook Islands), Town Planning Act (Fiji), Planning and Zoning Act (RMI), Town and Country Planning Act (Solomon Islands)

Education

An important part of any biodiversity protection regime must be an educational programme relating to biodiversity conservation. This is one of the most important aspects of implementing conservation areas, for example. Without popular support, conservation areas are likely to fail, regardless of the laws implemented to try to protect them. Biodiversity protection measures generally are likely to be implemented by customary owners through greater awareness rather than by legal requirement.

Education about the benefits of conservation areas for local landowners is extremely important. It is also important that government officers understand the nature of the conservation area. Education about legislation can also produce benefits, e.g. better application of enforcement measures by both government officers and local communities.

Education should be part of any consultation processes established to identify potential conservation areas. This obviously requires resources and a role for government, non-government organisations and customary landowners. Education and management are closely linked in the conservation area concept and in the protection of biodiversity generally. Although difficult to provide for specifically in legislation, processes established under legislation can facilitate education.

Summary

Many of the countries in SPREP have legislation for the identification and establishment of protected areas. Few have legislative systems for conservation areas based on landowner identification of potential areas, for example, the PNG wildlife conservation areas or the proposed conservation ordinances in Isabel Province, Solomon Islands. If legislation is considered necessary, existing laws for protected areas could be amended in some cases to provide the appropriate framework for establishing conservation areas. Legislation may be particularly useful in providing an enforceable framework for management of a conservation area. Other legislation related to marine and terrestrial areas can be used to implement biodiversity conservation, such as fisheries and forestry legislation. Integration of legislation which impacts on biodiversity is important. Where customary landowners make resource decisions based on customary requirements these should be backed up legally.

A major issue with any laws is the extent to which these are enforced and enforceable. The effectiveness of laws to control activities of various groups such as customary owners and foreign companies varies a great deal and makes enforcement problematic. Enforcement of some laws against customary owners who are pursuing customary practices is very difficult, and probably inappropriate. Enforcement against foreign interests is likely to be easier in terms of acceptability, but cannot be achieved without sufficient resources for the responsible government department. Involvement of customary owners in enforcement is important.

International regimes provide an important framework for national government action where relevant conventions have been ratified and sufficient resources are available to implement these. There are clear international and national imperatives for considering biodiversity conservation. The Biodiversity Convention and other regional conventions require the development of national programmes for biodiversity conservation. National governments need to consider international Conventions not yet ratified which could assist in biodiversity conservation.

Management of land and marine areas to ensure biodiversity conservation is vital. Consideration of planning issues related to biodiversity protection is important in this context. Legal planning mechanisms may be difficult to implement and are labour intensive. Through the use of management plans, land use planning objectives can be applied. An important aspect of managing conservation areas will be coordinating the activities of government departments which may impact on conservation areas. So the role of a central agency is worth considering as a means of providing a coordinated national framework. This framework should not be seen as substituting for local iniatives, as it is really at the local level that management decisions to encourage biodivesity conservation must be made. The support and involvement of customary landowners in management decisions is important.

Any legal or institutional system can only assist other measures aimed at biodiversity protection. Economic incentives to enhance customary land and resource use in a sustainable way is another important area. Any legal and institutional framework must complement initiatives at the village level. Given the extent of customary tenure and use in Pacific Island countries, any legislative framework must incorporate customary law as guiding, and binding, considerations in identification and management of biodiversity conservation measures. The involvement of customary owners holds the key to any administrative and legal framework established to ensure biodiversity protection.

Tokelau - Village Traditional Rules Relating to Biodiversity/Protected Areas

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Introduction

Tokelau has a total land area of 12.25 sq. km,consisting of three small atolls. Each atoll consists of a number of reef-bound islets encircling lagoons. These islets vary in length from 90 metres to 6 km, and in width from a few metres to 200 metres. At no point do they rise higher than 5 metres above sea level. The atolls are basically coral rubble and sand mixed with a thin layer of humus.

Due to its unique size, Tokelau as a whole is considered a protected area. Tokelauans do not yet have any environmental policies or legislation, but they do have their traditional rules as a means of protecting/conserving the people and the environment.

Tokelau's legislative and judicial systems are based on the *Tokelau Act 1948* and its amendments. A major law reform project funded by the UNDP has been in progress since 1985, with the purpose of developing a coherent body of law which responds to current needs and gives due recognition to Tokelauan custom. There are no national laws in Tokelau to deal with conservation and resource management, but each local Council has the ability under the *Villages Incorporation Regulations 1986* to formulate their own village rules. Likewise there are no explicit policies addressing contemporary resource and environmental issues.

Community awareness of the policies

It is difficult to enforce laws in Tokelau because they are not known by the communities. Daily life is governed by the customs and traditions of each island (Angelo, 1993).

Recently the school curriculum has been reviewed, and with this document, we hope to increase the communities' awareness through the schools.

Enforcement of the policies and any associated problems

A number of pieces of legislation from the Protectorate and Colonial eras of Tokelau are still technically in force (Angelo, 1993). Although they don't specifically concern the environment, some are relevant. In practice, however, they are all obsolete or inapplicable. None are known or enforced in practice. Of those technically in force, of some environmental interest are sections 19 and 20 of the *Gilbert and Ellice (Consolidation) Ordinance 1917.*

Community adherence to and respect for the policies

In 1988 each village exercised its legislative authority under the *Tokelau Village Incorporation Regulations 1986.* The type of legislation enacted differed from village to village. Some rules reflect customary practices to a significant degree. Others reflect responses to recent phenomena and leave custom to operate in its traditional way outside the law.

The most common rule is the protection of the *lafu.* The *lafu* is a traditional mechanism used to restrict the entry to land, or the use of specified resources, on a temporary or permanent basis. The placing and lifting of these restrictions is a decision of the elders. It states that any person who is in the *lafu* areas or the restricted islets without permission commits an offense and is liable on conviction to a fine ranging from $1.50-$5.00, or to a sentence of community service for a period not exceeding one month.

Another common rule deals with fishing. The most important explicit fishing conservation measure is in the again the *lafu* whereby all types of fishing are periodically banned in specific areas of the main reef. Other measures are returning under-sized fish and banning of destructive methods of fishing. A variety of customs provide disincentives to over-fishing such as having to divide the catch equally amongst the community members. Customs encourage fishing for particular species at particular times, which in effect results in a 'season', and customary laws discourage hunting for rare species such as green turtles.

At present the authority of the elders to impose management methods is diminishing, while at the same time the far less discriminating and more intensive western methods of fishing are placing far greater pressure on the resources. Although the Department of Agriculture and Fisheries is attempting to institute controls, enforcement at the local level requires the support of the elders. Impressing upon the elders the need for modern management requirements is not straightforward, and elders are reluctant to impose laws which they do not fully understand.

Involvement of the community in planning and developing the policies

Community involvement through the three Faipule and village committees is seen as the best way to coordinate contemporary environmental needs with tested traditional knowledge of resource management and conservation. It is envisaged that this involvement will result in the production of legislation at the village level.

Any legislation proposed for Tokelau will have to be presented to the people for their endorsement through the Elders and the Faipules.

The future

An environmental audit currently being carried out, will provide us with the vital knowledge of Tokelau's ecological limits, and the status of its our natural resources, in order for us to exploit our resources in a sustainable manner.

In conclusion, there is a great need for Tokelau to have strategies addressing the protection of land resources, water resources, species, and ecological processes from pollution, siltation, overfishing etc. These strategies should include the establishment of protected areas; regulation of fishing; monitoring of fishing effort and stocks; and monitoring of the effects of land-based pollution.

Recommendation

Reports on Tokelau's environment have recommended that Tokelau develop environmental legislation, and that Tokelau establish marine and land protected areas. Although the present *lafu* system protects some areas at specific times, there is still a need for Tokelau to have a specific protected area. The idea of a protected area has been proposed to the Elders for their consideration, but there are still problems to be sorted out. Ideal sites have been identified but unfortunately these belong to private land owners.

The next step for Tokelau is to find ways of implementing these recommendations.

Conservation Policy and Strategy Development in PNG

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Abstract

The unprecedented level of support pledged both from internal and international sources, to strengthen Government of Papua New Guinea (GoPNG) biodiversity conservation initiatives, have identified and reemphasised the fact that technical and infrastructure support needs to be complemented by sound management programmes that provide realistic opportunities for developing national capacity.

