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Report No 3/07

Money Grows on Trees

Valuing and Sustaining Natural Resources in Pacific Island Countries

Report Prepared for
The Nature Conservancy,
Pacific Islands Forum Secretariat and the
Secretariat of the Pacific Regional Environment Programme by:

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Pacific Islands
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Lee Thomas

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Please note: Unless stated otherwise, all currency denominations in this study are in USD.

Executive Summary

The natural environment of Pacific Island countries has supported, maintained and improved the social and economic wellbeing of its people and cultures since the arrival of the first inhabitants.

The importance of the region's biodiversity cannot be understated; it is present in every facet of the island way of life. Natural resources provide food, shelter, medicine and are used extensively in traditions.

In the past, utilization of these resources was allowed under traditional and community management. It is believed that utilization was undertaken in a balance with nature so that biodiversity was used in a sustainable manner.

In more recent times, as islands in the region move to a cash economy, the role of the environment in people's lives has decreased. This has often been accompanied by a reduced appreciation of the role of the environment. However, areas set aside for conservation have high financial and economic value to communities. Furthermore, as illustrated in this report, many of these areas underpin tourism and bring valuable revenue from international tourists and fishing activities thus supporting national economies.

Therefore, the relationship between environmental factors, the health and welfare of the community and economic development of Pacific region nations needs to be fully recognised. Integration of the three elements is fundamental and critical to achieve a sustainable future.

Finding the balance can be difficult because it involves a multitude of factors spread across all sectors of society; each with their different aims and objectives. However, this challenge has been successfully met by a number of countries, both within and outside the Pacific region. Their success and the principal economic and social factors to consider are documented in this report.

Compared with other regions of the world, there are few studies of financial costs and benefits of conservation areas in the Pacific region. Examples where financial strategies have been developed are even scarcer. However, the studies that have been done demonstrate the potential that conservation areas have to supplement government funding and recover their management costs through a range of financial fees and charges.

The range of alternative funding sources continues to grow and extends from innovative fiscal measures taken nationally to self-generated revenue from conservation sites. In addition, there is funding from the Global Environmental Facility, as well as domestic and international donors. However, to secure these funds, governments and conservation agencies need to have the institutional capacity to document the outcomes and deliverables that they intend to achieve. This is a barrier in the Pacific region but it can be overcome by working in partnership with stakeholders such as national and global conservation agencies.

A particular challenge has been identified in relation to the Convention on Biological Diversity Programme of Work. Most countries are a signatory to the Convention and, by 2008, will need to have made significant progress towards preparing financial plans for protected areas and achieving long-term revenue streams. In addition, the need to fund conservation efforts in the short term rather than the longer term is a lower cost option over time and therefore requires action now.

RECOMMENDATIONS

GOVERNMENT FUNDING

Government agencies manage the environment in most Pacific countries. Therefore, government budgets remain at the core of long-term funding for conservation. Donor funds are likely to continue to be an important secondary source of protected area finance. It is recommended that governments give a firm commitment to maintaining the funding base at an appropriate level to ensure effective management. This report also recommends a need to examine the sources and the way funding is provided for biodiversity conservation, to maintain and increase existing long-term flows.

CONSERVATION AND SOCIO-ECONOMIC OBJECTIVES

A key condition for securing public funds for conservation areas in the future will be the ability of planners and managers to develop and justify funding proposals in terms of conservation and socio-economic objectives. It is recommended that conservation be mainstreamed so as to achieve formal recognition at all levels of government. Conservation needs to be made a central plank in social and economic planning.

NEW SOURCES OF FUNDING

Efforts to enhance funding should capitalize on the growing diversity of funding sources. It is recommended that the responsible Minister and managing agencies should particularly seek to mobilize increased resources from private and non-government sources, through commercial and extra-budgetary channels. The diversification of funding should be a prerequisite for ensuring the long-term financial sustainability of conservation areas.

CAPACITY BUILDING

Capacity building is vital. Therefore, it is recommended that conservation and environmental planners, managers and decision makers invest in creating the awareness, infrastructure and information base to ensure that existing funding is maintained. Opportunities to increase funding from new sources should also be seized. This will ensure that policy makers in other sectors do not inadvertently undermine prospects for conservation.

A critical determinant of successful fund-raising is the recruitment of business managers within managing agencies, who can work effectively with a range of stakeholders. Such individuals have an important role in identifying new funding opportunities and securing appropriate external partners to help develop them. Partnerships with stakeholders, non-government organizations and the private sector will be pivotal to fully achieve the capacity needed. It is recommended that this be strongly pursued.

SUPPORTIVE POLICY CONDITIONS

In several countries, enabling legislation has been the key to promoting conservation, developing new sources of revenue and increasing private investment. At a national level, policies permitting management agencies to set fees and retain revenues are often critical to enabling financial sustainability. Similarly, international guidelines and mechanisms for attracting funding from the private sector through carbon offsets have made an important contribution to many protected areas. Accordingly, it is recommended that environmental legislation be reviewed and amended as necessary to provide the supportive policy base needed for future action.

1. SYNTHESIS OF RESOURCE VALUATION STUDIES

This Section discusses the issues germane to resource valuation work and provides a contextual setting for the adoption of financial conservation initiatives**.**

1.1. INTRODUCTION

The benefits provided by natural ecosystems are widely recognized and, at the same time, poorly understood.

Natural ecosystems are under enormous pressure around the world. Growth in human populations and prosperity translates into increased conversion of natural ecosystems for agricultural, industrial or residential use. There is increased demand for ecosystem inputs, such as fresh water, fibre and soil fertility. In addition, there is more pressure on the capacity of natural ecosystems to assimilate our waste, including air and water pollution as well as solid waste. In short, we are asking more and more from natural ecosystems even as we reduce their capacity to meet our needs.

Natural ecosystems and the services they provide are certainly valuable; but how valuable? Maintaining ecosystems, whether through protected areas or through other mechanisms, requires expenditure of resources. There are often many competing claims on these resources. Devoting more effort to conservation may mean having fewer resources to address other pressing needs, such as improving education, health or infrastructure. Conserving ecosystems and the goods and services they provide may also involve foregoing certain uses of these ecosystems, and the benefits that would have been derived from those uses. For example, not converting a forest ecosystem to agriculture preserves certain valuable ecosystem services that forests may provide better than farmland, but it also prevents the realisation of benefits from agricultural production.

To assess the consequences of different courses of action, it is not enough to know that ecosystems are valuable. We need to know how valuable they are, and how that value is affected by different forms of management.

1.2. VALUATION STUDIES

Valuation studies have considerably increased our knowledge of the ‘value’ of ecosystems. Unfortunately, environmental advocates in the media, government, business and civil society have often used impressive, but sometimes unsound, valuation results indiscriminately and often inappropriately. This has undermined the usefulness of valuation studies.

Valuation is not a single activity. The seemingly simple question ‘how valuable is an ecosystem?’ can be interpreted in many ways. For example, it could be interpreted as asking about the value of the current flow of benefits provided by an ecosystem or about the value of future flows of benefits. It could also be asking about the value of conserving an ecosystem rather than converting it to some other use. These interpretations of the question are often treated as being synonymous. However, they are very different questions, and the answers will not be the same.

It is useful to clarify how valuation should be conducted to answer specific policy questions. The following outlines how valuation should be used to examine four aspects of the value of ecosystems.

1. **Determining the value of the total flow of benefits from ecosystems**. This question typically arises in a ‘national accounts’ context: How much are ecosystems contributing to economic activity? It is most often asked at the national level, but can also be asked at the global, regional or local level.

2. **Determining the net benefits of interventions that alter ecosystem conditions**. This question typically arises in a project or policy context: Would the benefits of a given conservation investment, regulation or incentives justify its costs? It differs fundamentally from the previous question in that it asks about *changes* in flows of costs and benefits, rather than the sum total value of flows.

3. **Examining how the costs and benefits of ecosystems are distributed.** Different stakeholder groups often perceive very different costs and benefits from ecosystems. Understanding the magnitude and mix of net benefits received by particular groups is important for two reasons. From a practical perspective, groups that stand to "lose" from conservation may seek to undermine it. Understanding which groups are motivated to conserve or destroy an ecosystem, and why, can help to design more effective conservation approaches. From an equity perspective, the impact of conservation on particular groups such as the poor or indigenous peoples, is also of significant concern.

4. **Identifying potential financing sources for conservation.** Knowing that ecosystem services are valuable is of little benefit if it does not lead to real investments in conserving the ecosystems that provide them. Simply knowing that a protected area provides valuable watershed protection benefits, for example, does not pay the salaries of park rangers. Yet experience has shown that relying solely on government budget allocations or external donors for the necessary funding is risky. Valuation can help identify the beneficiaries of conservation and the magnitude of the benefits they receive. This can help design mechanisms to capture some of these benefits and make them available for conservation.

These four approaches are closely linked and complement each other. They represent different ways to examine similar data regarding the value of an ecosystem: its total value or contribution to society; the change in this value if a conservation action is undertaken; how this change affects different stakeholders, i.e., who are the beneficiaries and who are the losers and; how beneficiaries could be made to pay for the services they receive to ensure that the ecosystem is conserved and its services are sustained.

Each of these approaches to valuation uses similar data. However, the data is used in different ways: sometimes examining it all; sometimes a subset; sometimes a snapshot and; sometimes changes over time. Each approach has its uses and its limitations. Understanding under what conditions one approach should be used rather than another is critical. The answer obtained under one approach, no matter how well conducted, is generally meaningless when applied to problems that are better treated using another approach. In particular, using estimates of total flows to justify specific conservation decisions—although commonly done—is almost always wrong. In contrast, valuation which is properly used can provide invaluable insights into conservation issues. Table 1.2. provides a guideline to determining when to use which valuation approach.

Table 1.2. The utility of different approaches to valuation.

Approach	Why do we do it?	How do we do it?
Determining the total value of the current flow of benefits from an ecosystem	To understand the contribution that ecosystems make to society	Identify all goods and services supported; determine the quantity of each good and service provided and multiply by the unit value of each good and service
Determining the net benefits of an intervention that alters ecosystem conditions	To assess whether the intervention is economically worthwhile	Measure how the quantity of each good and service would *change* as a result of the intervention, as compared to their quantity without the intervention; multiply by the unit value of each good and service

Approach	Why do we do it?	How do we do it?
Examining how the costs and benefits of an ecosystem (or an intervention) are distributed	To identify winners and losers, for equity and practical reasons	Identify relevant stakeholder groups; determine which specific good and services they use and the net value of those goods and services to each stakeholder group (or changes in their net values resulting from an intervention)
Identifying potential financing sources for conservation	To help make conservation financially sustainable	Identify groups that receive large benefit flows, from which funds could be extracted using various mechanisms based on the beneficiary pays principle

1.3. TOTAL ECONOMIC VALUE

As the values associated with the environment have become more obvious, economists have broadened the concept of Total Economic Value (TEV) to include both market and non-market values. The expanded definition recognizes that many of the most significant values associated with the environment are not traded in markets and therefore have no market price.

A fundamental step in properly valuing environmental resources is recognizing and, where possible, quantifying the resource's TEV. The TEV of an environmental resource is defined differently by various economists. The different definitions are usually a matter of semantics; the general idea of TEV is consistent.

At the most general level, the TEV of an environmental resource consists of its direct and indirect use value and its passive use value. Direct use value derives from the actual use of the environment. This includes both extractive uses of the environment (such as the logging or fishing) and non-extractive uses (such as bird watching or scenic vistas). The environment also provides services that individuals use in a less direct way. For example, the environment provides services in the form of erosion control, water recharge and waste treatment. Both households and firms depend on the environment to provide these indirect use values.

There is also a component of TEV that is based on the other types of value people place on environmental goods and services. This is unrelated to direct or indirect use. This category of value is called passive use value. It refers to the value associated with something that is captured by people through their preferences. In this sense, values are taken to be entities that reflect people's preferences and include the following motivations: altruism; concern for other people (gift) and future generations (bequest); sympathy towards non-human species and; feelings of stewardship. For example, people may place a value on the existence of a critically endangered species because they wish for other people (gift) or future generations (bequest) to be able to experience a beautiful bird species. Similarly, people may place value on the remote parts of their islands because they feel an obligation to protect this unique biological area (stewardship). All of the dimensions of value described above are considered to be legitimate components of TEV. A particular environmental resource can be a source of one or all of these values. An example of TEV for a forested watershed is illustrated in Table 1.3.

Table 1.3. **Total Economic Value for a forested watershed.**

Direct Use Value	Indirect Use Value	Passive Use Value
Timber production Non-extractive recreation (hiking, bird watching) Extraction recreation (hunting) Indigenous/ cultural uses	Recharge of underground aquifers Erosion and flood control through absorption of rain Water purification Climate control	Knowledge of the existence of forested watersheds for other people and/or future generations (gift and/or bequest) Value obtained from knowing that a 'duty' to protect ecosystems has been fulfilled (stewardship) Critical habitat for threatened/endangered forest species (gift, bequest, altruism, sympathy and/or stewardship)

1.4. PRICING

Placing a price on aspects of environmental resources has two effects. First, realistic pricing encourages the efficient allocation of resources. Specifically, individuals are encouraged to absorb the environmental costs of their actions into their decision-making so that scarce resources are allocated to those individuals who value them most.

Second, calculations of national or state income are improved when important assets are assigned a price that reflects their true economic value. This is required if an accurate picture of the contributions made by the natural environment is to be obtained. For example, an individual living within a watershed may experience water quality problems due to high levels of sedimentation resulting from a particular land-use activity, such as urban sprawl or construction. As a result, the individual may purchase a water filtration system to restore drinking water to its previous quality. The purchase of water filtration equipment does not increase the individual's welfare. Instead, the purchase allows them to return to the level of welfare they had before the water quality was affected.

As it is currently measured, national income increases when this type of expenditure is made. Due to the current treatment of defensive expenditures, national income is higher when environmental damage is incurred and some type of restoration is undertaken than it would be if the harm were avoided by taking preventative actions.