1993 has heralded a new chapter for the Department of Environment and Conservation (DEC). All indications suggest that the next five years will present a range of challenging opportunities for the department to move from the intensive period of policy formulation and planning, which was the focus of attention during the first phase of the National Forestry and Conservation Action Programme (NFCAP), into a sustained period of policy and project application. During this period, several levels of planning have been addressed. These have produced a number of significant and useful policy outputs such as the: National Sustainable Development Strategy Framework, DEC Strategic Plan; Papua New Guinea Conservation Needs Assessment; Global Environment Facility (GEF) - Integrated Conservation and Development (ICAD) Project; and the Conservation Areas Rehabilitation Project (Phases I and II).

This paper examines Department of Environment and Conservation (DEC) strengthening programmes and how these contribute to conservation policy and national development objectives, and complement carrying out of the department's Strategic Plan.

The overall framework being instituted in Papua New Guinea for establishing a representative conservation areas system through the Integrated Conservation and Development approach, including the ways community involvement is planned nd managed, is also discussed.

"In Papua New Guinea we are blessed with one of the richest, most beautiful, diverse and productive natural environments to be found anywhere in the world." Rt Hon Paias Wingti - Prime Minister of Papua New Guinea - 25th February 1993.

Introduction

The first section of the paper provides an overview of the biodiversity conservation significance and related policies of the Government of Papua New Guinea. The social, environmental and ecological contexts are outlined and links between the National Forestry and Conservation Action Programme (NFCAP) and conservation and environmental management issues generally in Papua New Guinea are established. This is further developed in Section 2, as part of the general Government of Papua New Guinea's biodiversity conservation programme.

Background

Papua New Guinea's Biodiversity Significance

Papua New Guinea (PNG) is the largest island nation in the Pacific and the richest, in flora and fauna, of all the nations on the Pacific Rim. Comprising the eastern half of the subcontinental island of New Guinea, plus the great islands of the Bismarck Archipelago and the northernmost Solomon group, as well as some 600 additional smaller islands, PNG's borders stretch from the Equator to 12 degrees south latitude, and encompass 465 000 square kilometres. This island nation supports a remarkable range of equatorial environments - from high alpine peaks, several of which rise above 4 000 m with the highest, Mt. Wilhelm 4 509m, one of the highest points between the Asia and the Antarctic, to extensive pristine tracts of lowland alluvial rain forest as well as coral reef systems - arguably diversity not found in many other places on earth. As an example, Johns (1992) points out that the diversity of montane forest systems in PNG must compare with similar areas in the Andes.

Papua New Guinea is geologically complex, and lies upon at least three of the earth's main tectonic plates (Australian, Pacific, Solomon). It is tectonically active, with volcanism, earth movements, and mountain-building. Perhaps because of this breathtaking welter of earth events, Papua New Guinea is also very rich biologically. More than seven hundred species of birds inhabit Papua New Guinea's varied environments. This inventory includes some of the world's largest (and smallest) parrots, the largest pigeons, all the world's three species of cassowaries, and more than two-thirds of the known birds of paradise. PNG is home to the world's largest butterfly. Almost two hundred species of mammals, including two of the world's three monotremes, all of the world's tree kangaroos, and a remarkable selection of lesser species, comprise Papua New Guinea's remarkably little-known mammal fauna.

Added to this, the flora is one of the richest on earth, with an estimated 9 000 species of higher plants and perhaps as many as 1 500 species of forest trees alone. This includes two species of the ancient *Arcaucaria* lineage, a rich assortment of southern beech (*Nothofagus*), and a great variety of economically important species - the mahoganies, dipterocarps, laurels, and myrtle family, among others.

This incredible natural diversity is equally matched by Papua New Guinea's cultural wealth, subsumed in some seven hundred distinct language groups. In no other country is cultural and biological diversity so closely interdependent. Although geologically youthful, the history of human occupation of Papua New Guinea is probably quite old, predating 50 000 years before present. There is evidence of agricultural activity since 9 000 years ago. This long period of human occupation, linked to the relative isolation of clans and tribes to each other, goes some way to explaining the diversity of indigenous cultures and languages.

Most of the human population of Papua New Guinea lives in a rural and agricultural setting. Port Moresby and Lae, the two primary urban areas, comprise no more than 170 000 (5%) and 70 000 (1.9%) persons, respectively. Population density throughout the nation is low to very low, averaging less than 7 persons/square kilometre. Some areas in the central highlands, however, support densities as high as 30 persons/square km. Most of these populations are primarily subsistence-oriented and dependent on swidden agriculture of a variety of root crops. Animal protein, except in some coastal areas, comprises a relatively low proportion of the diet.

In 1975, at the time of Independence, Papua New Guinea supported a population of less than 2.5 million, and was little developed economically. As much as 80% of its land area remained in its original tropical forest state. Over the last fifteen years we have witnessed the rapid growth of PNG's population (by more than a million) as well as the development of many extractive industries, especially those related to export timber, commercial agriculture (coffee, copra, cocoa, tea, rubber, palm oil) and mineral resources. Subsistence agriculture using slash and burn practices is also widely used. A combination of pressures, which include population growth and the extraction of natural resources, is now a direct and long-term threat to the nation's biodiversity.

An established two-part process is perhaps the greatest threat to PNG's future. This is the loss of important, long-held cultural traditions, caused by the influence of powerful forces of 'westernisation', in combination with the rapid growth of an extractive industrial sector. As traditional landowners become alienated from their past and their culture (in which they worked closely with the forest and land - the source of all their needs), they are more easily influenced by outside forces to trade the rights to their natural resources in exchange for cash compensation. This shift, from subsistence to a cash economy, has speeded up the process of alienation of the traditional guardians of the land, opening the door to, in some areas, unsustainable exploitation. This process in occuring, to an increasing degree, in many sections of PNG today.

Over the last five years Kina 20m (US$20m) has been allocated for biodiversity conservation programmes by the Government. A willingness to commit substantial additional resources is evident provided we can show that this money can be used in an effective and meaningful way, and will contribute directly to the welfare of landowners and communities.

Because of the significant contribution PNG's biodiversity makes to the global community, the Government is also looking to international organisations and funding sources to share both in the benefits and costs of conserving biodiversity. A particular focus on alternate forms of economic development, which are not socially or environmentally destructive, is a specific target for this assistance.

Environmental Problems

PNG has some serious environmental problems such as deforestation, due in some instances to uncontrolled logging and estimated at well over 80 000 ha per year. The expansion of agriculture into previously forested areas is of major concern. It has been estimated that between 150 000 ha (Walters, 1963) and 200 000 ha (Saulei, 1990) of forest is cleared annually by shifting agriculture. These activities cannot be easily regulated, and the situation is further complicated by a land tenure system in which more than 97% of the land is held by customary owners.

Major mineral extraction ventures in remote highland areas face severe environmental management problems because of the geography, geology and climate.

Environmental and conservation management capacity in Papua New Guinea is inadequate to address the urgent dual requirements of comprehensive measures for biodiversity protection, and assistance to rural communities to achieve ecologically sustainable development. Apart from other considerations, the land tenure system demands the evolution, development and progressive acceptance by political, administrative and, of fundamental importance, landowner groups of alternate methods to achieve conservation.

Environmental Policies

The legal justification for the Department of Environment and Conservation is the 4th Goal of the National Goals and Directive Principals of the PNG Constitution which states:

Natural Resources and Environment

Papua New Guinea's natural resources and environment should be conserved and used for the collective benefit of us all and should be replenished for the benefit of future generations.

DEC Mission Statement

The Mission Statement of the Department of Environment and Conservation as authorised by the National Executive Council decision No 157/90 on 22 August 1989 is:

> *To ensure that natural and physical resources are managed to sustain and enhance environmental quality and human well-being.*

Papua New Guinea has several legal instruments, including the *Conservation Areas Act, Fauna Protection and Control Act, Land Act, Fisheries Act* and *Environmental Planning Act*, to protect and conserve natural systems. These establish a legal framework for the conservation of biological diversity. Major reforms have also been made to the *Forestry Act* and Forestry Policy. These are being progressively carried out through the Government's National Forestry and Conservation Action Programme (NFCAP), which is supported by a World Bank/UNDP Technical Support Project.

National Forestry and Conservation Action Programme

There have been considerable efforts, particularly over the past three years, to help and provide support for our attempts to conserve natural resources.

In early 1990, in response to a request from the Government of Papua New Guinea, the World Bank led a policy study and advisory mission known as the Tropical Forest Action Plan (TFAP). In response, relevant Government Departments, with an increasing involvement from the NGO community, have drawn up a programme that now forms the National Forestry and Conservation Action Plan (NFCAP). Major goals of the NFCAP include ensuring that PNG's forest resources are managed in an ecologically sound and sustainable way, and that the country's diverse ecosystems and biota are adequately protected.

One NFCAP proposal called for the creation of large, multiple use Conservation/Protected Areas, to be planned and established as a national system encompassing 20% (+-) of the country's total area, and providing protection to a representative cross section of PNG's terrestrial, marine and estuarine biological diversity. Developing mechanisms for developing and carrying out this objective is an important part of the DEC Strategic Plan (Refer 2.1).

Other NFCAP initiatives developed to support conservation and environmental management programmes include: Conservation Needs Assessment, Protected Areas Rehabilitation, Conservation Areas System Design, Queen Alexandra Birdwing Butterfly Conservation Project, DEC Management Systems and Human Resource Development Plan, Watershed Management and Protection, and a Conservation Advocacy and Public Awareness Programme.

A more recent initiative, which is a direct outgrowth of the UNCED Earth Summit and the objectives of Agenda 21, is the preparation of a National Sustainable Development Strategy. The Government of New Zealand is helping to develop the planning framework for this important undertaking. The Waigani Seminar (August 1993), which was held both in Port Moresby and in various provinces, has contributed significantly to the development of this policy initiative. The current plan is to have a cabinet policy paper ready for discussion by parliament later in 1993. This will set the scene for an intensive period of strategy development that will include all sectors and levels of the PNG community.

All initiatives and programmes for biodiversity conservation and sustainable development stress the need for full involvement of landowners. It is also fully realised that the realities of PNG's land tenure system, and the conservation of viable areas of biodiversity, makes it imperative that sustainable development alternatives, linked to tangible, practical and legally secure incentive agreements, need to be made available to our landowners.

Government of Papua New Guinea's Biodiversity Conservation Programme

Department of Environment and Conservation Strategic Plan

In mid 1991 the Terms of Reference for developing a Strategic Plan for the Department of Environment and Conservation were derived. Following this, under a co-financing agreement between the New Zealand Government and the World Bank/United Nations Development Programme NFCAP Technical Support Project - a team of three consultants to help development of the Strategic Plan was commissioned. The first phase of this task, completed in December 1991, was followed up by a second mission in March/April 1992.

The DEC Strategic Plan, completed in May 1992, in the context of the general DEC Strengthening projects, equips the department with a definitive and realistic planning framework for the next five years. The Strategic Plan is a central component of all the department's conservation activities. It was developed to be consistent with the DEC constitutional mandate and mission and has established a sequence of priorities for the immediate, medium and long term.

A principal priority of the department is to *"systematically build the skills, experience, resources and general capability of the department so that it has the capacity to fulfill the mission and statutory responsibilities given to it by the Government"*. Within this priority an immediate organisational need is the carrying out of a review of DEC's Human Resource Development and Management Systems. This is being addressed by a separate project, supported by the Australian International Development Assistance Bureau (AIDAB). This will be mobilised in 1994 and will help us to better organise ourselves for the demanding job ahead.

Research and consultations carried out during the DEC Strategic Planning process recognised the importance of providing definitive linkages between data gathering, research, management and advocacy functions for both environmental management and extending the conservation system.

The following is an indication of the effort that has gone into the design of various projects to complement the activities and programmes being developed by a wide range of individuals and organisations. This approach supports accomplishment of the DEC Strategic Plan by providing capacity backing in the form of technical assistance, training, and special equipment linked to existing and proposed environmental and conservation initiatives. Relationships to other DEC support programmes, such as the Global Environment Facility (GEF) Integrated Conservation and Development (ICAD) project, through the Conservation Resource Centre (CRC) and the European Economic Community (EEC) / World Wide Fund for Nature (WWF) Conservation Areas Management Programme, are considered necessary and will be developed as conservation initiatives are advanced and become established.

Conservation Programme Objectives were based around an assessment were based around an assessment of needs. This helped develop the following model:

Research is needed to expand knowledge and understanding of conservation needs and conservation opportunities.

- In order to begin experimenting with conservation methods to find those best suited for Papua New Guinea, and
- to use these methods for extending the conservation system;
- and improving management of the existing system;
- recognising that conservation goals cannot be achieved in isolation and that networking and advocacy activities will be fundamental to success.

(DEC Strategic Plan - May 1992)

Sustainability Factors

GoPNG has developed a comprehensive National Forestry and Conservation Action Programme (NFCAP). DEC is the designated lead agency for several NFCAP project initiatives and has been designated as the agency responsible for carrying out ICAD projects. DEC has conducted a series of meetings over the past 18 months with government agencies (Finance and Planning, PNG Forest Authority, Department of Agriculture and Livestock), the academic community (UPNG, UNITECH), national NGOs, including the National Alliance of NGOs (NANGO), multilateral organisations (UNDP, ADB, UNEP, World Bank) and international NGOs. This process has helped immeasurably in the development of a broad consensus on programmes, priorities and processes for advancing policy and new programmes.

Summary

- Project proposals must address global concerns as well as being carefully designed to incorporate the consitutional principles of GoPNG's national plans and policies.
- An essential step is to ensure that a sustainable and robust management system, which involves landowners and the Department of Environment and Conservation in an equitable partnership, are developed and nurtured as an integral part of the project design and implementation.
- Global benefits are significant. Papua New Guinea's terrestrial natural resources, particularly its mountain lands, rainforest, and marine and estuarine areas support an estimated 5% of the planet's biolgocal diversity. The concentration of this diversity is among the richest in the world.
- Conserving viable habitats and ecosystems through the development of an ecologically representative Conservation Areas System is a major GoPNG objective.
- Projects need to test innovative ideas for dealing with, arguably, the most complex land tenure system in the world.

- The notion of conservation covenants linked to landowner awareness and incentive projects, to provide long term support for the conservation of biological diversity has the potential to be modified for use in other parts of PNG, the Oceania Realm and other countries facing similar environmental and conservation issues and problems.

Conclusion

Land-owners in many parts of Papua New Guinea have expressed positive interest in conservation area status for their land, provided alternatives that support their economic and social development needs can be carried out.

Finding and developing equitable ways to carry out on-the-ground activities to address the second part of this position is the challenge that is about to be faced, in a substantive way, in Papua New Guinea.

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Constraints and opportunities of using legislation as a tool for community involvement in biodiversity protection

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Abstract

Local community involvement is a prerequisite to sustainable biodiversity conservation. This involvement will be achieved through community participation in the development, implementation and enforcement of legal rules governing the protected areas. This implies involving communities at a very early stage, and on an on-going basis, in the conservation and management process. Certain behaviours and social values will have to be translated into legal terms. In addition, it will be necessary to identify a legal framework vested with the competence and powers required.

Abstract

La protection de la biodiversité ne peut s'établir de manière durable sans l'implication des populations locales. Cette implication se fera en les associant aux règles de droit qui vont régir ces secteurs, aussi bien au niveau de leur élaboration que de leur mise en oeuvre et de leur application. Un travail les associant très tôt et constamment dans le processus de protection et de gestion sera nécessaire. Il faudra pouvoir traduire certains comportements et valeurs sociales en termes juridiques. L'identification d'une structure dotée de la compétence et de l'autorité nécessaire sera également nécessaire.

Introduction

Les gouvernements et les institutions qu'elles soient nationales, régionales ou internationales, sont désormais conscients des liens qui existent entre conservation de la diversité biologique et développement durable.

Une de nos tâches dans ce secteur pour les années à venir sera de trouver et de mettre au point les moyens opérationnels pour concrétiser ces liens. Cela ne pourra se faire de manière fructueuse qu'en respectant les contextes socio-économiques et culturels dans lesquels ils prendront place.

La plupart des pays ayant créé autrefois des zones de protection, l'ont fait pour la conservation des sites remarquables par leur aspects, des écosystèmes, des ressources génétiques, ou d'espèces de faune ou de flore sauvages. Jusque dans un passé récent, la création de ces zones s'est parfois traduite pour les populations locales par des restrictions juridiques à l'utilisation de leurs ressources. Il était alors souvent considéré comme de bonne gestion d'interdire toute utilisation des ressources de telles zones ayant pour effet leur consommation. Ainsi, la définition internationale des parcs nationaux adoptée en 1969 prescrivait de supprimer les établissements humains situés à l'intérieur des parcs et de mettre un terme à l'exploitation des terres et des ressources qu'ils renfermaient.