1.5. APPROACHES TO CONSERVATION USING PROTECTED AREAS

The standard approach to conservation has been the establishment of protected areas. This approach cordons off certain areas and restricts their use. There has been considerable debate about the effectiveness of protected areas as instruments for protection. Recent research shows that they can be very effective. However, their effectiveness can be limited because protected areas are often too small and isolated to sustain the full range of ecosystem services. Moreover, due to weak capacity and limited resources many protected areas are little more than 'paper parks'; protected in name only.

The limitation of protected areas as a conservation strategy has meant that more attention has turned to conservation efforts outside formally protected areas. A variety of instruments have been developed to help improve conservation. The initial approach was a regulatory one which sought to restrict land uses in particular areas and establish rules that prohibit activities considered deleterious to the environment such as farming on sloping land or the use of pesticides in riparian areas. This approach, however, may still include the establishment of protected areas.

More recently, there have been increasing efforts to use market-based instruments to promote conservation on both public and privately owned lands. These approaches seek to change the behaviour of land users by

changing their incentives; encouraging them to adopt more environmentally benign land uses and discouraging them from adopting more harmful ones. These approaches include efforts to develop markets for the products of environmentally friendly land uses, such as shade-grown coffee; the purchase of easements or direct payments for conservation on private lands and; 'trading' systems designed to compensate for damage in one place by improvements elsewhere.

1.6. DISTRIBUTION OF COSTS AND BENEFITS

Whatever approach is used, conservation has both costs and benefits. The costs include the direct costs of implementing conservation measures and the opportunity costs of foregone uses. The benefits of conservation include preserving the services provided by ecosystems. However, not all conservation approaches conserve all services fully. The question is whether the benefits of a given conservation measure justify its costs.

If the increase in aggregate benefits exceeds the increase in aggregate costs, then conservation would be interpreted as being worthwhile from society's perspective. This is known as a 'Pareto improvement'[1]. A Pareto Improvement occurs when the benefits are sufficiently large so that, in principle, better off (or, alternatively, that some can be better off with no-one being worse off). However, there is a difference between everyone being *potentially* better off, and everyone *actually* being better off. Consideration of aggregate benefits and costs masks the fact that benefits and costs can fall unevenly across groups.

The uneven distribution of costs and benefits has both practical and ethical consequences. In practical terms, it is important to understand the costs and benefits received by local users, because they often have a very strong influence on how the ecosystem is managed. If local users stand to gain more from a particular land use, they may convert the ecosystem to that land use no matter how large the benefits of conservation are to others. Likewise, if local users stand to benefit more from current conditions than from a proposed intervention, they are likely to oppose that intervention.

Understanding who gains and, in particular, who loses from ecosystem conservation provides insights into the incentives of different groups to manage an ecosystem in a particular way. By comparing the net benefits that groups receive from an ecosystem managed in one way (e.g., without conservation) with the net benefits they would receive if it were managed in another way (e.g., with conservation), this approach can help predict which groups are likely to support a change in management, and which groups are likely to oppose it. Therefore, this approach can provide useful information for designing appropriate responses.

Analysis of the distribution of costs and benefits is important to ensure that conservation interventions do not harm vulnerable people, and to design interventions that help reduce poverty and social exclusion. Tracking the flow of costs and benefits to stakeholder groups improves understanding of how conservation actions affect the poor and other groups, such as indigenous peoples.

In the past, conservation efforts such as the creation of protected areas have often had a negative impact on local communities. For example, conservation efforts may reduce access to resources on which local communities depend for food. Such impacts are of greatest concern where the affected population is most deprived. Even if the economic cost is small compared with the overall benefits, it could be very significant for poor households. Recent studies show that the poor are often very dependent on natural resources for their livelihoods. Therefore, while they may benefit from healthier, more productive ecosystems, they may be harmed if access or use is restricted. Identifying and estimating the value of such impacts can enable conservation strategies to be modified to avoid or minimize harm, for appropriate compensation mechanisms to be designed, or for financing schemes to be developed.

The case study below highlights an analysis of the costs and benefits of Madagascar's protected area system. Overall, this system provides net benefits to the country. However, the benefits are unevenly distributed. Local communities bear the brunt of the costs. Downstream water users, such as irrigated farmers and

[1] The term is named after Vilfredo Pareto, an Italian economist born in 1848, who used the concept in his studies of economic efficiency and income distribution.

tourism operators, benefit substantially. The protected area management agency, ANGAP, bears the management costs but receives external support (and part of the tourism benefits). Therefore, support for protected areas needs to include appropriate compensation mechanisms for local communities.

Case Study: The Costs and Benefits of Madagascar's Protected Areas System

Stagnant agricultural yields and a growing population in Madagascar have led to substantial clearing of land for agricultural use. This is threatening the country's unique biodiversity.

A protected areas system was created to conserve biodiversity. Protected areas substantially slowed deforestation within their boundaries. However, with an estimated 70 per cent of the population living below the poverty line in 2001, many questioned the resources spent on protected areas, and preventing the use of land and timber resources.

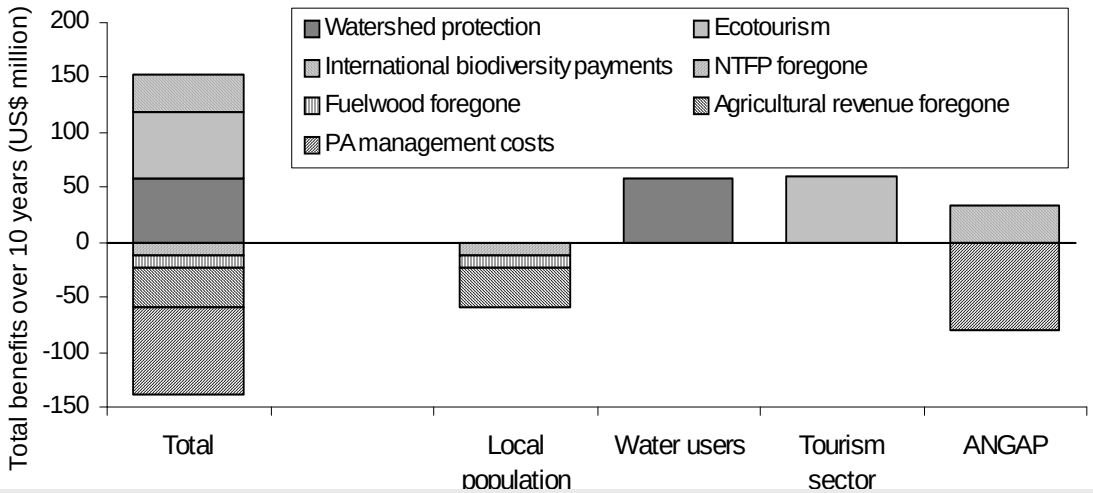
The costs and benefits of the protected areas system were estimated, in terms of their present value over a 10-year period (see Figure below). The total flow of benefits from the protected area system was estimated (left hand column in Figure). This analysis was undertaken from the country's perspective. It did not include global benefits, except to the extent that the country receives payments for providing them (formally, these payments finance the costs of conservation; an avoided cost, however, is equivalent to a benefit). It included the benefits of tourism only to the extent that they are captured by the country. Lack of data on net revenues from tourist spending limited the analysis to entrance fees paid by visitors to protected areas.

Despite the high management costs and the foregone income from use of the land, the system is estimated to provide net benefits to the country, due to the valuable watershed protection services these areas provide, their tourism benefits and the payments received for biodiversity conservation.

However, the benefits are unevenly distributed (right hand side of Figure). Local communities bear the brunt of the costs because they are barred from using protected areas for agriculture, or to collect fuel wood and other non-timber forest products (NTFPs). Tourism operators and downstream water users, such as irrigated farmers, benefit substantially. The protected area management agency, ANGAP, bears the management costs but receives external support and part of the tourism benefits.

Therefore, Madagascar as a whole benefits from its protected areas system. However, this balance depends on continued support from the global community. Support to protected areas needs to include appropriate compensation mechanisms for local communities.

Total flow of benefits from Madagascar's protected areas system and their distribution



Source: Carret and Loyer (2003).

2. VALUE OF CONSERVATION AREAS IN THE PACIFIC

2.1. INTRODUCTION

Unlike areas of the Caribbean, the Himalayas, Indonesia and Africa, the benefits of conservation activities in Pacific Ocean countries and territories have not been widely reported. However, the studies that have been undertaken are extremely valuable and, when matched with studies elsewhere, provide a useful context to support conservation as an integral component of national sustainable development.

The most relevant studies are examined in this Section.

2.2. WILD HARVEST AND CULTURED LIVE CORAL AND LIVE ROCK IN FIJI

International interest in marine aquarium products including coral, fish, invertebrates and live rock, has steadily increased. Coral, fish and invertebrates are sought for their variety, colour and beauty. Live rocks are used in aquaria as artificial reef substrate as habitat for other organisms. Live rocks in aquaria also help maintain water quality because algae on the surface of the rocks metabolize nutrients in the water into plant growth.

In terms of volume, live rock and coral are two of the most important products in the marine aquarium trade. Interest in these products, and in other ornamental species, is growing worldwide. In 2004, Fiji supplied about 161,927 pieces of hard and soft coral and 1.36 million pieces of live rock to overseas markets, mainly in the USA, Hong Kong, Japan and Europe. Fiji also exported 169,143 pieces of ornamental fish and 31,900 pieces of invertebrates (CITES database with the Fiji Fisheries Department, July 2005).

There is growing international concern over the environmental effects of harvesting live coral and live rock from the wild. Harvest of these products from the wild is considered to have detrimental effects on the ecology of coral reef ecosystems and on coastal fisheries which support many rural communities.

Although scientific evidence of ecological impacts is limited, wild harvest of coral and live rock particularly is discouraged. To reduce pressure on coastal resources, and ultimately reduce the level of harvest of coral and coral products from the wild, the culture of live coral and live rock is promoted as an alternative. The attractiveness of switching from wild fishery to mariculture of these commodities will depend very much on the economic net value of cultured coral and live rock as compared to the net value of live coral and live rock harvested from the wild.

2.2.1. Economic and Financial Analysis

Coral and live rock (and other aquarium products) collected for the aquarium trade are important sources of income for exporters and resource custodians. Total Free on Board value of live rock and coral products exported in 2004 was about $4.4 million, in addition to $1.8 million in ornamental fish and invertebrates. Rural resource custodians from 25 locally managed marine fishing areas "*qoliqolis*" where live rock and coral are extracted received a total gross income of about $1.4 million; $1.1 million from live rock and about $323,900 from coral. *Qoliqoli* chiefs of the areas where aquarium products are collected are estimated to have received about $155,400 in goodwill payments.

Annual net financial returns to collectors from the mainland and from nearby islands is slightly more than $750,000. People living on islands are the main benefactors from the harvest of coral. The harvest of live rock from the wild is the main activity for mainlanders. The financial net returns for the exporters of live coral and live rock products is estimated to be about $1.3 – 1.8 million. They bear the risk of fluctuations in exchange rates and international market supply and demand. The total net financial returns to exporters and

qoliqoli harvesters is slightly less than 50 per cent of gross income, or $2.1-2.6 million, compared with a gross income of about $4.4 million in 2003.

Aquarium trades based coral and live rock fisheries are financially viable and can provide a source of livelihood for indigenous Fijians. However, the financial and economic net returns from cultured products are significantly less than that obtained from the wild making it less attractive to villagers involved in the fishery.

Financial net returns from cultured coral and cultured rock can be comparable to the financial net returns from products harvested from the wild, if a price increase for cultured products could be assured. Furthermore, the difference between the economic net returns from the wild and cultured products is expected to decrease if cultured products can fetch higher prices because they are considered environmentally friendly, and if these price increases were passed on to the rural villagers.

Villagers need to be prepared to expend regular effort to establish, maintain and replace each batch of live rock and live coral cultured. Experiences in the Pacific suggest that this is one of the most critical factors in the long-term sustainability of aquaculture activities. Without meeting such feasibility factors, culture of live rock and live coral may meet a similarly dismal fate as other aquaculture ventures in Fiji and the Pacific.

Source: Lal, P. N. and A. Cerelala, 2004.

2.3. VANUATU'S CRAB BAY ENVIRONMENT INITIATIVE

With the closure of 600 hectares of fishing area and the provision of village-based education in sustainable resource management, Vanuatu's Crab Bay Environment Initiative has replenished the local crab population. With over 90 per cent of the community involved in the project, the number of crab burrows has increased eightfold and the number of trochus has grown fivefold in only two years.

The revitalized marine supply has increased the income for the community. The additional income has gone largely to children's schools fees and basic health services.

Women play a central role in harvesting of marine resources and need to be involved in the long-term management of these resources. It is encouraging that processes were used to encourage participation of the whole community in decisions about resource management.

Source: Equator Initiative, United Nations Development Programme Media Release: Vanuatu's Crab Bay Environment Initiative, July 2007.

2.4. ECONOMIC VALUE OF COASTAL RESOURCES IN PALAU

For Palau, tourism and fisheries provide the two 'big' sources of national income. Other economic benefits of coastal ecosystems have also been considered, including the economic values associated with 'traditional and cultural value', 'research value', 'mangrove use value', 'coastal protection value', 'bio-prospecting' and 'global biodiversity value'. The values combined are referred to as the Total Economic Value (TEV) of a resource.

An unpublished study by the World Bank assessed the economic value of coastal resources in Palau. Combining data collected in the report provides an estimate of the TEV of the coastal resources. The current annual TEV is estimated at $33 million, based on data for seven of the most important ecosystems.

Table 2.4.Total annual economic value added from ecosystem services of coastal resources.

Ecosystem service	Annual value (US $ million)
Fisheries	3.5
Tourism	27.5
Traditional use value	-
Mangrove use value	1.8
Coastal protection	
Bio-prospecting	0.2
Global biodiversity	
Total	**33**

Source: World Bank, 2004, (unpublished).