Ces notions ont évolué avec le temps. Il n'est plus contesté aujourd'hui qu'il serait vain de vouloir protéger une espèce, si on ne prend pas en même temps des mesures de protection de son milieu de vie. Cela a impliqué une évolution parrallèle de l'outil juridique. La protection de la diversité biologique, lorsqu'elle s'effectue in-situ, c'est à dire sur le terrain, passe par l'implication des populations locales dans cette protection. Il y a là plus qu'un souhait, c'est une necessite, formee par les experiences antérieures.

Des exemples sont maintenant connus de l'échec d'une autre attitude, fut-elle fondée sur la meilleure volonté. Désintérêt des populations, champ libre laissé aux seules actions destructrices, conflit entre les propriétaires légitimes et les experts venus de l'exterieur, etc.

Cette approche efface une idée désuète selon laquelle l'homme ne saurait être que destructeur de la nature. C'est souvent vrai, mais il a également un rôle essentiel dans le maintien de la biodiversité. C'est par son intervention appropriée que la diversité biologique se maintient aujourd'hui dans beaucoup de sites. On pourra prétendre qu'il ne fait qu'essayer de réparer ce que d'autres hommes ont détruits. le constat demeure.

Le droit doit modeler des règles qui prennent en compte cette situation. Elles comportent des inconvénients dont il ne faut pas se cacher l'importance. Elles comportent également des possibilités qui sont autant d'atouts pour une meilleure efficacité.

Les contraintes

L'efficacité du droit tient à une série de facteurs qui doivent être pris en compte lors de son élaboration comme lors de son application.

Elaboration

Une règle de droit ne sera d'autant mieux respectée qu'elle sera perçue comme pertinente par le corps social à qui elle s'impose, ce qui signifie qu'elle devra être considérée comme nécessaire par les populations locales. Il y a là tout un champ de conflits potentiels entre les nécessités de la protection de la biodiversité et les besoins immédiats des populations, entre le long terme et le court terme.

Ces difficultés pourront être levées en associant le plus tôt possible les "experts" : scientifiques, juristes, et les populations locales. Elles ont un savoir qui peut être utilement mis à profit. Elles ont également des règles de vie; sociales, religieuses etc , qui doivent être prises en compte pour le succès durable des mesures de protection. Cela va poser des problèmes de communication qu'il ne faut pas sous-estimer. Ces experts ne maitrisent pas forcément les langues locales. Ils ne connaissent peut-être pas non plus l'importance sociale de certaines activités qui sont "objectivement " destructrices (captures de tortues pour des motifs traditionnels).

Une autre difficulté sera, lorsque l'on veut associer les populations locales, sera de les identifier. Prenons l'exemple des tortues marines. Ce sont des animaux migrateurs, il se déplacent sur des superficies considérables qui ignorent les frontières. Comment associer tous ceux qui sont en contact avec ces animaux au cours de leur cycle de vie.

Un autre point encore sera de discerner au sein d'une communauté quel est l'interlocuteur compétent. Est-ce le propriétaire foncier, l'utilisateur, le représentant de la communaute religieuse, le chef de la cellule familiale, etc

Importance donc du rôle des populations locales dans la protection de la biodiversité, à condition bien sur qu'elles acceptent cette collaboration active que les experts voudraient leur faire jouer. L'association à l'élaboration de la règle de droit est précisément un des moyens d'y parvenir. Il sera nécessaire qu'une structure existe au sein de laquelle ces populations aient une place, et y disposent d'un pouvoir juridique reconnu.

Mise en oeuvre

L'aboutissement logique de cette démarche sera d'avoir un corps de règles juridiques très adapté à chaque situation particulière, c'est à dire très diversifiée, voire complexe, spécialement pour qui n'aura pas participé au processus d'élaboration. La situation pourra alors se révéler très difficile à gérer d'un point de vue juridique. Pour être respectée, une loi doit être connue. Plus une loi sera précise, et d'application localisée, et plus il sera difficile à chacun de la connaître, de la comprendre, notamment pour les personnes qui ne résident pas en permanence dans la zone d'application de cette loi.

Il y aura donc un risque d'éparpillement de la règle de droit, au détriment de son efficacité.

Le contrôle de cette règle va en être rendu plus délicat.

En effet, qui va contrôler l'application de cette règle? Une autorité centrale; et alors on peut se demander si elle aura le degré de formation nécessaire, et la sensibilisation requise pour dire le droit. Les atteintes à l'environnement sont encore souvent perçues comme des faits d'importance mineure, un mal regrettable mais nécessaire dans un processus de développement. Qui osera appliquer une sanction, lorsqu'elle existe, à un entrepreneur dont l'usine, par ses rejets, pollue une mangrove, si l'arrêt de ces rejets signifie des coûts de traitement qui vont entraîner une hausse des frais de production qui vont se traduire à leur tour par des pertes d'emploi? Cette pollution peut être percue comme un fait d'importance mineure sur un plan purement économique. Quelle est la valeur économique d'une mangrove? As-t-elle simplement une valeur économique? Et pourtant, les spécialistes ont révélé l'une importance majeure sur un plan écologique des mangroves. Si les personnes chargées d'appliquer les lois relatives à la protection et à la gestion de l'environnement ne possèdent pas la formation qui va leur faire prendre conscience de cela, il y a fort à craindre pour la protection de cet environnement.

Demandons alors à une autorité locale, proche de la réalité du terrain, de faire respecter la loi. Le dilemne sera le même. L'importance des faits sera mieux cernée, mais la connaissance parfois directe des protagonistes va parfois accentuer la difficulté qu'il y aura à trancher dans ce conflit d'intérêt.

Dans de nombreux cas, le débat va être difficile, il va être long. Lorsqu'un verdict sera prononcé il sera d'autant plus difficilement lié à l'évènement qui l'a provoqué, il risque ainsi de perdre sa valeur d'exemple, et ainsi son efficacité.

Lorsqu'une sanction sera prononcé il est important qu'elle soit comprise par ceux ou celles à qui elle s'applique. Il existe tout un éventail de possibilités, dans le droit écrit comme dans le droit coutumier. Lorsque des sanctions sont appliquées, un des buts recherchés et de faire connaître à l'ensemble d'un corps social le danger que représente certains comportements pour cette société. Par exemple exploiter une forêt en coupant un volume de bois supérieur à la croissance annuelle peu menacer à terme l'existence de la forêt et les revenus qu'une communauté en tire. C'est en associant les populations locales au processus d'élaboration de la règle de loi qu'on parviendra à une application efficace de ces règles en utilisant les sanctions considérées comme appropriées par ces populations.

Les atouts

Ces difficultés sont importantes, elles ne doivent pas nous faire reculer dans le développement d'une gestion moderne de la biodiversité, qui implique d'associer aussi étroitement que possible les populations locales. Ce choix comporte en effet de nombreux avantages.

Un meilleur ajustement de la règle de droit au besoin tout d'abord. C'est en associant étroitement les populations locales à l'élaboration de la règles de droit que cette règle aura la meilleure adéquation possible entre les besoins de cette population et les contraintes de la conservation de la biodiversité. On trouve une application de cette démarche notamment dans les études du droit de l'environnement (en anglais Review of Environmental Law) qui ont été entreprises dans le cadre des programmes SNAGE (NEMS) et ATER (RETA). L'intérêt d'une telle approche n'est plus à démontrer au sein des pays membres du PROE (SPREP).

Cela implique que ces populations soient intéressées et sensibilisées à la protection de la biodiversité. Quel meilleur moyen s'il en était besoin, que de les faire devenir acteurs de cette protection.

Meilleure compréhension de la règle de droit. Ce sera également la règle qu'elles auront décidé, qu'elles auront voulu en quelque sorte. On a là tous les éléments pour garantir une efficacité optimale de cette règle. Le contrôle de l'application de la règle sera plus efficace puisque la règle ne sera pas un ensemble d'interdits énoncés par une autorité lointaine et impersonnelle, mais le résultat d'un processus associant les acteurs locaux.

Une implication supplémentaire de ces acteurs pourrait se réaliser lors du contrôle de l'application de ces règles de droit. Directement concernés par le maintien de la biodiversité, vivant sur place, ils sont les sentinelles et les gardiens des lieux, et les plus à même de surveiller l'évolution de la situation.

L'application éventuelle de sanctions sera également un moyen d'impliquer les populations locales. D'une part elles ont participé à l'élaboration de ces sanctions et se sentiront plus impliquées dans leur mise en vigueur, d'autre part le choix même du type de sanctions peut être efficacement employé dans ce but. Dans ce domaine, l'obligation de réparations en nature peut s'avérer une solution très intéressante, ainsi que l'astreinte à des travaux d'intérêt généraux.