2.5. COSTA RICA PROSPERS BY PROTECTING ITS ECOSYSTEMS

In the 1990s, most of the wild land that Costa Rica needed to conserve was private property. Thinking creatively, the government engaged landowners by making environmental protection less about law enforcement and more about creating economic opportunities. Costa Rica promoted ecotourism and showed that thriving rainforests could be as profitable as coffee plantations. This strategy worked so well that today, ecotourism is Costa Rica's principal industry.

The strategy that most changed Costa Rica's fortunes was one that proved ecosystems had value, not just for beauty but for the vital services they provided. Science showed that without forests, river systems dried up and land often became lifeless. Pay a farmer more to manage his forested land than he got by clearing it, and vital resources could be preserved. The idea was not new, but Costa Rica became the first country to make it national policy.

Spearheaded into law by Costa Rica's Minister of the Environment, and financed by international non-governmental organizations and a ‘green’ gasoline tax, the Government’s Payment for Environmental Services (PSA) programme identified four natural resources which Costa Ricans now pay to protect: freshwater systems; the biodiversity that keeps ecosystems working; greenhouse gas-absorbing forests and; the landscapes tourists adore.

The PSA programme pays landowners about $400 per hectare per annum to farm ecologically. This has changed how Costa Ricans viewed wilderness. Subsistence farmers could afford to be educated or start a new business, while former cattlemen found water farming more profitable than herding cows. PSAs also encouraged landowners to create biodiversity conservation corridors between national parks, giving wildlife more space to roam and villagers more ecosystem payments.

Consequently, the programme has helped create new markets for ecosystem services, ranging from carbon emission credits for atmospheric carbon dioxide absorbed by intact woodlands, to megavolts of hydropower generated by the watersheds of restored rainforests. Pasture land began growing back into jungle, making Costa Rica the first developing country to halt and then reverse its deforestation.

"PSAs changed our notion of environmentalism," says Manuel Ramirez, senior director of Conservation International's Southern Mesoamerica Programme. "It transformed conservation from charity into an economic tool capable of competing with any other export in the global marketplace."

In fewer than 20 years, Costa Rica has risen from economic failure to one of Central America's leading nations. Tropical jungle again covers more than half the country, ecotourism annually injects about $825 million into the economy, and many of the once-struggling mountain villages now thrive because of

programmes such as AMISCONDE[2] . In 2006, some $60 million in PSAs went to thousands of Costa Rican landowners who now seem to treasure their forests like blue-chip investments.

Source: John Tidwell, Conservation International, Washington USA.

2.6. CONSERVATION CARBON: THE SIERRA MADRE, PHILIPPINES

The Sierra Madre Biological Corridor stretches along the mountainous eastern portion of the Philippine island of Luzon. It is one of the most unusual and biologically rich regions in the world. The 1.4 million hectare corridor accounts for more than 40 per cent of the country's remaining old-growth forests and is home to more than 400 species of wildlife, 153 of which are found nowhere else on Earth. Approximately half of these species, including the Philippine eagle, Philippine crocodile and flying fox, are threatened.

2.6.1. Challenge

Agricultural expansion, logging, mining and uncertain land tenure are the primary threats to the Corridor's old-growth forests. Farmers are clear-cutting the forest to create permanent agricultural plantations, while local people are using wood from the forest to meet their basic needs and generate income. Exacerbating the situation is that, without clear ownership of property, settlers in the region have little incentive for long-term sustainable agriculture and forestry practices.

2.6.2. Response

In 2003, Conservation International (CI) teamed with the Department of Environment and Natural Resources and the World Agroforestry Centre, ICRAF (an agroforestry research non-governmental organization), to design a multiple benefit Conservation Carbon Project. The Project aimed to restore degraded lands within the Sierra Madre and provide benefits for biodiversity and local communities.

The Project has a strategic approach to combat the primary threats to the region; agricultural expansion and small-scale logging. It will use a community-based forest management programme to shift demand from old-growth forests in the region, and to ensure protection of the newly declared protected area, the Sierra Madre Quirino Protected Landscape.

The Project will generate carbon offsets through a multiple component approach integrating land use and energy activities including biomass, restoration, agroforestry and protection activities. Specific activities include:

- protection of old-growth forests (covering 2,500 hectares)
- protection of second-growth forests (2,500 hectares)
- reforestation of grassland area (5,000 hectares)
- agroforestry farm development (2,000 hectares)
- biomass short rotation tree farms (500 hectares)
- biofuel plantation (500 hectares).

The Project demonstrates that, when properly implemented, carbon offset projects offer a cost-effective, low risk strategy which can generate multiple benefits such as biodiversity conservation, income generation, and

[2]*Amistad Conservation and Development Initiative (AMISCONDE):* the project set up a proactive management strategy in these buffer zones that worked directly with the local residents in Costa Rica and Panama on issues including forestry, agriculture, soil conservation, environmental education and community development. Hundreds of acres of land not suitable for cultivation were reforested, additional cleared land was left to regenerate naturally, and cattle farmers were shown how to better manage their livestock. The project also set up a credit system managed by the farmers themselves, allowing them to establish soil-conservation projects, start tree nurseries, establish environmentally friendly products and businesses.

water and soil conservation. It is also demonstrating that trade-offs, such as soil erosion, water table decrease and destruction of livelihoods, can be avoided.

The forest protection and reforestation aspects of the Project are designed using standards set by the Climate, Community and Biodiversity (CCB) Alliance. To earn approval under the CCB Standards, projects must satisfy 15 criteria to demonstrate compelling net benefits for fighting climate change, conserving biodiversity and improving socio-economic conditions for local communities.

In addition, the Project has been submitted for approval to the Clean Development Mechanism (CDM) under the Kyoto Protocol. Approval under CDM guidelines is an important step allowing carbon offsets that are generated to be classified as Certified Emissions Reductions (CERs). Purchasing CERs helps industrialized countries meet their greenhouse gas reduction commitments, while also providing sustainable funding to emission reduction projects in developing countries.

2.6.3. Value for Biodiversity

Healthy, intact forests store carbon from the atmosphere and play a unique role in mitigating the harmful effects of climate change. Global deforestation accounts for nearly 25 per cent of the annual emission of greenhouse gases. Wide-scale deforestation is fuelling climate change and biodiversity loss, and is expected to greatly accelerate species extinctions.

Land-use based carbon offset projects support forest protection and reforestation. They are also designed to implement actions which simultaneously address global warming and species extinctions. This Project will help connect the fragmented forests of the region. The survival of many species, such as the Philippine eagle which requires large stretches for forest to forage and nest, depends on this connectivity.

2.6.4. Value for the Community

For the local community, the Carbon Conservation Project will provide employment and transform land which has been degraded for more than a decade. Similarly, the tree replanting will supply local wood for the province and promote sustainability in land-use practices, thereby satisfying the needs of the community and promoting long-term protection of the forest.

2.6.5. Value for Business

Investment in Conservation Carbon provides value to corporations, in addition to the value created for the environment and local communities. Land-use based carbon offset projects restore degraded lands and protect forests that would otherwise be destroyed. They also offset carbon dioxide emissions from industrial activities, thereby reducing the impacts of climate change.

Conservation Carbon projects generate cost-effective carbon offsets which meet regulations set forth under the Kyoto Protocol and the emerging voluntary offset market while diversifying portfolio risk for participating investors. Additionally, companies can communicate positive action to address climate change with concerned consumers, shareholders and employees through clear, tangible examples.

2.6.6. Progress

The Global Environment Centre Foundation (GEC), a Japanese Environmental Agency, provided initial funding for Conservation International’s Conservation Carbon strategy in the region. The funds supported the development of a Project Design Document for approval by the Executive Board of the Clean Development Mechanism (CDM). If approved and validated, the Project is likely to generate almost two million Certified Emissions Reduction (CERs) from reforestation and biomass activities, and up to one

million Voluntary Emissions Reductions (VERs) from avoided deforestation of old growth and secondary forests

Source: Lasco, R., F. Pulhin, and Ma. R. N. Banaticla (date unknown)

2.7. MICRONESIA CONSERVATION CHALLENGE

Islands play a unique role in global biodiversity. However, they face conservation threats, including sea level rise and invasion by exotic species, which are amplified by their geography. For small island countries, these threats have the potential to impact entire societies.

Recognizing the urgent needs of his country, its people, lands and waters, the President of Palau issued a challenge to Micronesian nations that may have implications for island conservation around the globe. In 2006, President Remengesau Jr. called on his peers to join the Micronesia Challenge to effectively conserve 30 per cent of nearshore marine resources and 20 per cent of forest resources by 2020. The Challenge serves as a model for strengthening island conservation and safeguarding some of the world's richest biodiversity.

The Challenge countries include Palau, Federated States of Micronesia and Marshall Islands, and the United States territories of Guam and Northern Mariana Islands. These countries represent nearly five per cent of the marine area of the Pacific Ocean and seven per cent of its coastlines.

Source: The Nature Conservancy Press Release 22 December 2005 *The Micronesia Challenge* http://www.nature.org/success/art16924.html

3. CONSERVATION PLANNING IN THE REGION

3.1. INTRODUCTION

Managing protected areas costs money. Through a diversified mix of *conventional* funding sources (e.g., budgetary allocations, overseas development assistance) and *innovative* funding sources (e.g., payments for ecosystem services, trust funds and green taxes), countries can achieve stable and sufficient long-term financial resources to support their conservation area networks.

Financial sustainability is about the *amount of money*, about how effectively it is spent and how well benefits are provided to local stakeholders. Financial sustainability is also about national and state governments developing *appropriate fiscal and institutional policies* in relation to funding and managing the conservation network. These policies need to be in place to secure adequate long-term funding in the face of other competing and often short-term budget pressures.

Financial sustainability in this context is defined by IUCN as "the ability to secure stable and sufficient long term financial resources and to allocate them in a timely manner and appropriate form, to cover the full costs of protected areas (direct and indirect) and to ensure that Protected Areas *(or those areas being conserved)* are managed effectively and efficiently with respect to conservation and other objectives". (Emerton, Bishop and Thomas, 2006)

3.2. PACIFIC REGION INITIATIVES

Few financial planning studies have taken place in the Pacific region. However, the Palau Protected Area Finance Study is comprehensive and is an extremely useful model for replication elsewhere. It is summarised in this report with a copy provided at Appendix 1.

Several examples of Trust Funds are also summarised in this Section including the proposed Micronesia Trust Fund and the existing Trust Funds in Fiji and the Cook Islands.

In addition, a summary is provided in relation to financial planning through two applicable financial instruments in the Pacific; Conservation Incentive Agreements and Green Economics. While not based on the Pacific, these cases indicate the value of measures taken elsewhere and can serve as a guide. An example of carbon offset funding is also provided as relevant information.

A summary of the Convention on Biological Diversity requirements for Protected Area Financial Planning is provided in Section 3.2.6

3.2.1. Palau Protected Area Finance Study (See Appendix 1)

The Government of Palau has taken significant steps to conserve its biological diversity, particularly in marine environments, on which so many people depend for their prosperity and survival. For these important conservation efforts to succeed over the long term, sustainable financing sources need to be established which accurately reflect the value of Palau's natural resources and pay for the cost of their management.

Legislation is pending in Congress to support the establishment of a nationwide system of protected areas in Palau. A provision in the legislation gives responsibility to the Ministry of Resources and Development to determine ways to ensure the financial sustainability of Palau's protected areas system.

The Government of Palau established an inter-agency Working Group to oversee a comprehensive study of the options for financing Palau's national system of protected areas, and to make recommendations for consideration by the President and Congress. The study explored opportunities to build on existing financing arrangements, such as the Koror State entrance fee to the Rock Islands. The results and recommendations of the Working Group are provided at Appendix 1.

3.2.1.1. Costs

In summary, the Working Group found that the cost per annum per hectare of managing protected areas in Palau was approximately $2,000. This figure was used to extrapolate the costs for extending into potential new sites for the Protected Area Network. The results are summarised in Table 3.2.1.1.

Table 3.2.1.1. Summary of Costs.

Item	Description	Cost ($)
Existing sites	All existing protected areas	1,070,000
Potential expansion	At least one protected area per State (16)	320,000
Network-wide support	National government inputs, network management and coordination, science and sustainable finance	800-980,000
Investment and targeted research	Investment in compatible enterprises and specialised studies	100,000
Total		2.29-2.47m

3.2.1.2. Revenues

The Working Group recognised the need to identify all revenue streams that could contribute to the implementation of the Protected Area Network (PAN). The two most significant sources of revenue for the PAN in Palau are (1) government budget appropriations and (2) access fees associated with existing protected areas.

Table 3.2.1.2. Summary of revenue from fees and government appropriations.

Source	Description	Revenue ($)
State income and budget support	Based on Koror and Peleliu incomes and estimated budgetary support from State Governments	460-610,000
National budget	Inputs through national budget appropriation to Government departments	200,000
Non-governmental organizations /operators	Ongoing contributions to science, patrolling, raising awareness, collecting permits	100,000
Total		760-910,000

3.2.1.3. Shortfall

A shortfall exists between the base costs of the Protected Area Network, its ongoing management and expansion and the income that can be generated through existing sources at State and national levels. This shortfall is approximately $1.56 million annually.

3.2.1.4. New revenue options

The Working Group explored a range of revenue options but focused on the potential for additional revenue to be raised from tourism. Tourism remains the most significant sector in terms of Total Economic Value to Palau and is directly relevant to both the impact and management costs of protected areas throughout the country.

A willingness-to-pay survey found that a combination of existing access fees and a new arrival/departure fee would provide the most viable basis for financing the PAN sustainably.

The departure fee in Palau for travellers without a Palauan passport is $20. An additional $15 might be considered excessive unless the total fee ($35) could be collected by the airlines on behalf of the Republic of Palau. An arrival fee/visa of $15 was therefore considered the simplest and most transparent, charged on all non-Palauan visitors. This would provide an additional revenue stream in the order of $900,000 - $1.2 million assuming some variability in visitor numbers (between 60-80,000).

The effects of taxation are generally considered to reduce the welfare of those on whom the tax is imposed. However, the impact will not be felt domestically because the tax is borne by overseas visitors. In situations where demand is not particularly price sensitive, such as is the case here, there is benefit to Palau in taking this action.

3.2.1.5. Alternatives considered

The Working Group recognised the importance of providing incentives for all sectors of society to contribute to the effective conservation of Palau's natural resources and the environment. Several financing options were considered in terms of their potential to contribute to the sustainable financing of the Protected Area Network (PAN). These included:

- **environmental impact fees** charged as a percentage of the costs of a development
- **hotel occupancy fee** collected by hotels and charged per head per night
- **recycling charges** refundable charge per item at point of sale to encourage recycling and reuse
- **fuel tax** charged by volume of fuel at point of sale
- **bridge toll** charged per crossing
- vehicle annual registration fee.

At this time, none of these were considered relevant to the PAN. While several of these options would raise valuable revenue and provide appropriate incentives, their primary objective was another aspect of environmental protection, e.g., impact fees to cover costs of pollution control.

In addition to fees and charges, the possibility of Voluntary Conservation Surcharges by hotels/operators was discussed. For example, the Palau Pacific Resort offers guests an opportunity to make contributions to the Palau Conservation Society which are matched by the Resort. This programme generates $4,000-5,000 per year.

At the level of charges being proposed, it was determined that additional international assistance in the order of $600,000 per annum would be required to supplement the proposed new revenue stream.

Several developments in international environment policy strengthen the rationale for international investment in the PAN.

To generate an estimated $600,000 per annum, it was recommended that an endowment of approximately $12m be established. The position is summarised in Table 3.2.1.5.

Table 3.2.1.5. Summary of new revenue sources for the Protected Area Network.

Source	Description	Revenue ($)
Tourist arrival	Based on $15 arrival visa less administrative costs	700,000 – 1.0m
International assistance	As a $12m endowment returning @ five per cent per annum	600,000
Total		1.3-1.6m

3.2.1.6. Conclusion

The sustainable financing plan for the Protected Area Network (PAN) will:

Build on **existing revenue from fees and licenses** related to protected areas at the State level.
Build on **existing national budget allocations** to support the PAN, noting that a more detailed breakdown of allocations by department in support of the PAN will be valuable.
Create a **new revenue stream** (~$1m from an arrival fee) from non-Palauan visitors consistent with willingness-to-pay assessments in 2000 and 2004.
Leverage **international development assistance** and direct investment in the form of an endowment (approximately $12 million) to reduce vulnerability to economic shocks and provide for a predictable flow of resources for the development and operation of the PAN.
Based on the experience of other countries and the capacity to leverage the international support greatest range donors, consider the establishment of **an independent non-profit corporation,** to manage the funds generated through the new arrival fee and international investment in the PAN.

The next steps include:

- Establish the PAN for a few sites and finance through existing resources.
- Detail current National Budget allocations in support of the PAN by government departments.
- Establish the legislative framework for the use of an arrival fee, or viable alternative, to finance the more comprehensive, resilient and effectively managed PAN.
- Develop a strategy to engage key international donors, both public and private, in the capitalization of an endowment to ensure the sustainable financing of the PAN.
- Make arrangements to establish a non-profit corporation, including the development of governance arrangements based on international best-practice, to manage and disburse funds generated by the new arrival fee and international donations for PAN implementation.

Source: Workshop Report: *Financing Options Palau's Protected Area Network (*Refer Appendix 1*)*

3.2.2. Micronesia Conservation Trust Fund

The Micronesia Conservation Trust was launched in 2002 in response to mounting threats to Micronesia's natural heritage. A group of public and private sector leaders from the country's four States created the Trust with the goal of providing a critical, long-term source of funding for biodiversity conservation.

In addition to providing financial support, the Trust will emphasise the building of capacity of Micronesian organisations to design and manage conservation programmes. It will also provide a forum to bring together all sectors of the community and government to collectively address the challenges of natural resource management, to form networks and partnerships, and develop best practices based on shared experience.

A Board of Management has been formed to develop a strategic and financial plan. The Trust's long-term funding goal is a $20 million endowment that will generate approximately $1m per year for conservation. The Micronesian Government has designated the Trust as the funding mechanism to support the implementation of its National Biodiversity Strategy and Action Plan.

Source: *The Micronesia Conservation Trust* 2007

3.2.3. Cook Islands Environment Protection Fund

In 1994, the Cook Islands Government established a self-generating fund to assist in protecting and conserving the environment. The Environment Protection Fund (EPF) was established after an amendment to the International Departure Tax Act (1984) by Parliament on 7 September 1994. The amendment states that NZ $5 from each departure tax shall be paid to an account held by the Cook Islands Government to be known as the Environment Protection Fund (EPF). This statute increased the departure tax from NZ $20 to NZ $25. The extra NZ $5 from each departure tax applies to every person who is 12 years of age and over. Children under 12 pay a departure tax of NZ $10, none of which goes to the EPF. Payments designated for the EPF officially began on 1 October 1994.

Under the International Departure Tax Amendment, the EPF is to be spent on the conservation and protection of the natural environment as approved by Cabinet. This includes the "protection and conservation of the reef and foreshore, any species of flora and fauna, soil conservation, the protection from pollution to land, sea and air and other purposes covered by the Conservation Act 1986/87" (repealed by the Rarotonga Environment Act 1994-95).

The EPF is regenerated from departure taxes as the capital is spent. This ensures sustainability of the Fund. The departure tax levy was identified as a means to generate funds because many visitors come to the Cook Islands to experience the 'green' image of the country. Therefore it was felt that most visitors would not object to paying an extra NZ $5.

There are approximately 60,000 departures (visitors and departing residents) annually from the Cook Islands. As the EPF departure tax applies to those over the age of 12, it is estimated that 75 per cent of departures contributed towards the EPF. This equates to about 45,000 persons yielding an estimated NZ $225,000 for the EPF per year.

Despite certain administrative difficulties reported in a consultant's review in 2000 (Appendix 4), the EPF has successfully channelled significant funding into conservation and environmental projects.

The consultant's report emphasises the need for the EPF to have a clearly defined policy framework, explicit management and expenditure guidelines, proper auditing of accounts as well as adequate promotion within the community and to departing passengers to ensure its proper operation.

Source: Tiraa, A. 2000.

3.2.4. Fiji Locally Managed Area (FLMMA) Trust Fund Initiative

The Fiji Locally Managed Area (FLMMA) Trust Fund is an initiative of its members. It is intended to be a pool of money that will service the monetary needs of FLMMA communities in implementing their management plans and monitoring of impact of management actions on their protected areas.

The Trust Fund is seen as a 'revolving' fund so that users deposit into the funds and every member has continuous access. Four years ago, FLMMA won the Equator Initiative Award of US $30,000 (US $1 =FJ $1.6) during the World Summit on Sustainable Development Conference in Johannesburg in 2002. FLMMA members used the award to establish a community-based Trust Fund. Currently, there is a total of about FJ $60,000 in the Trust Account. FLMMA is a registered non-profit organisation managed under its own Constitution. It is intended to encourage donors and communities to contribute to the Fund. It has also been suggested that a portion of financial benefits from marine bioprospecting initiatives and commercial fishing licenses could supplement this Fund.

The Fund is intended to cover the cost of monitoring biological and socio-economic change in the conservation area network. It covers diving gear, transport costs of monitoring teams if not available within the community, annual review of management plans and monitoring data, co-financing participation of community members at regional and international conservation meetings and other activities in line with FLMMA goals for community-based marine conservation.

Source: Tabunakawai, K. 2007.

3.2.5. Conservation Incentive Agreements

Conservation incentive agreements are negotiated agreements in which resource owners promise to protect specific habitats or species in exchange for a steady stream of benefits. The benefits vary but may include technical assistance, support for social services, employment in resource protection or direct cash payments.

Incentive agreements have been initiated in various settings around the world. In Papua New Guinea, villagers receive assistance with resource management and training for local teachers in exchange for protecting the endangered Matschie's tree kangaroo. In the Solomon Islands, the owners of the largest unlogged island in the Pacific Ocean are working with conservationists on a programme which provides scholarships to children and assistance to land owners in developing ecotourism. This is in exchange for a commitment to protect the island and its surrounding coral reefs. In northern Ecuador, several Chachi indigenous communities have signed initial agreements which have resulted in the creation of a community-managed protected area in one of the biologically richest and most threatened ecosystems on Earth.

In 2002, the Government of Guyana granted Conservation International (CI) a 30-year lease to protect 200,000 acres of pristine forest. In exchange, CI pays the Government what it would have received had the area been logged. The approach thus permits the protection of forest slated for timber production while ensuring that these forests continue to generate economic benefits.

Pilot incentive agreements are emerging as a valuable strategy for protecting key biodiversity areas around the world. They are particularly valuable in places where it is difficult or impossible to establish a traditional protected area, such as private or indigenous lands. From government-granted concessions to agreements with local or indigenous populations, CI is helping to create a new conservation mechanism with potential to significantly expand our ability to conserve biodiversity.

Source: Conservation International, *Economic Incentives*
http://web.conservation.org/xp/CIWEB/programs/economics/

3.2.6. Convention on Biological Diversity

There are significant running costs associated with ensuring that conserved areas are effectively protected, that local communities benefit from them and that the conservation values are maintained in perpetuity. Three studies by independent experts which were evaluated by the CBD Secretariat estimated the total annual cost for effective management of the existing protected areas in developing countries ranges from $1.1 billion to $2.5 billion per year. The funding shortfall (total cost minus current funding) is between $1 billion and $1.7 billion per year.

The Convention on Biological Diversity (CBD) Conference of the Parties in 2006 (COP 7) therefore urged Parties, other governments and funding organizations to "mobilize as a matter of urgency through different mechanisms adequate and timely financial resources for the implementation of the programme of work by developing countries, particularly in the least developed and the small island developing States amongst them, and countries with economies in transition, in accordance with Article 20 of the Convention, with special emphasis on those elements of the programme of work requiring early action" (decision VII/28, paragraph 9). The Conference of the Parties also called on Parties and development agencies to integrate protected area objectives into their development strategies (decision VII/28, paragraph 11).

GOAL 3.4: To ensure financial sustainability of protected areas and national and regional systems of protected areas.
TARGET: By 2008, sufficient financial, technical and other resources to meet the costs to effectively implement and manage national and regional systems of protected areas are secured, including both from national and international sources, particularly to support the needs of developing countries and countries with economies in transition and small island developing States.

Achieving financial sustainability will require major changes in the way that funding is conceptualised, captured and used. The Programme of Work emphasized the need for both national and international sources of funding. Fully implementing the Programme of Work will undoubtedly require increased external funding (e.g., GEF, ODA) to assist developing countries and countries with economies in transition.

A range of innovative national sources are playing an increasingly important role in meeting funding needs. Examples include:

- fees on tourism and other resource uses
- raising funds from new markets such as carbon offsets, water or other payments for ecosystem services
- finding new donors such as large corporations, private philanthropists, other government agencies or tax revenue-sharing
- sharing costs and benefits with local stakeholders, e.g., private landholders and local communities
- employing new financial tools such as business planning
- improving wider policy and market conditions such as reforming environmentally harmful subsidies and creating positive incentives
- devolving funding and management responsibilities, e.g., to non-governmental organizations, local communities, individuals or businesses.

Pacific Island Countries and Territories which are signatories to the Convention should now be in a position to advise on their progress towards developing a Programme of Work and strategies for sustainable financing. This report provides examples of funding strategies and national planning processes that would be useful in this regard.

3.3. ORDER OF MAGNITUDE OF COST OF MANAGING PROTECTED AREAS

The estimated cost per unit area to manage a conservation or protected area varies enormously; both from region to region, and from area to area in the same region. The difference is because of the variation in the

conservation and social objectives of each protected area. Other factors also affect costs including (but not limited to) economies of scale, rates of visitation, development costs and repairs to damaged areas.

Each area should have a Management Plan which addresses the way it is to be managed along with an accompanying budget or Business Plan to ensure delivery of outcomes. Regrettably, this is rarely the case.

3.3.1. Global and Pacific Surveys

3.3.1.1. Palau

It was estimated that the cost in Palau of managing a protected area was US $2,000 per hectare per annum in 2005 (Section 3.2.1).

3.3.1.2. 2007 World Commission on Protected Areas Survey

A survey conducted in 2007 by the IUCN World Commission on Protected Areas using 2005-06 data of management agencies listed the following expenditure based on the inputs received.

Table 3.3.1.2. Protected area expenditure per hectare for 2005.

Country	Expenditure (US $)	Area (hectare)	Expenditure per hectare (US $)
Australia (Commonwealth only)	38.8m	2,131,345	18.2
Guyana	1.04m	433,370	2.4
Indonesia	39.48m	28,260,150	1.39
Jamaica	3.14m	218,090	14.4
Kenya	22.4m	1,732,000	12.9
Korea	141m	657,900	214.31
Kyrgyz Republic	471,635	985,095	0.48
New Caledonia (Southern Province)	4.8m	92,126	52.01
Mongolia	23,837	2,358,055	0.01
Morocco	6.1m	676,000	9.04
Singapore	2.8m	3,347	846.49
Tanzania	670,375	182,060	3.68

3.3.1.3. Conclusion

The World Commission on Protected Areas survey found that the cost varies from US $0.01 per hectare per annum in Mongolia to US $846 per hectare per annum in Singapore. With such a wide range of costs, it is meaningless to estimate an average. A median cost is slightly more appropriate; the median cost is US $9.04 per hectare for Morocco. By comparison, costs for the Pacific are similarly variable at US $52 per hectare per annum for New Caledonia and US $2,000 for Palau.