Conclusion

La protection de la biodiversité ne peut pas se concevoir sans y associer le volet de la gestion de cette biodiversité, et cette gestion ne sera compatible avec le concept de développement durable qu'en prenant en compte la situation des populations locales. La méthode la plus adéquate passe par l'implication de ces populations en les associant au processus d'élaboration des règles de gestion et notamment de leur volet juridique.

Cela suppose qu'il faut, en temps que de besoin, développer l'idée que les populations locales vont bénéficier de la protection de la biodiversité.

Je terminerai en faisant une proposition et un rappel.

La proposition est de reconnaitre à la biodiversité une valeur économique, bien que non marchande. Il y à la tout un champ de réflexion et de propositions pour les recherches juridiques à venir.

Le rappel est destiné a souligner que la législation n'est qu'un aspect du droit. Il en existe d'autres, par exemple le droit des contrats, qui peuvent être très utile et très efficace dans de nombreuses situations.

Une tâche importante nous attend. Elle suppose la participation de nombreuses institutions gouvernementales et non gouvernementales.

Supporting traditional conservation laws through legislation: A case study, from Isabel Province, Solomon Islands.

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Introduction

In March 1993, the Isabel Provincial Government passed three Conservation Ordinances, which will come into legal force when gazetted. These enable the establishment and management of forest areas, marine and freshwater areas, and village water supply catchment areas at the village level. The provision of this conservation legislation arose out of concerns expressed by customary landowners about the increasing difficulties of managing their resources through traditional mechanisms.

The Isabel Provincial Government requested assistance from the Maruia Society to draft appropriate legislation to address these concerns. In response to this request, a Maruia lawyer visited Isabel Province in early 1993.

Landowners and other members of village communities were consulted about what ordinances the Provincial Government might enact to assist the management of customary owned resources. The consultation was carried out to ensure that any ordinances would support traditional resource management decision making processes, rather than imposing a different, and possibly conflicting legal regime. This community involvement was considered to be crucial to the ultimate success of the legislation, given that the failure of other environmental legislation in the Pacific has often been blamed on the lack of landowner and community support.

An example of this is the Anarvon Wildlife Sanctuary which was established under the Santa Isabel Province (Wildlife Sanctuary) By-Laws, to protect the nesting ground of the Hawksbill turtle. The sanctuary was declared without clarifying land ownership or obtaining agreement of the landowners. Conflict arose between the warden policing the sanctuary and landowners wishing to harvest the turtles. The warden was eventually withdrawn because of threats to his safety, and the turtle harvesting continued.

The purpose of this paper is to:

- describe the process of designing environmental legislation in a village setting; and
- outline possible legislative solutions to the problems customary landowners have with managing their natural resources.

This information is provided so that both the process and solutions adopted can be considered for application in other jurisdictions in the South Pacific region.

Isabel Province

Isabel Province is located to the north west of Honiara, the capital of the Solomon Islands (see Fig. 1). Santa Isabel, the main island in the Province, is the longest single island in the Solomon Islands. It is a largely hilly island, in most places still covered with primary forest. The Province has 14% of the land area in the Solomon Islands, but only 5% of the country's population (approximately 16,000 people). Large areas of Isabel are sparsely populated. The Provincial Government headquarters are located at Buala.

Transport in the Province is mainly by canoe. There are only a few roads, which are predominantly in the north-west, near logging activities which have taken place at Allardyce. Until relatively recently, Isabel people have lived basically subsistence lives, with a few employed on coconut plantations or by the government.

The relatively low population density of the island has meant that the natural resource base has generally been sufficient to maintain the subsistence lifestyle. However, with the more recent rapid population growth, and the increase in people's aspirations, particularly for improved levels of education and health, increasing pressure is being placed on the island's natural resources, both for food production and cash income.

Land Ownership

Most land is in customary ownership (87% in the Solomon Islands as a whole). Customary land ownership is based on a matrilineal system, passing from mother to eldest daughter. The 'owner' holds the land in trust for the landholding group (*butubutu*). Tradition requires that major decisions affecting customary land are to be made by consensus amongst all adult *butubutu* members. Some areas of customary land in Isabel are legally 'registered' at the Land Registry (in the ownership of only three or four 'trustees'), as a result of the Colonial Government's intention to promote the granting of logging concessions over the land. There is a strong perception in Isabel, held by both government representatives and customary landowners, that the government does not have the mandate to regulate activities on customary land without the general consent of the affected landowners.

Administrative System

The Solomon Islands has an active Provincial Government system. Provincial Governments have the functions delegated to them from the National Government. However, the effective performance of these functions is limited by the lack of funding at the provincial level. The functions that can be delegated are set out in Schedule 4 of the *Provincial Government Act 1981*. Those relating to resource management are:

"Local crafts. Historical remains. Protection of wild creatures."

"Protection, improvement and maintenance of fresh-water and reef fisheries."

"Physical planning except within a local planning area."

"Control and use of river waters. Pollution of water. Provision of water supplies."

Within each Province, Area Councils form a local administrative structure, set up under statute, and with by-law making powers. Area Councils are based at an Area Office staffed by an Area Administrative Officer (AAO). Village communities often expressed little confidence in the effectiveness of Area Councils.

Parallel to the statutory administrative structure is the chiefly system (not currently recognised by statute). This consists principally of the chief of each *butubutu* (often the brother of the woman 'landowner') and the chief of each village (where people from more than one *butubutu* live). Villages also have village committees to deal with various administrative duties and issues within the community. There is a Council of Chiefs, consisting of the *butubutu* chiefs from throughout the Province, headed by a Paramount Chief. This Council rarely meets in practice, due to the lack of money available to purchase the petrol necessary for canoe travel around the Island.

Policing and Court System

A number of police officers are stationed at Buala, the Provincial Government headquarters, but no police are based elsewhere on Santa Isabel. This severely reduces the effectiveness of policing, particularly when transport is predominantly by canoe and many villages have no telephone or radio telephone system to rapidly communicate messages outside the village.

A 'Local Court' system (formerly labelled 'Native Courts') has been established under colonial legislation. Members of the Community are appointed by the Governor-General to sit on the Court. The Courts have the power to enforce customary law as well as civil and criminal law. They can normally impose a fine of up to $(SI)200. However, the court may not sit without a court clerk to record the proceedings. The nearest court clerks are based in Honiara and there is rarely the money to bring a clerk out to Isabel for a court sitting. Therefore the Local Courts rarely function in practice.

The next level in the court hierarchy is the Magistrates Court. However this court only visits Isabel three or four times a year. Criminal prosecutions normally have to wait for the next sitting of the Court (which may be some months away).

Process of Designing the Legislation

The Conservation Ordinances arose out of concerns expressed by landowners about the increasing difficulties of managing their resources. These issues were raised during a provincial planning officer tour of villages in October 1991. The tour focused on natural resources and was designed to determine the worries of the population. A further tour of villages was carried out by planning officers in June 1992. This focused on what form people considered the Ordinances should take, and what resources they sought to protect. The issues of prime concern that emerged were the protection of village water supply catchments, the effective management of marine areas and the establishment of protected areas of forest.

Building on this previous consultation, a Maruia lawyer visited Isabel Province in January 1993. Meetings were held with elected members of the Provincial Government and with governmental officers based at Buala. A six day tour of villages on Santa Isabel was carried out by the Maruia lawyer accompanied by Senior Provincial Planning Officers and the Provincial Legal Adviser. A total of eight meetings were held in villages, both inland and coastal, to discuss the proposed Ordinances. The villages visited were selected on the basis that they contained a high proportion of landowners.

This village consultation process was considered to be the most important part of the drafting of the Ordinances (as opposed to any legal research), as:

- Community support was crucial to the effective implementation of the Ordinances. The lack of effective policing and court systems in Isabel, particularly outside Buala, meant that any laws would need to be policed locally by the community. If there was not sufficient community support, the laws would not be policed and therefore would be useless.
- It was intended that the Ordinances would support the traditional resource management and decision making practices. It was therefore necessary to ask landowners and community members how these processes currently operated.
- Given the shortage of resources and poor communication, with practically no roads or telephone system on the Island, it was important that the mechanics of protecting resources were straight-forward and practical. Good intentions could be obstructed by practical difficulties only known to locals. The mechanisms of registering areas, lodgement of forms, notification, etc were therefore discussed in some detail.