Given the variability of the costs, it is extremely difficult to make a meaningful estimate of the order of magnitude. In the circumstances, the appropriate way to calculate costs is by developing Management Plans which detail outcomes that are desired. Business Plans can then be developed which match costs with sources of funding and detail the deliverables to be achieved within a nominated timeframe.

Source: IUCN World Commission on Protected Areas *2005 Survey of Global Protected Area Costs*

3.4. INVESTING IN CONSERVATION AS PART OF THE NATIONAL BUDGETS AND NATIONAL SUSTAINABLE DEVELOPMENT PLANS

Several countries recently reviewed the processes and options for investing in conservation; none more comprehensively than Palau and Madagascar. Bhutan has also successfully taken steps to establish a conservation trust fund to financially cover the management of the protected area system and other nature conservation activities. These experiences are summarised below.

3.4.1. Palau

The sustainable financing plan for Palau is outlined in Section 3.2.1 and Appendix 1. The plan would complement existing revenue from fees and licenses associated with protected areas at the State level. In addition, it would create a new revenue stream from non-Palau visitors by introducing an international arrival fee. These measures would be supplemented by efforts to leverage international assistance and investment to form an endowment fund.

Based on the experience of other countries and the capacity to leverage the international support from the greatest range of donors, the Working Group recommended that an independent non-profit corporation be established to manage the funds generated through a new arrival fee and international investment in the Protected Area Network.

3.4.2. Madagascar

Madagascar reached a similar position to that of Palau as a result of significant evaluation and assessment. The Madagascar experience is included because it is successful. It also amplifies the Palau experience and illustrates the outcomes that can be expected (see Appendix 2).

3.4.2.1. Process

This Section outlines the process that Madagascar followed to develop a national financing strategy for the environment and conservation.

Options for financing were separated into five categories. The first category includes special instruments such as debt-for-nature swaps and Trust Funds. Debt-for-nature swaps are a mechanism by which government debt is purchased at a discount by an outside agency and retired in exchange for government commitments to fund conservation activities. Trust Funds are funds established by up-front contributions which provide a stream of allocations in the future in accordance with the way the fund was established. Frequently, debt-for-nature swaps serve as a means of establishing a Trust Fund. These mechanisms are well suited to creating a long-term funding stream for specific objectives.

The second category of financing options included a suite of tourism-related fees, concessions or taxes. Such instruments will be developed gradually so as not to discourage growth of Madagascar's small tourism industry. They are suitable for meeting recurrent costs.

A third category involves sector-based environmental fees. Madagascar is rich in natural resources, particularly mines, forests and fisheries. Because productive activities in these three areas can have negative impacts on the environment, the potential for introducing environmental fees in the medium-term is being examined. One such fee has already been introduced in association with the sale of petroleum products.

A fourth category, denominated ecological payments for environmental services, focuses on testing the feasibility of schemes to get international or national beneficiaries to pay for the environmental services provided by forest resources. Conservation concessions, carbon offsets and watershed maintenance fees are three examples that have been used in other countries and have potential for use in Madagascar.

The last category of financing options involves direct mobilization of private sector investment in the environment. Despite the limited number of private investors in Madagascar, the approach is being encouraged.

3.4.2.2. Lessons learned

Many factors have contributed to the successful progress in sustainable financing for conservation in Madagascar. However, the following four factors have been critical and enabled significant results to be achieved since July 2000; much greater results than those achieved in the previous decade.

Timing. Cost recovery, revenue generation strategies and trust funds were discussed in Madagascar for several years with marginal impact. Historically, the highest priority of government and donors was to implement field activities, draft enabling legislation and develop human resources. In June 2000, the Ministry of Environment and the donor community agreed that financial sustainability had to assume a high priority because it was of deep concern about the long-term financial viability of Madagascar's environmental programmes and institutions. It was time for action.

A formalized process. The creation of a sustainable financing commission in July 2000, under the supervision of the planning and design committee, was a fundamental step towards making real progress. It created an arena for analysing options. It also clearly allocated responsibility to formulate and propose a strategy. This helped to address potentially thorny issues of mandates across institutions and of personnel within institutions. For example, once the commission member representatives for each institution were chosen, it was clear who should participate in the study tour. Similarly, when it was decided that the funding feasibility document should have a chapter on sustainable finance, there was immediate agreement that the commission would be responsible for writing the chapter.

Leadership and personal charisma. Even with a mandate and a formalized process, the success to date has also largely been determined by the personalities of those involved. The Minister of Environment, a former staff member at ANGAP, is very familiar with the need for greater cost control and improved revenue streams. He was therefore a consistent proponent that each agency must identify its core mandate and activities and then seek ways to finance those activities. Similarly, the president of the sustainable finance commission, a former senior member of government, played a key role in championing the work of the commission and ensuring that it delivers its targets. Without the perseverance of these people and others, the commission would not have functioned as an effective working group.

Dedicated technical support and funding. Typically, foreign technical assistance programmes focus on institution-specific development. Although a valuable approach, it is not adequate to address problems that cut across institutions. Recognizing that there are over-arching conditions to sustainable development, such as finance, USAID and the government agreed to create the Projet d'Appui à la Gestion de l'Environnement (PAGE) project. The PAGE sustainable financing team works with the commission and with individual agencies at the strategic and operational level. The value of a dedicated technical team cannot be underestimated. All members of the sustainable finance commission have full-time responsibility within their respective institutions. The PAGE team shoulders some of the burden of the commission members to maintain the momentum of the work.

Source: Keck, A. 2001

3.4.3. Bhutan Environmental Trust Fund

Environmental funds have a wide mandate and provide broader benefits than traditional charities. This is especially evident in developing countries where the cultural and political landscape promotes innovation. Since its inception in 1991, the Bhutan Trust Fund for Environmental Conservation (BTF) has established a solid foundation for biodiversity conservation through enduring legal, institutional and technical frameworks.

The first environmental fund in the developing world, BTF has demonstrated important global benefits, innovation, high replication value and sustainability. Its endowment has seen a cumulative growth from an initial $21 million to more than $36 million. Grant-making is guided by strategic funding objectives, focusing on biodiversity conservation and promoting local capacity to manage it.

The BTF was created to reduce the social 'debt' of financing conservation by sustaining essential conservation programmes, thereby allowing the national treasury to focus on direct poverty reduction.

BTF was established in January 1991 with $1 million from the World Wildlife Fund and technical assistance from the United Nations Development Programme. Following the Rio Earth Summit in 1992, the fund received $10 million from the Global Environment Facility (GEF), the latter's second-ever grant and the first to an environmental fund. By 1996, Bhutan mobilized matching funds of $10 million from several European countries. The GEF grant was executed through World Bank project supervision between 1992–97.

Project management strongly contributed to the fund's growth, with GEF grant disbursements tied to fulfilment of major policy and operational progress benchmarks. Guided by Bhutan's strong political will and dedicated donors, the project concluded satisfactorily two years ahead of schedule.

3.4.3.1. Lessons Learned

BTF is governed by a fully Bhutanese, seven-member management Board with ultimate programme and fiduciary responsibility. The Board has high-level membership reflecting the importance placed on the Fund's objectives, and conferring prestige and credibility to the Fund's business.

The financial endowment is the Fund's most important asset. The generation of healthy returns with minimum exposure to extreme risk receives the highest fiduciary attention. Besides quarterly and annual reporting, investment performance is carefully monitored by the secretariat and periodically reviewed by the Board.

The decision to engage private asset managers in 1996 was strategic; the Fund earned a total return of almost $15 million in the ensuing seven years. Its endowment has seen a cumulative growth from an initial $21 million to more than $36 million.

While the remarkable growth of the United States economy over the same period was a major factor in the endowment's prosperity, professional fund management provided significant above-benchmark returns. In addition to adopting a general investment policy — one which appreciates capital preservation and long-term gains over risky immediate profit — specific investment guidelines are issued by the Board outlining permissible instruments and performance parameters.

To remain competitive, the portfolio is evaluated biennially by an independent specialist. Following a recent review, 85 per cent of invested assets are now passively managed through indexed funds, since active management ceased to add value. As a socially responsible investor, BTF regularly screens its holdings for poor environmental performers.

Importantly the BTF method of funds dispersement also serves as a model which can be applied elsewhere. The framework is clear. It allocates funds against defined national policy and priorities and has been developed in consultation with stakeholders.

It is critical to note that the BTF has not totally assumed the role of funding the protected areas of Bhutan, even though theoretically this would be possible. The model recognizes the role of government in providing core funding for this activity and plays a supporting role in the process.

Source: Namgyal, T.S. 2003.

3.5. IDENTIFYING DOMESTIC SOURCES, NEW REVENUE AND INTERNATIONAL ASSISTANCE REQUIRED TO INVEST EFFECTIVELY IN CONSERVATION

Generally, financing mechanisms are on a spectrum from those which provide funding to conservation areas from external sources (which may come with or without conditions) to those which are based on charges for goods and services provided by the area itself.

In general, the provision of grant funds is motivated by broader social or personal policies, goals or principles which place a value on the conservation of protected areas. For example, the value of protected areas may be for their public good attributes, intrinsic values, development or conservation significance, or as areas of cultural or natural heritage. In contrast, revenues derived from fees and charges are linked to the use or provision of particular products and services, e.g., tourist gate fees, resource extraction licenses or payments for ecosystem services.

Another category of finance relates to incentives for activities that indirectly support the existence of a conservation area, such as extractive uses by indigenous peoples, certain forms of 'green' enterprises, etc. Between these extremes, there are a variety of financing mechanisms which combine aspects of private and public, grant and commercial funding.

Within this spectrum, financing mechanisms can be grouped into three categories, according to the way in which funds are raised and used:

Financing mechanisms which are concerned with attracting and administering external flows include government and donor budgets, non-governmental organization grants, and private and voluntary donations, from both international and domestic sources.

Cost-sharing and benefit-sharing, investment and enterprise funds, fiscal instruments and arrangements for private or community management of land, resources and facilities are primarily mechanisms for generating funding to encourage conservation activities among the groups who use or impact on conservation areas.

Resource use fees, tourism charges and payments for ecosystem services all make market-based charges for protected area goods and services, in an attempt to capture some of the willingness-to-pay from beneficiaries.

3.5.1. External Funding

This category of financing mechanisms is concerned with mobilising and using funding that originates from external sources, i.e., outside conservation areas. There are a variety of mechanisms to obtain funding from governments, non-governmental organizations, individuals and companies, and to administer and manage these financial resources for biodiversity conservation.

Three ways of obtaining and administering external flows of funds are reviewed:

- Domestic government budgets and foreign assistance;
- Private voluntary donations; and
- Environmental funds and debt for nature swaps.

Table 3.5.1. summarizes the position. The main focus is on Conservation Areas (CA) although where mention is specific to a Protected Area (PA) this term is used.

Table 3.5.1. Attracting and administering external funds: status, potential and needs.

Source funds	Status	Main potential	Actions required
Domestic government budgets and foreign assistance.	Remains core component of funding. Overall amount of funds is stagnant or declining. Major reorientation of aid funding taking place to support poverty reduction. Not sufficient at current levels.	Existing flows to be maintained or increased. Direct budget support for agencies. New opportunities via development and poverty reduction funding windows.	Honour commitments to fund conservation areas. Reorient CA funding in line with development and poverty reduction. Increase awareness among decision-makers of CA-development links.
Private donations	Important, but rarely major source of CA funding. Can be critical for specific CAs, species or conservation goals. Growing interest in CAs from corporate sector.	Continuing support, especially at local level. Potential for increasing corporate sponsorship.	Sustain and increase public interest in CAs. Increasing interaction with private sector. Develop new/better approaches to 'market' CAs to private donors.
Debt for nature swaps and environmental funds	Major funding source during 1980s and 1990s. Somewhat less widely used today. Trust Funds may cause deferral of expenditure until later years.	Can provide substantial and secure funding for individual CAs and CA systems. New opportunities for PA funding through development and poverty reduction funding windows.	Reorient CA funding in line with development and poverty reduction. Convince donors to set up endowments and devolve decision-making to local managers. Convince CA agencies to maintain capital by investing funds.

3.6. FUNDING GENERATION INSTRUMENTS

Most formally designated conservation areas are managed by public sector authorities. However, there are other organizations that have the potential to provide funding. A range of financial mechanisms exist to encourage individuals, communities and companies to produce and consume in ways that are compatible with conservation. There are also various ways of spreading the costs or funding burden associated with conservation areas among different stakeholder groups.

Generating funding to encourage conservation aims to provide stronger incentives for biodiversity conservation and sustainable use generally, as well as to raise finance. Four types of funding to encourage conservation activities are:

- Fiscal instruments
- Benefit sharing and revenue sharing
- Sharing the costs of managing conservation areas and their facilities
- Investment, credit and enterprise funds.

Table 3.6. Generating funds to encourage conservation: status, potential and needs.

	Status	Main potential	Actions required
Fiscal instruments	Rarely applied to conservation goals or environmental sectors. Increasing use for CAs to raise funds and to change consumer and producer behaviour.	Source of revenue and transfer mechanism to producers and consumers. Substantial potential to apply to CAs. Increase use as funding and motivational tools.	Factor CA funding needs into broader fiscal policy and mechanisms in use Strengthen priority accorded to CAs by economic planners. Enhance awareness of decision-makers about potential to raise funds and change behaviour.
Benefit-sharing and revenue-sharing	Recognised as integral component of CA management and funding. Not usually a priority in PA budgets.	Major potential to offset local opportunity and social costs of CAs. Need to balance growing local pressure on PA resources.	Reinforce importance of integrating local funding into CA financing. Increase availability of local funding Tap development finance sources Improve the form in which benefits and revenues are shared.
Cost-sharing	Recent increased use. Traditional focus on government as sole manager/funder of CAs.	Large potential to meet CA finance gaps and relieve burden on government budgets. Untapped potential to solicit voluntary or mandatory cost-sharing by private sector and non-governmental organizations.	Encourage CA managers to devolve responsibility and funding monopoly. Make cost-sharing mandatory where appropriate. Respond to willingness and ability of other groups to share costs. Define reciprocal rights and responsibilities. Develop enabling rules and legislation.
Investment, credit and enterprise funds	Still few and small but increasing in number and size. Experience mixed due to poor initial results of some high profile funds.	Source of capital and technical assistance to ecotourism enterprise, sustainable harvest of renewable resources and other commercial activities linked to CAs. Wider application of business principles to PA management.	Awareness raising among investors and CA authorities. Enabling legislation to encourage business enterprise linked to CAs. Improved marketing of CA goods and services to consumers.

3.7. MARKET-BASED CHARGES

Conservation areas produce many goods and services of high economic value. The costs of producing these benefits are significant. And yet market transactions and economic statistics typically do not reflect or register the full value of goods and services. This is because many goods and services are under-priced, or not priced at all. Therefore, both market producers and consumers have weak incentives to conserve biodiversity. Because goods and services can be consumed at low or zero cost, they are often over-consumed. Goods and services are typically under-provided so their provision remains unrewarded and uncompensated.

The failure of markets to recognize the value of conservation areas also means that potential sources of funding are often not captured. Examples include carbon sequestered in biomass which helps to mitigate climate change, clean water flowing from upland areas to downstream farmers and residential water users, or commercially valuable fish stocks nurtured in designated marine areas and exploited in nearby fisheries.

Charging for goods and services can help create or strengthen financial incentives for producers and consumers to support biodiversity conservation and sustainable use. It can also help to raise new funds for conservation areas. Well-designed charging schemes also stimulate managers to invest in improving the quality of goods and services they provide, and encourage them to be entrepreneurial. Three types of market-based charges for goods and services are reviewed:

- Tourism charges
- Resource extraction fees
- Payments for ecosystem services.

Table 3.7. Market-based fees for goods and services: status, potential and action needed.

	Status	Main potential	Actions required
Tourism charges	A core component of funding in many places. Demand for nature-based tourism growing	Opportunities to improve cost recovery for tourist facilities, and introduce charges that better reflect visitors' willingness to pay. Potential to diversify tourist markets and services offered. Use to manage/direct demand within and between sites.	Improve calculation of tourist charges Investment to develop tourism facilities. Additional expertise may be required to market and operate high quality tourism facilities.
Resource use fees	Often a core component of funding. Diversification of products and extractive activities carried out in CAs.	Prices need to be set in line with true economic values. Potential to diversify markets and charges for products. Increased support for secondary or value-added industries.	Improve calculation of user fees, royalties and other charges. Strengthen institutional capacity and clarify roles of agencies in setting and collecting fees. Integrate ecological sustainability into extractive regimes.

	Status	Main potential	Actions required
Payments for ecosystem services (PES)	Relatively new financing mechanism. Rapid growth especially for conservation on private land.	Opportunity to generate increased revenue from non-extractive management regimes. Can be effective means of compensating private landholders for providing ecosystem services.	Develop supportive policy and/or legislative frameworks. Improve methods and data on biophysical linkages, efficiency and social impacts of PES. Clarify trade-offs between ecosystem services.

3.8. POTENTIAL NEW SOURCES OF FUNDING

3.8.1. Global Environmental Facility

Most opportunities to secure funding for conservation areas will come from existing sources. The Global Environmental Facility (GEF) is one source available to countries in the Pacific. Certain Pacific countries such as Fiji have been allocated indicative funding of $5.1m in the current four-year program. Other Pacific countries have the opportunity to access funding subject to meeting GEF requirements under the GEF Resource Allocation Framework (RAF). Allocations are based on global environmental priorities and country-level performance.

More recently, the GEF has agreed to provide funding additional to existing RAF allocations under the Convention on Biological Diversity Programme of Work on Protected Areas. The programme aims to assist eligible countries (in particular Least Developed Countries and Small Island Developing States) to achieve effective national systems of protected areas in accordance to the Programme of Work on protected areas. The project is expected to disburse up to $9 million of GEF resources and co-financing through approximately 35-40 funding awards to governments with a ceiling of $250,000 per country. The United Nations Development Programme (UNDP) Regional Centre in Bratislava, Slovakia, hosts the office of the project. The first call for applications closed on 7 September 2007.

Further information can be obtained at www.protectedareas.org

3.8.2. Small Grants Program (SGP)

Funded by the Global Environment Facility as a corporate programme, the Small Grants Programme (SGP) is implemented by the United Nations Development Programme (UNDP) on behalf of the GEF partnership. The SGP is executed by the United Nations Office for Project Services (UNOPS).

Launched in 1992, the SGP supports activities of non-governmental and community-based organizations in developing countries including initiatives toward climate change abatement, conservation of biodiversity and the protection of international waters. There is also a focus on generating sustainable livelihoods.

At present, 95 countries participate in SGP having ratified the conventions on biological diversity and climate change. The overall distribution comprises 60 per cent biodiversity, 20 per cent climate change, six per cent international waters, and 14 per cent multi-focal issues. Each participating country develops a country programme strategy which adapts the SGP global strategic framework to specific country conditions. SGP country strategies take into account existing national biodiversity and climate change strategies and plans, as well as those relating to national development and poverty eradication. They may emphasise certain thematic areas and, particularly in large countries, are encouraged to adopt geographic concentration to ensure synergy and impact as well as to facilitate programme administration. Each country's grant application and implementation processes are also guided by National Steering Committees.

The funding to date comprises $247.2 million from GEF and $242.8 million from other partners in cash or in-kind equivalents. The maximum grant per project is $50,000, with averages around $20,000. These grants are channelled directly to community-based organisations and non-governmental organizations. To date, more than 7,000 grants have been awarded worldwide.

Source: UNDP website http://sgp.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=AboutSGP

3.8.3. Carbon Sequestration Payments

'Carbon sequestration' is the absorption and storage of carbon dioxide from the atmosphere. It is one of the most important ecological services provided by forests.

The United Nations Framework Convention on Climate Change and its subsequent Kyoto Protocol obligate developed countries to reduce their carbon emissions by significant percentages below their 1990 levels. The Protocol's Clean Development Mechanism provides a framework for developed countries to achieve part of their required reductions. It could result in the payment of billions of dollars to developing countries in exchange for the latter's agreement to offset emissions through, for example, conserving or planting large areas of forests. However, there is concern that the ability to make carbon sequestration payments elsewhere might lead developed countries to slacken their efforts to reduce carbon emissions at home, and might also lead to the destruction of native forests and consequent loss in biodiversity.

In addition to the possible funding available under the Clean Development Mechanism, there is also the possibility of funding under voluntary arrangements such as the Travel Industry Carbon Offset Service (TICOS). The United Kingdom outbound tourism industry recognised that it has to play a key role in developing programmes to reduce and offset the carbon produced as a part of the tours it sells. Although the primary responsibility for the global impacts of aviation rest with the airlines, tour operators and travel agents also need to take action as a part of the holiday supply chain.

TICOS is being developed as an industry-wide programme to stimulate collective action by all operators and travel agents selling holidays which include air travel. It is supported by a number of international and national agencies including UNESCO, the IUCN World Commission for Protected Areas and the Association of Independent Tour Operators (AITO). More information can be found at http://www.ticos.co.uk/.

Source: Travel Industry Carbon Industry Offset Service, United Kingdom

3.9. MANAGEMENT AND BUSINESS PLANNING FOR CONSERVATION AREAS

Much has been mentioned about funding, sources and achieving sustainable financing. A critical element in this process is the need to plan so that donors can understand what outcomes they are being asked to fund and what the deliverables will be.

Managing a protected area can be very complex. For a remote nature reserve, it may be straightforward and involve preventing activities that may cause damage or harm. However, for the other categories, management is a complex process, involving more than one purpose and a wide variety of interested groups.

Apart from meeting legislative and donor requirements, the most compelling reason for producing Management Plans is to benefit the protected area and those who rely on its good management. A good management planning process which has the support of staff and local people, provides many benefits which are outlined below.

- Improved management of the area to be conserved.
- Ensuring that management decisions are based on a clear understanding of the protected area, its purpose, and the important resources and values associated with it.

- By helping to identify and define management 'effectiveness'. If the management objectives within a Management Plan are well written, specific and can be measured, they can be used as a basis for determining whether management of the protected area is effective or whether changes in management (or indeed in the Plan) are required.
- Improved use of financial and staff resources.
- Management Plans may highlight where additional resources are required. In this way, a Plan can act as a fundraising tool. Although, if an organisation cannot meet the total resources required to implement the Plan, it would be better to modify it, than allow it to become a mere a 'wish-list'.
- Management planning can provide a mechanism for increasing the accountability of the manager(s) and the managing organizations/agencies.
- Providing a means of communication with the public.
- Promoting and publicising the protected area to stakeholders.

Increasingly, donors (for example, the GEF) and government central agencies consider Management Plans or, at the very least, approved programmes of work as an essential prerequisite to obtain funding. Agencies which have not yet achieved a satisfactory level of management planning should seek to remedy this at the earliest opportunity.

3.10. STEPS TOWARDS SUSTAINABLE FINANCING

The first step toward sustainable financing involves identifying the financing needs. This involves two sets of costs: the out-of-pocket cost of conservation (e.g., paying park rangers) and; the foregone benefits resulting from restrictions on some uses of the ecosystems being protected. The second category of costs is not a financial cost to the conservation agency. However, it can become a financial cost if affected stakeholders must be compensated for their losses, either to change their incentives to conserve or for equity reasons. Many countries, including Bolivia, Madagascar and Costa Rica, have adopted policies of compensating affected stakeholders.

The next step is to identify the beneficiaries of each service that an ecosystem provides. It is in the interest of those groups who benefit from an ecosystem, to contribute to conserving it. Different mechanisms can be used to capture some of the benefits that these groups are receiving, and make them available for conservation.

For some types of services, it may be easier politically to charge service users when a change is involved. This is particularly true of indirect use values. Service users often balk at paying for services that they are already receiving for free (even when they benefit handsomely from them). It is often easier to convince service users to pay when changes in benefits are involved; an increase in benefits or an avoided loss of a benefit. Likewise, some donors will only finance activities which bring incremental gains. The analysis would be similar, but be based on examining the breakdown of benefit changes from a given conservation intervention.

4. CONCLUSION

While governments have principal responsibility for maintaining natural heritage and funding conservation, there are many options available to them in executing this task.

On-site fees and charges, the establishment of Trust Funds and fiscal measures, such as international entry fees and accessing Global Environmental Facility funding, can all play a role in establishing sustainable funding strategies for conservation areas.

The success stories in this report have a common element. To bring about change, governments need the desire to adopt available measures and establish the necessary policy, legislation and institutional arrangements. Several recommendations have been made to progress the issue.

The variability of conservation area costs, both nationally and within country, makes it extremely difficult to estimate the costs by using a simple multiplier. The true nature of the costs can only be determined by reference to the outcomes expected (Management Plan) and how these will be delivered (Business Plans). The Palau experience is a model example of how to assess costs and match them to available and potential funding sources.

Workshop

Financing Options
Palau's Protected Area Network

Findings & Recommendations

Koror, Palau
26-28 April 2005

Gerald Miles
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The Nature Conservancy

CONTENTS

The Workshop concluded that a combination of State, National and international resources would be necessary to sustainably finance the Protected Areas Network. The sustainable financing plan for the PAN will:

- Build upon **existing revenue from fees and licenses** related to protected areas at the State level;
- Build upon **existing National budget allocations** in support of the PAN, noting that a more detailed breakdown of allocations by department in support of the PAN will be valuable;
- Create a **new revenue stream** (~$1m from an arrival fee) from non-Palauan visitors consistent with willingness-to-pay assessments in 2000 and 2004;
- Leverage **international development assistance** and direct investment in the form of an endowment (approximately $12million) to reduce vulnerability to economic shocks and provide for a predictable flow of resources for the development and operation of the PAN.

Based on the experience of other countries and the capacity to leverage the international support greatest range donors, the establishment of **an independent non-profit corporation,** to manage the funds generated through the new arrival fee and international investment in the PAN, is recommended.

The next steps include:

- Commence establishment of the PAN for small number of sites that can be financed through existing resources.
- Detail current National Budget allocations in support of the PAN by government department.
- Put in place the legislative framework for the use of an arrival fee, or viable alternative, to finance the more comprehensive, resilient and effectively managed PAN.
- Develop a strategy to engage key international donors, both public and private, in the capitalization of an endowment to ensure the sustainable financing of the Network.
- Make arrangements for the establishment a non-profit corporation, including the development of governance arrangements based on international best practice, to manage and disburse funds generated by the new arrival fee and international donations for PAN implementation.

OVERVIEW

The Protected Areas Network Bill (6-176-10S, HD1) calls for the investigation and development of mechanisms for the sustainable financing protected areas. The Nature Conservancy (TNC) was asked by the Ministry of Resources and Development and Ministry of Finance to play a lead role in carrying out the study (for TORs see Attachment A).

The study commenced in late 2003 with the establishment of a Working Group to oversee the study and to make recommendations for consideration by the President and Congress. The Working Group has guided the scope of the study (see Attachment B). Initial consultations were held with representatives from National and State governments and NGOs to determine a range of principles and primary cost drivers for the establishment and management of existing protected areas in Palau. These consultations included the Ministry of Finance (Minister Sadang, Casmir Remengesau), Palau Visitors Authority (Mark Orrukem), Bureau of Marine Resources (Alma Ridep-Morris), Koror State Conservation Department (Adalbert Eledui), PCS (Bena Sakuma and Lolita Gibbons) and Delegate Idechong. A presentation was also made to a meeting of marine experts convened by PICRC. Further interviews were conducted with State Governors of Peleliu and Melekeok.

A "willingness to pay" survey in 2004 was conducted by the Government of Palau, in collaboration with the World Bank and The Nature Conservancy. Researchers at Oregon State University analyzed the results of the survey and comparisons can be made to a similar survey conducted by the Palau Conservation Society in 2000.