A range of other parties who had expertise in environmental issues affecting the Solomon Islands, were also consulted about the appropriate form of the legislation. This was a means of accessing existing knowledge about the region. Existing environmental legislation in the South Pacific was examined for useful precedents. In particular the Wildlife Management Areas regime in Papua New Guinea under the *Fauna (Protection and Control) Act* and the *Guadalcanal Province Wildlife Management Area Ordinance 1990* were of relevance.

As a result of the consultation process, however, it was evident that a number of changes were required to the provisions contained in these two pieces of legislation to cater for the requirements of the customary landowners and the practical circumstances in Isabel Province. Finally, draft Ordinances were sent to the Provincial Government, which passed them without amendment.

Issues Arising from the Consultation

The initial consultation carried out by the provincial planning officers identified concerns about poor resource management. Many resource owning groups had attempted to control the exploitation of their natural resources, but felt powerless. The traditional chiefly system, which empowered the chief to take decisions about natural resource use on behalf of the people, was losing its effectiveness.

It appeared that the younger generation were no longer so respectful of the Chiefs' power, particularly when Chiefs attempted to restrict the taking of resources for commercial return. This may be because members of the younger generation are more mobile than their elders, travelling more frequently outside the confines of their community to places where they are not constrained by the traditional controls. Is is also increasingly evident that the legal system does not back up the Chief's edicts, which can therefore be ignored with impunity.

Concerns about protecting village water supply catchments arose out of problems villages were experiencing with water supplies drying up or becoming polluted. This was mainly resulting from gardens being located upstream of the water supply dams.

Problems with marine areas had arisen because of the growing exploitation of marine resources for commercial sale. With the drop in price received for copra, villagers could more easily obtain money by selling trochus shells (for processing into buttons) and beche de mer (for sale as a food delicacy to Japan) from the reefs. Reef owners had observed that stocks of these resources were markedly declining and could soon be exhausted. This was a result of members of the reef 'owning' groups exploiting the reef resources, as well as poaching by outsiders.

Much concern was also expressed about the likelihood of the forest on the island being logged. Logging had recently commenced on customary land on the north west of the island. Overseas logging companies were exerting strong pressure on landowners to sign logging agreements over the remaining unlogged customary land. Logging in other areas of the Solomon Islands was having catastrophic effects on village life, with loss of fertile soils for food cultivation and pollution of water supplies. There was considerable concern about the effect of logging on villages in Isabel. If areas of forest were not preserved now, all forest could be lost for future generations.

It was evident that the community was facing urgent resource management problems. If action was not taken soon, the resources could be effectively lost forever. What was needed therefore was an accessible, flexible and responsive law that could be implemented quickly.

The issues that were identified as being key to the design of the legislation and which were discussed at the village meetings were:

- Who should decide on the control of the use of resources - members of the landowning group (*butubutu*), the *butubutu* Chief, the Village Chief (who may not be a member of the landowning *butubutu*), or users of the land?
- Who should ensure that people purporting to be landowners and able to make decisions on its use, are accepted as being such by the community?
- How should land ownership disputes affect resource management?
- Who should process applications?
- What procedures should be used to identify the conservation areas, register the areas, and notify them?
- What rules should apply to the areas?
- How long should the areas remain protected?
- Who should enforce the Ordinances and how? What level of fines are appropriate? To whom should the fines be paid?

Three ordinances were drafted as a result of the consultative process. However, for brevity, this paper will focus in detail on just one of the ordinances, the Conservation Areas Ordinance. The other two ordinances, dealing with marine and freshwater areas and village water supplies, have many similarities with the Conservation Areas Ordinance.

Objectives of the Conservation Areas Ordinance

Before drafting the Ordinance, the key objectives were formulated, based on the results of the consultative process. These were to:

- provide landowners with a legal mechanism for setting aside areas of forested land (for a range of purposes), but to be protected from logging, clearing for cultivation and mining; and
- strengthen the Chief's ability to control the use of resources, by explicitly backing up the chiefly power with legislative force.

The first objective is based on an intention to protect areas of tropical rainforest for a variety of custom uses, such as house building materials, medicines and food (for example hunting of forest animals), as well as for preserving sacred (*tambu*) sites, for current and future generations. It was not envisaged that areas would be totally protected as in the concept of national parks in western countries. If landowners can use the forest for custom purposes, the forest continues to have a value to the owners who are then more likely to ensure its continued preservation.

In relation to the second objective, there were two existing administrative structures in Isabel Province that could have been used to strengthen resource management within the Province: the governmental system and the traditional chiefly structure. Overwhelmingly, the resource owners wished to address management of their resources through the traditional chiefly system, rather than by regulation imposed by government.

Given the weakness of the government organisation on the Island, particularly in the remote village areas, using the chiefly structure was, in any event, the only practical solution at the time. The traditional chiefly system was the strongest system operating, and required the least inputs from outside. It was the only practical way of ensuring the long term survival of these community resources at this time.

Provisions of the Conservation Areas Ordinance

Some of the provisions which were ultimately included in the Ordinance are described below.

Purpose

The purpose of the Ordinance is described as "..to assist owners of land to protect and manage their land and land based resources for conservation, custom, spiritual and amenity purposes".

The intention was to keep the purpose broad, so that the Ordinance could protect areas such as *tambu* sites and wildlife habitats, and ensure the availability of custom medicines, building materials, etc. - whatever the landowners wished to preserve.

Applicant

Because of the lack of registered land titles, a mechanism to ensure that the applicant did in fact represent the *butubutu* had to be devised. In order for a customary landowner to apply to set aside or modify a Conservation Area, the application must be signed by three "bona fide representatives" of the customary landholding group. This requirement was inserted to prevent one individual purporting to represent the whole landowning group, without any support from other members.

In order to further encourage consultation within the *butubutu*, any person signing the application must be "..according to custom regarded as a person able to speak on behalf of the customary landholding group," and must have "consulted, as fully as reasonably practicable, with all persons with customary rights over the affected land."

As a final check that the applicants do in fact represent the *butubutu* that owns the land, the application is required to be signed by the Chairman of the Area Council certifying that to the best of his or her knowledge, the application is made by bona fide representatives of the correct land owning group.

This selection of the Chairmen of the Area Councils was made on the basis that they would have some knowledge of accepted customary land ownership in the area, and if they did not have the knowledge, they would at least be in the position to make enquiries.

Land Ownership Disputes

As most of the land in Isabel Province is in customary ownership, and is not registered, there are understandably many disputes about ownership and boundaries of land, particularly when land can be used for commercial gain, such as with logging. Efforts were made to ensure that the Ordinance did not become enmeshed in land ownership disputes. This was achieved by three mechanisms. Firstly, the Ordinance stated that any declaration to set aside an area as a Conservation Area "..shall have no bearing whatsoever over the issue of ownership of any land."

Secondly, where there is a known dispute over the land, a Conservation Area can not be declared, unless representatives of all disputing landowning groups have signed the application.

Thirdly, where a Conservation Area is set aside, and subsequently it is determined that another *butubutu* owns the land, they are given the ability to apply to change or remove the Conservation Area.

Rules to Apply to Protected Areas

To help landowners develop rules to apply to the Conservation Areas, a set of standard prohibitions were included in the Ordinances. These are:

- "Cutting of any tree which is over 2m in height, except where such tree is to be used for the construction of a customary building.
- Clearing or cultivation of any land for any purpose.
- Access for the reconnaissance, prospecting or mining of any minerals (including oils and gases).
- Earthworks of any kind."

Provision is made for landowners to determine their own rules which may differ from those above, providing flexibility if required. This will enable levels of sustainable use of resources to be determined and incorporated into the rules.

Declaration of Conservation Areas

The Provincial Government determined that it wished to have the final approval of protected areas. Provision is made for the area to be set aside by at Provincial Government's declaration. The Government can only make such a declaration after receiving an application from a landowner. Therefore any Conservation Area can only be set aside on the initiative, and with the agreement, of the landowners.

Providing for the Provincial Government to be part of the process of setting aside Conservation Areas was important as it encourages the Government to have a commitment to, and sense of ownership of, the Conservation Areas within its Province.

Duration of Protection

In discussions with landowners, a consensus emerged that Conservation Areas should be protected for about a generation, with the next generation having the ability to revoke the protection if desired. It was considered that the ability to remove the protection at any time, or within a few years, would significantly reduce the protection of the land, particularly from logging, as members of the *butubutu* could subsequently be enticed by logging companies to grant a logging concession. Tying up land for longer than a generation was considered unjust to future generations who would then be bound by decisions of their parents or grandparents. As a result, a term of 30 years for each Conservation Area was provided in the Ordinance, but with the ability of the landowners to specify a different time period in their application, if this was required.