This Workshop, on Financing Options for Palau's Protected Area Network (PAN), 26-28 April (see Attachment 2: Participants List), was convened under the auspices of the Working Group on Sustainable Financing chaired by Minister Sadang, Minister of Finance. The participants identified guiding principles for financing the PAN, the current costs for protected area management, existing and potential revenue streams and recommendations concerning the viable financing options for the PAN.

GUIDING PRINCIPLES

The participants agreed on a number of guiding principles that were important to the development of a sustainable finance plan for the PAN. The selection of sustainable financing options for the PAN should:

- Ensure **simplicity** and **minimize transaction costs** by building on and where possible streamlining **existing systems** of revenue collection and disbursement
- Maintain **transparency** in the collection and disbursement of funds
- Ensure any financial mechanism is clearly **linked to impact and management costs**
- Provide appropriate incentives for getting the **right areas into the network** and to secure the **support of all stakeholders** at community, industry, State and National levels
- Provide a **predictable revenue** stream that can expand as the economy expands and respond to the needs of the Protected Area Network
- Maximize **opportunities to leverage** revenues generated for conservation

PAN COSTS

RECURRENT COSTS – SITE BASED

The criteria for inclusion of sites in the Protected Area Network have yet to be completed. To estimate the ongoing management and recurrent costs for the existing protected areas in Palau, the Workshop therefore selected seven[1] sites/areas, well established/known with a management plan or management arrangements in

[1] Ngeruangel, Ngardok Lake, Ngermaduu, Rock Islands, Helens Reef, Tululeu, Ebiil

place. As shown in Table 1, the total of $927,000 is largely driven by salaries, equipment and fuel costs and monitoring.

Table 1. Estimated annual costs by existing Protected Area

	Annual Costs by Existing Protected Area							
	Rock Islands[2]	Ngeruangel	Ebiil	Helens Reef	Tululeu	Ngarmeduu Bay[3]	Nardok	Total Costs
Area	**340km2**	**35km2**	**15km2**	**163km2**	**.4km2**	**15km2**	**98km2**	
Salaries	$295,000	$22,000	$22,000	$71,500	$11,000		$11,000	432,500
Training	$5,000	$3,000	$3,000	$9,000	$1,500		$7,000	28,500
Equipment & Materials	$11,000	$10,900	$10,900	$7,900	$7,900	$1,400	$4,400	54,400
Monitoring & Surveillance	$7,500	$43,400	$20,600	$63,750	$1,500		$5,000	141,750
Construction	$10,000	$1,750	$1,750				$1,000	14,500
Field Operations	$73,000	$11,600	$11,600	$34,000	$600	$600	$5,100	136,500
Research and Special Studies	$25,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	55,000
Education and Awareness	$8,500	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	14,500
Institutional Support/Admin.	$9,000	$4,500	$4,500	$8,000	$4,500	$4,500	$4,000	39,000
Professional Services & Audits	$7,500	$500	$500	$500	$500	$500	$500	10,500
TOTAL	$451,500	$103,650	$80,850	$200,650	$33,500	$13,000	$44,000	**$927,150**

Using these data it was possible to extrapolate costs for the potential inclusion of all defined protected areas in the PAN as shown in Table 2. The addition of Ngermasech, Ngeschar and Ngelukes conservation areas could be expected to add an additional $20,000 annually[4] to the cost of the PAN. Ngarchelong, Kayangel Reef Channels, with a traditional bul operating only 4 months of the year[5] is expected to add $60,000 to the operational costs of the PAN.

The total costs for the inclusion of all existing protected areas in the PAN have been estimated at **$107,150 per annum**.

[2] Actual budget estimates provided by Koror State for the Rock Islands Southern Lagoon in 2004 were $420,688. Increased costs associated with pro-rata replacement of boat engines and additional costs for institutional support/administration.
[3] Additional information is required to complete the analysis for Ngermaduu Bay
[4] An additional 10 km^2 at $2,000 per km^2
[5] The costs of enforcement/fuel/staff costs have been correspondingly reduced.

Table 2. Existing Protected Areas by State

Conservation Area		Law & Authority		Approx. Area
Marine	Terrestrial	State	National	square km
Ngarmeduu Bay Conservation Area		Aimeliik Natpang Mgeremlengui		15
Airai Conservation Area #12		Airai A-2-04-94		1
Airai Conservation Area #2		Airai A-2-25-97		1
Helens Reef	Helens Reef	Hatohobei		163
Ngeruangel Reserve		Kayangel KYPL 7-02-96		35
Ngerukuid Islands Wildlife Preserve	Ngerukuid Islands Wildlife Preserve	Koror K6-101-99	ROP (PDC 201) (24 PNC 30)	(12)
Ngerumekaol Spawning Area		Koror K6-101-99	(24 PNC 30)	(3.7)
Ngemelis Conservation Area	Ngemelis Conservation Area	Koror K6-68-95 K6-97-99		(30)
Ngkisaol Sardines Sanctuary		Koror K6-95-99		(.008)
Ngederrak Reef		Koror K6-119-2001 K7-133-2002		(6)
Ngerkebesang		Koror K7-136-2002		(~)
Rock Islands Conservation Area		Koror		340
	Lake Ngardok Nature Reserve	Melekeok MSPL 4-21		98
Ngaraad Mangrove Conservation Area		Ngaraad NPSL-4-4		1.8
Ngarchelong Kayangel Reef Channels		Ngarchelong Kayangel Traditional Bul		90
Ebiil Channel Conservation Area		Ngarchelong NSGPL 87		15
Ngermasech Reef Conservation Reef Area		Ngardmau		7
	Ngchesar Watershed	Ngeschar		1
Ngelukes Reef Area		Ngeschar Protected Area Act NPSL #146		
Tululeu Seagrass Conservation Area		Peleliu		0.4
TOTAL				**768km^2**

Source: Ministry of Resource and Development, 2005

PAN expansion

The final design and composition of the PAN is one of the more difficult questions in determining the long-term financial plan. As outlined above, for Palau this will require ongoing investment in the science and network design to address connectivity, representativeness and resilience, and assistance will be necessary to

States in the identification and nomination of areas. Once included in the Network, the annual operating costs will need to be met.

For the purposes of this assessment of financial options, it has been assumed that, in addition to the sites already listed, **at least 1 new protected area per State** may be included in the Network in the foreseeable future.

16 (sites) x 10 km^2 (average site size)

x $2,000 per km^2 per annum (average management cost)

$320,000 per annum

The cost of an additional 16 new protected areas to the PAN has therefore been estimated as **$320,000 per annum**.

RECURRENT COSTS – NETWORK WIDE

Establishment phase

It has not been possible to calculate accurately the recurrent costs of Government in the establishment of the PAN. These costs can be estimated in terms of staff time and operational costs related to the identification of protected areas, the development of PAN legislation and institutional support. For the purposes of this assessment an annual cost of **$200,000** has been used. Koror State has also been engaged in network-wide/project and project activities estimated over 2004-2008 to be in the order of $170,000 annually.

Globally, the support of local NGOs to science, education and awareness and community engagement has been well recognised[6]. In Palau, over 22months in 2002/2003 the Palau Conservation Society invested in the order of $190,000 in the establishment and operation of marine conservation in Palau. This amounts to an annual rate of expenditure of approximately $104,000. Expenditure by TNC in support of the PAN establishment has been in the order of $200,000 per annum since 2003.

While Government and NGO partners, with the support of private foundations and other international donors, have already made a considerable investment in the PAN further financing required to fully establish the PAN. The costs of establishing the core Network have been factored into network support costs below.

Management, coordination and network support

The effective nation-wide support to protected areas within the network will be essential to the success of the PAN. The costs for this component of the PAN financing plan has been estimated at between $148,000 and $240,000 annually**.** This would include the costs of the coordinator, travel and equipment, technical exchanges across the network, communications and awareness programs and materials.

In addition, technical support to protected areas across the network can be expected include conservation area planning, research and specialised monitoring, as well as site based financing mechanisms where appropriate. This contribute to resilience-building across the network, gap assessments and to Palau's international commitments such as those related to Protected Areas under the Conventions on Biological Diversity. Recurrent costs for these services have been estimated at between $460-$540,000 annually**.** These costs will be an integral part of the ongoing expansion and management of the nation-wide network.

A total for overall management, coordination and nation-wide support to the PAN has therefore been estimated at **$600-780,000 annually**. This would include costs currently incurred by Koror State and NGOs in support of the PAN objectives.

[6] IUCN (2004) Building a Secure Financial Future: finance and resources. Vth IUCN World Parks Congress, Durban South Africa Sept 8-17 2003.

To assist Palau maximise the benefits of the PAN to the people of Palau, the costs of targeted research, including specialised coral reef and socio-economic studies, and investment in compatible enterprise development should be taken into account. Based on investment made in other countries[7] an annual allocation of **$100,000** is recommended. This would dovetail with existing research institutions (e.g. PICRC) and business assistance schemes already established by the Government of Palau.

Table 3 summarizes the assessment of costs to establish and operate Palau's Protected Area Network.

Table 3. Summary of PAN costs

Item	Description	Cost ($)
Existing sites	All existing protected areas	1,070,000
Potential expansion	At least one protected area per State (16)	320,000
Network-wide support	National government inputs, network management & coordination, science and sustainable finance	800-980,000
Investment & targeted research	Investment in compatible enterprises and specialised studies	100,000
Total		**2.29-2.47m**

REVENUE

EXISTING REVENUE STREAMS

The Workshop recognised the need to clearly identify all revenue streams that could contribute to the implementation of the PAN. The two most significant sources of revenue for the PAN in Palau are (1) government budget appropriations and (2) access fees associated with existing protected areas. This is consistent with experience globally over the past 15 years whereby funding for conservation has come from very traditional and predictable sources. The bulk of the revenue for conservation has come from government budgets and grants from multilateral organisations, private foundations and NGOs, and access fees from protected areas[8].

Revenue directly related to site based protected area management is largely collected in Koror State. At a national level Government appropriations support natural resource management across a number of departments and specifically the Ministry of Resource and Development with direct responsibility for implementing the PAN legislation. As outlined earlier, these have yet to be fully costed. NGOs continue to contribute significantly to the establishment of the PAN through mobilising grant funds from international sources and through technical support. The international community is an ongoing source of revenue for projects related to natural resource management and the PAN.

National level – government appropriations

Existing contributions by the National Government to the implementation of the PAN will need to be listed explicitly as revenue for the PAN's financial plan. These can be estimated from national/departmental budgets. For the purposes of this assessment a **nominal $200,000 per annum** has been estimated for the contributions of the Ministry of Resources and Development, Ministry of Justice, Palau International Coral Reef Centre (PICRC) and the Office of Environmental Response and Coordination (OERC).

A departure fee is charged at the airport $20 for those not holding a Palauan Passport. While this fee relates to tourism and could be linked to both impact and management costs for the PAN, it is currently returned to consolidated revenue and disbursed trough annual government budget process.

[7] For example, Belize has calculated investment costs for their Marine Protected Area network to be in the order of $200,000.
[8] B Spergel (2004) Conservation Finance: Limitations and Opportunities Reflections on the Experiences of the last 15 Years

State level – site based fees

The earnings for Koror State through the Rock Islands Conservation Area Access Fee in 2004 were in the order of $900,000 of which at least 50% is returned directly for conservation and management activities. A new fee structure is being introduced to the Rock Islands as a management tool that will help regulate access to highly vulnerable areas and to cover the costs of increased management. By comparison in 2002, it was estimated that the Peleliu Dive Fee generated approximately $15-20,000. The ability for sites throughout Palau is expected to be highly variable.

Based on 2004 visitor arrivals of 89,000, the total earnings at the State level for the management of the PAN have therefore been estimated at $920,000 per annum. Assuming approximately 50% of this income is used to support implementation of the PAN, a total of **$460,000 per annum** in State-based revenue has been estimated.

In addition, State contributions to the PAN over time could reasonably be expected to be an important prerequisite for participation in the Network. For the purposes of this assessment it has been assumed that States may allocate funds to employ a site or State-wide protected areas officer (approx. $10,000 per annum). For States other than Koror that already funds staff and management costs a total contribution of **$150,000 per annum** to the implementation of the PAN.

Table 4. Summary of revenue from fees and government appropriations

Source	Description	Revenue ($)
State income & budget support	Based on Koror and Peleliu incomes & estimated budgetary support from State Governments	460-610,000
National budget	Inputs through national budget appropriation to Government Departments	200,000
NGO/operators	Ongoing contributions to science, patrolling, awareness raising, permit collection.	100,000
Total		**760-910,000**

SHORTFALL

A shortfall exists between the base costs of the Protected Area Network, its ongoing management and expansion and the income that can be generated through existing sources at State and National levels. This short fall is in the order of approximately **$1.56 million annually**.

NEW REVENUE OPTIONS

The Workshop explored a range of revenue options but focused most attention on the potential for additional revenue to be raised from tourism. Tourism remains the most significant sector in terms of total economic value to Palau and is directly relevant to both the impact and management costs of protected areas throughout Palau.

Table 5 contains the breakdown of visitor numbers by country of origin and, based on an assumption that 75% might visit the PAN (using the Rock Islands Conservation Area as an indicative site), the revenue that is currently generated.

Table 5. Estimated revenue from visitor by country of origin (2004)

Country of origin	Arrivals	70 percent visitation to protected area	Income from Access Fee (nominal $15)
Taiwan	42,158	29,511	$442,659
Japan	23,845	16,692	$250,373

USA	9,909	6,936	$104,045
Korea	5,673	3,971	$59,567
Other Asian	1,660	1,162	$17,430
Australia	1,387	971	$14,564
Europe	1,180	826	$12,390
FSM	1,040	728	$10,920
Others	2,309	1,616	$24,245
TOTAL	89,161	62,483	$936,208

Source: Sam's Dive Tours and PVA – modified %visitation based on workshop discussion (taking into account fees actually collected)

WILLINGNESS TO PAY

Two exit surveys, in 2000 and 2004, have analysed the nature of tourism in Palau in relation to dive tourism and the protection of Palau's natural resources. Both have assessed visitor willingness-to-pay for conservation.