Once the Area has been set aside, an application to vary or remove the protection can not be made for the term of the protection (say 30 years). After the expiry of the term, the people owning the land at that time have six months to make an application to remove the land from protection, otherwise it will be protected for another term (say 30 years) and so on.

Notification / Recording / Marking

Once the Provincial Government has declared a Conservation Area, it is published in the Solomon Islands Gazette, to ensure that there is a legal record of the Protected Area in case Provincial Government records are lost or mislaid. The Police are notified in case they are called on to enforce the rules applying to a Conservation Area. The Area Council is notified and required to send a notice to all the Village Chiefs, who can then notify the people in their village. The Area Council will also display a copy of the notice on local notice boards (at the Area Office, churches, local stores etc.) and hold a meeting in the village closest to the Conservation Area to explain the rules applying to the Area.

A public record of all Conservation Areas, which is open to the public, is required to be kept by the Provincial Government. This enables parties who are seeking to become involved in the land, such as logging companies, to search the record for any protected areas.

A wide ranging notification exercise is set out in the Ordinance to try and ensure that all interested parties do receive a notice. To avoid any technical arguments based on the failure to correctly notify, as a defence to a prosecution under the Ordinance, it is made clear that the Conservation Area will be in force, even if the notification is not carried out to the letter.

A sketch map showing the area is required to be lodged with the application. It was necessary to avoid any need to survey the area, as the cost of this would be prohibitive and certainly ensure that no areas were set aside.

Transitional Provisions

Concern was expressed that crops in gardens within a Conservation Area would be lost when the Area was declared. A transitional provision was therefore included providing that crops from existing gardens may be harvested in a Conservation Area (but no new crops may be planted).

Penalties

A significant problem with much of the current environmental legislation in the Solomon Islands is that the level of fines is too low to be any real deterrent, particularly to commercial interests. For example the maximum fine under the *Guadalcanal Province Wildlife Management Area Ordinance 1990* is $(SI)500. The maximum fine under the *Makira Province Preservation of Culture and Wildlife Ordinance 1984* is $(SI)100.

In the Isabel Conservation Areas Ordinance, different penalties are applied to different offenders, based on their likely financial situation, and likely proceeds from the offence. Fines are:

- Individuals not carrying out the activity for monetary benefit, maximum $(SI)500;
- Individuals carrying out the activity for monetary benefit, maximum $(SI)10 000;
- Companies offending, maximum $(SI)100 000.

The purpose of this differential in fines is to have a level of fines that is realistic, but which also acts as a real deterrent. A fine appropriate for a local offender, that perhaps cuts down one tree to build a house, is different to from appropriate for a local offender using a chainsaw to cut logs for sale, which is different again from that appropriate for a logging company which logs within the protected area for export.

In addition, directors and managers of companies can be held personally liable for an offence of the company. Any proceeds from the offence, such as money from the sale of logs, can be confiscated, and any business licence the offender holds to operate within the Province can be cancelled and not re-issued for up to five years.

Enforcement

The Ordinance clearly states that "The primary responsibility for enforcing the rules governing the use of a Conservation Area shall be with the owner or owners of the land". This clearly expresses the intention that the owners will police the Area. This is necessary given that there are no police located in the villages.

A strong view was expressed during the consultation that the Village Chief (as opposed to the *butubutu* Chief) should have the power to fine offenders, at least as a first step, before recourse was had to the relatively inaccessible Police or Courts. Some effort was taken to define exactly who the Village Chief was. It was also necessary to take into account villages where there may not be a nominated 'Chief' as such, but a person who was considered to have a similar decision-making role.

The definition of "Village Chief" included in the Ordinances was: "the person who according to custom is regarded as the head of the village or other local community concerned and where there is no such customary head of a village or local community, means a person regarded by the people within the village or local community as their leader in relation to the matter concerned."

There was some doubt as to whether constitutionally the Provincial Government had the delegated statutory power to give Chiefs the legal power to fine. In order to avoid any uncertainty about this matter, which may have delayed the implementation of the Ordinances, the following solution was adopted (on the helpful advice of John Delany):

"(1) An offender under this Ordinance may agree to pay a penalty to a Village Chief of up to $300.

(2) It will be a defence to a prosecution of any individual person for an offence under this Ordinance, if the offender has fully paid any penalty imposed by a Village Chief for the offence."

This enabled the Village Chief to impose a fine of up to $(SI)300 and for the offender to agree to deal with the matter at that level. This is intended to deal with most local offenders. Companies were excluded from the provision, to avoid the possibility of a company bribing the Chief to impose a low fine, to avoid facing the courts, where a much higher fine can be imposed.

Payment of Fines

It was seen as important that at least part of the money paid as fines should come back into the community. This will act as an incentive for the community to police the Ordinances, and provide some compensation for the damage done by the offence. The ordinances therefore provide that at least half (and potentially all) of the fine is to be paid to the landowners. The ultimate amount of the fine payable to the landowners will be determined after taking into account the damage suffered.

Proposed Implementation

The real test of any piece of legislation is how it works in practice and this has yet to be tested with the Isabel Province Conservation Ordinances. It is intended that an educational programme be adopted (with the support of The Nature Conservancy), to ensure that landowners are aware of the Ordinances and how they can be used. It is also intended that a Police presence be encouraged early on as a demonstration that decisions of the Chiefs are now to be backed up by the legal system if necessary, and cannot be flouted.

The use of the legislation will be monitored, and amendments may be adopted to rectify any problems which arise.

Summary and Conclusion

The Isabel Province Conservation Ordinances are a response to a request from landowners for legislative assistance in managing their resources. The final form of the Ordinances was a result of extensive consultation with landowners, other community members, and professionals with expertise in environmental issues in the Solomon Islands.

The Ordinances have drawn from the concepts embodied in the Wildlife Management Areas legislation in Papua New Guinea and the *Guadalcanal Province Wildlife Management Area Ordinance 1990*. Modifications have been incorporated into the Isabel Ordinances to address the specific situation in Isabel Province, and in particular to explicitly recognise the collective nature of resource management decision making by landholding groups, the traditional role of the Chiefs in disciplining offenders, and the payment of fines back into the community.

The Ordinances have yet to be fully implemented. An educational programme is planned to advise landowners how the Ordinances can be used. It is also intended to monitor the success of the Ordinances so that any difficulties that arise can be dealt with by amendment if necessary.

The Ordinances are a useful case study of both the process of developing environmental legislation in the Pacific (with extensive consultation with the people affected) and the appropriate content of such legislation in a situation of the customary ownership of natural resources.

Acknowledgements

The final form of the Isabel Conservation Areas Ordinances legislation was the result of many helpful inputs from a wide range of people. People I would particularly like to acknowledge are Annette Lees, Deputy Chief Executive, Maruia Society; Peter King and Eddie Ene, Senior Planning Officers, Isabel Province; Tanya Leary, The Nature Conservancy; Kathy Means and Graham Baines, World Wild Fund for Nature, Australia; Robin Connor and Rachel Houlbrooke, Resource Managers, Solomon Islands Development Trust; Ian Cowper, Partner, Bell Gully Buddle Weir; John Delany, Barrister; and Charles Crothers, Senior Lecturer in Sociology, University of Auckland.

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Future Directions for Biodiversity Conservation

Key Issue Paper

Future Directions for Protected Area Development in the South Pacific: An Overview

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Introduction

Much has been said this week about protected area development in our region over the past several years. The failures and successes of various efforts by governments, NGOs and local communities have all been reported, noted and, hopefully, analysed for future guidance. From your regional environment organisation's (SPREP's) point of view, the NGO community, the donor agencies, the national and regional organisations, as well as governments themselves, have all been important players in protected area development over the past years. We must all therefore be pleased and blamed for the successes and failures respectively, of past efforts. By decision of its Intergovernmental Meeting, the decision-making body of SPREP, in 1990, the organisation has opened its doors to welcome the participation of Pacific NGOs. More and more international NGOs are also now becoming active participants in SPREP. We made the gesture despite certain logistical problems. I would be extremely pleased to know how the others, including NGOs, intend to turn this into a mutually satisfying association in the long-term.

Returning now to the subject matter of my talk, I would like to reiterate the following major points which I thought came out very clearly in your discussions.

- The success of future efforts to conserve biodiversity through protected areas will depend largely on our ability to access and conserve resources on customary-owned lands.
- The full participation and support of land-owning groups in the planning, establishment and management of protected areas is crucial to the long-term viability of protected areas.
- Partnership arrangements between governments, NGOs and land-owning groups can be an effective way for the management of protected areas.
- Plans to establish protected areas must also include programmes to improve the standard of living of those living in or around protected areas.

If these are the factors which have frustrated past efforts to create protected areas in our region, then it should be clear to all of us that we must concentrate future action and resources to address these problems. A closer look at these factors will show that the interest and well-being of the local communities are central to the problems. Their consent will be necessary in order to gain access to the lands they own and control. Their support will be required in the implementation of protected area activities and in controlling inappropriate activities by local and neighbouring communities. The participation of local communities in decisions relating to the management of the protected area will ensure their full support and cooperation; and the benefits they receive from the protection of the lands and resources they own and use will relieve the pressure from within on the resources of protected areas.

I would suggest that if we are able to address the above issues within the next four years, I am confident that when we meet again in 1996, we will be proud of our achievements. I think the crucial issue here is peoples' participation. There has been a great deal of discussion about how best we can assure peoples' full participation in the development and management of protected areas. I do think therefore that there is a need to look at ways and means whereby we can entice and induce people to participate fully in decisions and action relating to the management and sustainable use of the resources in protected areas.

Of course there is no single formula applicable to the complexity of Pacific Island societies. Local communities will have different needs and priorities and their ability to manage and control the use of natural resources will likewise be different. It is therefore impossible for me to suggest any particular approach which will be found applicable to any variety of situations within our island nations. What I propose to do therefore is to suggest some common elements which you might find useful in working out appropriate strategies which I hope will result in greater community support for protected areas.

1. Create conditions and incentives for effective conservation by local communities.

Unless local communities have the incentives, the capacities, and the latitude to manage biodiversity in protected areas sustainably, national and international actions are unlikely to produce results. Local biodiversity conservation cannot succeed unless communities receive a fair share of the benefits, and assume a greater role in the management of their biotic resources - be they protected areas, coastal areas or forests. Local structures and organisations should be respected, encouraged and supported in their efforts to conserve and protect biodiversity in protected areas.

2. Improve local capacity to conserve and use biodiversity sustainably.

Conservation action by local communities can succeed only if people understand the value of biodiversity, see how it influences their own lives and aspirations, and learn to manage protected areas to meet their needs without diminishing biodiversity. This capacity is lacking at the moment and investment in human capacity building relating to biodiversity management by governments and donor agencies have been inadequate to date. Indeed, many governments have considered actions to save and study biodiversity wasteful expenditures, mainly because they have not grasped the potential contribution by biodiversity to national and human needs.

The key to conserving genes, species, and ecosystems at the community level is increasing knowledge of biodiversity and its role in local societies and communities. Research and information studies undertaken on locally-owned areas should grow out of consultation with those who will need and use the data. For locally-owned protected areas, these will be the local communities, hence, data resulting from such studies and research should be provided in a form easily understood by the local communities.

3. The tools for conserving biodiversity must be strengthened and applied more broadly.

Protected areas are vital tools for conserving biodiversity in the South Pacific. But protected areas are not the only means for conserving biodiversity in a region where the change to cash economy and high population growth rates poses urgent threats to biodiversity. Combined with off-site facilities such as botanic gardens, seed banks and sanctuaries, protected areas can protect a substantial fraction of the region's biodiversity and help to mobilise its benefits. But these conservation tools cannot serve this role if they remain underfunded and understaffed.

Appropriate tools for the conservation of biodiversity must be chosen depending on the needs and aspirations of the local communities. Where protected areas are considered too large and inappropriate for small communities, seed banks, botanic gardens and sanctuaries could be effective in the conservation of threatened and endangered species.

Conservation areas as promoted under the South Pacific Biodiversity Conservation Programme (SPREP) allow for the sustainable and economic use of resources and could therefore find popular acceptance by local communities. However, caution must be exercised to ensure that the utilisation of the resources does not result in the disappearance of the species or the degradation of the areas that needed protection.

4. Encourage partnership arrangements between local communities, NGOs and Governments.

I believe there has been strong consensus here on the need to establish and strengthen partnership arrangements between local communities, NGOs and governments in the establishment and management of protected areas. Such partnerships should be based on the principles of self-respect and mutual understanding of the role and functions of the parties concerned.

Local communities should maintain their role as owners of the project together with the responsibilities that go with it. NGOs and governments can provide the technical and other forms of assistance required for the effective management of the project. Small management groups comprising representatives of the parties involved in the project could be an effective way of ensuring closer cooperation between the parties. And such groups should be adequately supported with resources from governments, NGOs and donor agencies.

5. Compensate individuals or local communities who own or depend on land or resources taken for protected areas.

Recognition of local rights and ownership implies that compensation should be paid to those whose land rights are diminished or foregone. Compensation, whether cash, alternative tracts of land, or services, directly supports protected areas. Such compensation must be perceived as just and fair, and must reach the hands of the affected communities. Compensation should be supplemented by incentives which aim to promote continued interest and concern for the long-term sustainability of the protected area. Trust Funds can be an affective mechanism to ensure the long-term security of financial support for the maintenance and management of protected areas. Sustainable economic activities should be encouraged within protected areas so that communities can benefit from the establishment and management of protected areas. Again, care must be exercised to ensure that such activities do not degrade the resources of protected areas.

6. Promote recognition of the value of local knowledge in the management of protected areas.

Local knowledge should be recognised for the important contribution it can make towards the management of protected areas. Local peoples' knowledge about the medicinal and other values of plants, local use of plants, trees and other resources of protected areas is invaluable. Traditional knowledge is usually possessed by the elders who are also the leaders of their communities. These leaders should be well briefed and consulted about plans and activities relating to the establishment of the protected areas.

Recognising the rights and knowledge of the local communities is but a small step toward achieving actual equity in the use of the resources of protected areas. Governments should ensure that the resources of areas under community control are not unjustly exploited for the sake of research.

The above are but only a short summary of what I believe were the more important factors which came out in your discussions relating to the strategies to involve local people and communities in the development and management of protected areas in the South Pacific. As earlier pointed out, approaches and strategies will differ depending on local situations. There is therefore no single formula applicable to the diversity of Pacific Island societies and communities. The above elements, while practical, and which may be widely accepted, should be closely scrutinised in order to ensure that they are compatible with the goals and aspirations of the people and communities concerned.

To return to the subject of my paper, I think it is fair to ask the question at this point; "Now that we have successfully concluded the Fifth Conference on Nature Conservation and Protected Areas, and have exhausted discussions on the means and ways to involve local communities in nature conservation, what then should we do next? Are we really satisfied that what we said as being necessary to win the confidence and support of local communities for protected areas, is achievable and practical? Additionally, are we now clear about our responsibilities to each other, to the communities we will be working with, and to the areas we will jointly manage and protect?"

If we are not, then I do suggest that in the next hour or so during your workshop session, you should spend some time discussing what these responsibilities will be and work out appropriate means to effectively realise closer cooperation amongst ourselves. We may have identified our respective roles in the development and management of protected areas but I doubt that we have spent much time talking about our responsibilities to each other. Such discussions should aim to identify contact persons within each organisation, the resources each party is willing to contribute to the implementation of the project, mechanisms for effecting decisions by the parties relating to their joint responsibilities to the project, the exchange of decisions by the parties relating to their joint responsibilities to the project, and the exchange of letters between the parties to formally register their commitment to the partnership.

These I think will be a good start in the development of practical and workable arrangements for cooperation and collaboration in the establishment and management of protected areas on community-owned lands. I believe there is value in having outside partners (including governments and NGOs) agreeing on these arrangements before the communities are approached, and ideally, the outside partners should be seen as members of a single team rather than as a group of individual organisations, each trying to justify and promote its own participation in the project.

Finally, there is a need to decide on the real value of conferences of this nature. We must be realistic. Conferences involving numbers as we had here this week are expensive to organise and may not necessarily be the most effective fora for discussing and deciding on important technical and policy issues relating to the protection of biodiversity in this region. There may be value in having more in-country meetings as opposed to large regional conferences and I do not doubt that there is general agreement on the need to put resources into the implementation of action to protect biodiversity rather than costly conferences.

I am not saying that there is nothing to be gained from regional conferences. I have been very impressed with the participation and the quality of the discussion that took place here this week. What I am saying is that we should perhaps ascertain what are our priorities might be in the next four years or so. In these difficult times with resources becoming scarce for meetings and conferences, and donor agencies suffering from 'aid-fatigue', I foresee that opportunities for financing future meetings will decline dramatically, thus highlighting the need to look at in-country meetings relating to specific projects. I urge you to give this matter your full consideration.

I wish you well in your deliberations.