In 2000 a survey conducted by the Palau Conservation Society indicated that the $15.00 Rock Island Access Fee was "reasonable"[9] and that, on average, visitors would pay $32 ($34 among scuba divers and $26 among snorkelers) for the experience. The survey also indicated that 40 percent would *not be willing to pay as much* if congestion were worse than it currently is.

This was reconfirmed by the 2004 exit survey conducted by the Government of Palau, World Bank and The Nature Conservancy. The survey found that visitors were willing to pay on average **$15 for a single conservation fee**, in addition to what they currently pay for permits to conserve Palau's coastal resources.

COMBINED ACCESS AND ARRIVAL/DEPARTURE FEE

The approach to the collection of revenue across the Protected Area Network was discussed in detail during the workshop. While the value of a simplified even single fee collection system was seen as desirable, it was not considered practical at this stage in Palau. The constitutional arrangements currently in place, whereby States can derive income from natural resources, and the introduction of a range of new charges within the Rock Island Conservation Area for management purposes were seen as strong arguments for maintaining the status quo.

Consistent with the survey findings, it was therefore agreed that a combination of existing access fees and a new arrival/departure fee would provide the most viable basis for sustainably financing the PAN.

As the departure fee in Palau is currently set at $20 for those without a Palauan Passport, an additional $15 may be considered excessive unless the full amount ($35) could be collected by the airlines on behalf of the ROP. An arrival fee/visa of $15 was therefore considered the most simple and transparent, charged on all non-Palauan visitors. Based on these results, an additional revenue stream could be created in the order of **$900,000 - $1.2million** assuming some variability (between 60-80,000) in visitor numbers.

ALTERNATIVES CONSIDERED

The Workshop recognised the importance of providing incentives for all sectors of society to contribute to the effective conservation of natural resources and the environment in Palau. A number of alternative financing options were discussed in terms of their potential to contribute to the sustainable financing of the PAN. These included:

- Impact fees – charged as a percentage of the costs of a development

[9] Palau Conservation Society (2001) Dive Tourism in Palau: Resource Use, Value, and Management. PCS: Koror.

- ► Hotel occupancy fee – collected by hotels and charged per head per night
- ► Recycling charges – refundable charge per item at point of sale to encourage recycling and reuse
- ► Fuel tax – charged per gallon of fuel at point of sale
- ► Bridge Toll – a charge per crossing
- ► Vehicle Registration – annual fee

None of these were considered relevant to the PAN at this time. While a number of these options would raise valuable revenue and provide appropriate incentives, their primary objective was another aspect of environmental protection (e.g. impact fees to cover costs of pollution control).

In addition to fees and charged, the possibility of Voluntary Conservation Surcharges[10] by a number of hotels/operators was discussed. An example of this can be found at the Palau Pacific Resort (PPR). The Resort created an opportunity for guests to make contributions to the Palau Conservation Society that were then matched by the PPR. This program generated $4000-5000 per year[11].

LEVERAGING INTERNATIONAL INVESTMENT

International assistance in the order of **$600,000 per annum** will be required to supplement the proposed new revenue stream. Over the past 5 years (2000-2004) international assistance for natural resource management in Palau has amounted to on average $1.532m per annum. This has been disbursed through a range of government departments and NGOs. This is, at least in part, recognition of the global significance of Palau's natural heritage and biodiversity.

There have been a number of developments in international environment policy that further strengthen the rationale for international investment in the PAN. These include:

- ► Environmental sustainability is one of the **Millennium Development Goals** adopted by world leaders in 2000
- ► At the World Summit on Sustainable Development world leaders also adopted a target for **representative systems of marine protected areas by 2012**
- ► The Convention on Biological Diversity at its Seventh Conference of the Parties adopted a **global programme of work on protected areas**, including guidance to the Global Environment Facility
- ► The CBD at its Eighth Conference of the Parties will adopt a Programme of Work on **Island Biodiversity**
- ► The **Mauritius Strategy** on the Further Implementation of the Barbados Programme of Action on the Sustainable Development of Small Island Developing States highlights the importance of networks of protected areas to islands
- ► The Secretary General, **Kofi Annan**, has publicly supported the need for marine conservation and protected areas in islands
- ► The **GEF**, as the financing mechanism for the CBD has highlighted **protected area networks** and the conservation of biodiversity in **productive landscapes** (e.g. tourism and fisheries) as strategic priorities.
- ► Palau will co-chair the **International Coral Reef Initiative** with Japan from July 2005-2007

The new revenue stream proposed will provide the essential **co-financing** typically required as a precondition for international assistance of this kind. On the basis of this investment at the State and National level, a number of public and private opportunities should be pursued with, for example, the GEF[12], the Global Conservation Fund[13], and France[14]. To generate an estimated **$600,000 per annum** an **endowment of approximately $12m** could be established. A more detailed strategy should be prepared once a decision has been taken to proceed with a particular financing option for the PAN.

[10] Carley (2000)
[11] Ibid - figures from 2000
[12] The GEF Biodiversity prortfolio is expected to include $500-600m in support of protected areas
[13] Moore Foundation Funds ($100m) managed by Conservation International to support the sustainable financing of new protected areas
[14] Investing Euro9million in Coral Reef Conservation in the South Pacific

It is recommended that Palau start to verify this opportunity at the international level and with selected donors. The forthcoming Convention on Biological Diversity Open Ended Working Group on Financing Protected Areas, Montecatini, 13-17 June, and subsequent Donor Roundtable 20-21 June, provides such an opportunity.

Table 6: Summary of new revenue sources for the PAN

Source	Description	Revenue ($)
Tourism Arrival	Based on $15 arrival visa less administrative costs	700,000 – 1.0m
International assistance	As a $12m endowment returning @5%p.a	600,000
Total		**1.30-1.6m**

FUND MANAGEMENT

A range of models could be applied to the management of funds for a nation-wide network of this kind. The most common approach, and the one that that would be expected to maximise opportunities for both public and private contributions to support the PAN, is an independent trust or corporation. There is a considerable body of experience within government and conservation community, in the development and utilisation of independent **Trust Funds** of this nature.

The workshop recognised the value of an independent entity to administer and disburse funds for the PAN and one that would allow for and encourage additional investment by other parties in support of the protected areas in Palau. It will provide a valuable mechanism to help **leverage international investment** from bilateral and multilateral donors and private foundations. A fund of this kind will also help **reduce the vulnerability** of PAN revenue to fluctuations in the tourism market and provide more **predictable** disbursement of resources.

The option of establishing an **independent non-profit corporation** in Palau was proposed and should be investigated further. The non-profit corporation would be charged with receiving and disbursing a revolving fund generated through the arrival/departure fee and an endowment created with the support of bilateral and multilateral partners and private foundations. The annual operating budget for a corporation/trust of this nature in Palau would be in the order of **$130,000 per annum.**

CONCLUSIONS AND RECOMMENDATIONS

The enactment of the PAN legislation has provided Palau with the framework for the establishment of a nation-wide network of protected areas of both national and global significance. The sustainable financing of this Network is an essential step in the implementation of the PAN and will contribute to the livelihoods of the people of Palau through its support for the wise management of natural resources and for the conservation of Palau's biodiversity. It will also assist Palau meet its commitments to the targets contained in the global Programme of Work on Protected Areas agreed to by Governments at the Seventh Conference of the Parties to the Conventions on Biological Diversity (2004) and at the World Summit on Sustainable development (2002).

The magnitude of the financial challenge has been calculated and is summarised in Table 7 below.

It is clear that it would be possible to **commence establishment of the PAN** with a limited or core set of existing protected areas with the resources currently available within State and National Governments, and the NGO community. Additional resources – a **new revenue stream** such as the proposed arrival visa – will be required to build a more comprehensive, resilient and effectively managed nation-wide network of areas as envisaged by the Act. To ensure the Network can expand appropriately, is sustainably financed and

buffered against vulnerabilities in the tourism sector, **international assistance** by way of grants and donations will be essential for the establishment of **an endowment**.

Table 7: Balance sheet for annual operation of the Palau Protected Areas Network

Item	Description	Cost (US$)
PAN Costs		
Existing sites	All existing protected areas included in PAN	1,070,000
Planned expansion	At least one additional protected area per State (16)	320,000
Network-wide support	National government inputs, network management & coordination, science and sustainable finance	980,000
Investment & targeted research	Investment in compatible enterprises and specialised studies	100,000
Subtotal		**2,470,000**
Revenue		
State income & budget support	Based on Koror and Peleliu incomes & estimated budgetary support from State Governments	610,000
National budget	Inputs through national budget appropriation to Government Departments	200,000
NGO/operators[15]	Ongoing contributions to science, patrolling, awareness raising, permit collection.	100,000
Subtotal		**910,000**
Shortfall	PAN costs minus existing revenue	**(1,560,000)**
New Revenue		
Tourism Arrival	Based on $15 arrival visa for 80,000 visitors p.a. less administrative costs	1,100,000
International assistance	A $12m endowment from bilateral and multilateral grants/donations returning @ 5%p.a	600,000
Fund management	Establishment and operation of an independent non-profit corporation	(130,000)
Subtotal		**1,570,000**
Balance		**10,000**

The Workshop concluded that a combination of State, National and international resources would be necessary to sustainably finance the Protected Areas Network. The sustainable financing plan for the PAN will:

- Build upon **existing revenue from fees and licenses** related to protected areas at the State level;
- Build upon **existing National budget allocations** in support of the PAN, noting that a more detailed breakdown of allocations by department in support of the PAN will be valuable;
- Create a **new revenue stream** (~$1m from an arrival fee) from non-Palauan visitors consistent with willingness-to-pay assessments in 2000 and 2004;
- Leverage **international development assistance** and direct investment in the form of an endowment (approximately $12million) to reduce vulnerability to economic shocks and provide for a predictable flow of resources for the development and operation of the PAN.

Based on the experience of other countries and the capacity to leverage the international support greatest range donors, the establishment of **an independent non-profit corporation,** to manage the funds generated through the new arrival fee and international investment in the PAN, is recommended.

The next steps include:

- Commence establishment of the PAN for small number of sites that can be financed through existing resources.

[15] In kind contributions/activities in support of PAN objectives/outcomes

- ► Detail current National Budget allocations in support of the PAN by government department.
- ► Put in place the legislative framework for the use of an arrival fee, or viable alternative, to finance the more comprehensive, resilient and effectively managed PAN.
- ► Develop a strategy to engage key international donors, both public and private, in the capitalization of an endowment to ensure the sustainable financing of the Network.
- ► Make arrangements for the establishment a non-profit corporation, including the development of governance arrangements based on international best practice, to manage and disburse funds generated by the new arrival fee and international donations for PAN implementation.

A. TERMS OF REFERENCE

BACKGROUND

The Government of Palau has taken a number of significant steps to conserve its biological diversity, in particular its marine areas, on which so many people depend for their prosperity and survival. For these important conservation efforts to succeed over the long term, sustainable sources of financing need to be established that will accurately reflect the value of Palau's natural resources and pay for the cost of their management.

Legislation is currently pending in Congress to support the establishment of a nationwide system of protected areas. A provision in the legislation gives responsibility to the Ministry of Resources and Development to investigate and find ways to ensure the financial sustainability of Palau's protected areas system.

In response to the question of financial sustainability, the Government of Palau has agreed to establish an inter-agency working group to oversee a comprehensive study of the various options for financing Palau's national system of protected areas, and to make a set of recommendations for consideration by the President and Congress. The study is likely to take about a year, and will explore opportunities to build on existing financing arrangements, such as the Koror State entrance fee to the Rock Islands. The Nature Conservancy (TNC) was asked by the Ministry of Resources and Development -- and has agreed -- to play a lead role in carrying out the study.

GOAL

Assist the Palau Government to identify and analyze financing mechanisms to conserve and manage its nationwide protected areas system, and other natural resources, and to recommend a nationwide conservation finance strategy for consideration by the national and state governments.

OBJECTIVES

- Increased awareness and understanding of financing options for conservation within Government and among stakeholders
- Increased awareness and understanding of economic and other values of Palau's natural resources within Government and among stakeholders
- Recommendations for a nationwide financial strategy for Palau's protected-area system

ACTIVITIES

To achieve these outputs, a number of specific activities will be required. These will include but may not be limited to:

1. **Analysis of existing information**: The analysis would focus on the following areas:

    - information on the tourism industry, including the National Tourism Plan, data from the Tourism Board, etc.

- ► national biodiversity strategy and other relevant existing environmental and sustainable development strategies and plans

- ► financial resources currently being utilized for conservation (e.g., Rock Islands entrance fee), including analysis of source of funding, current levels of expenditures, overlapping efforts (and areas of supported activities that may be better utilized in partnership with other programs or activities), and other relevant information;

2. **Consultations with political leaders and stakeholders**. Consultations will be held to both raise awareness of potential financing resources and to obtain their input on financing mechanisms that are viable for further development. This will entail the following activities;

   - ► One-on-one interviews with key government, environmental and tourism industry actors; to document their ideas and views on various finance options and related issues.

   - ► Group meetings and workshops with these stakeholders to elicit their views and present ideas for possible recommendations.

3. **Analysis of newly generated information**. This will entail the following activities;

   - ► Analysis of the environmental social and economic costs/benefits of an expanded system of protected areas

   - ► Analysis of data from willingness to pay surveys and World Bank's resource valuations

   - ► Analysis suitability of various conservation funding opportunities and evaluate and screen the financial tools best suited to Palau. This would cover opportunities for expanding the current entrance fee system for the Rock Islands, as well as other tourism-based user fees (e.g. airport departure tax , voluntary conservation donations, hotel fees, etc.);

   - ► Linking activities and outcomes with existing work (e.g. reef valuation efforts, the National Biodiversity Strategy and Action Plan, and Tourism Plan) and national priorities for sustainable development.

4. **Other inputs**

   - ► Participation in Inter-agency Working Group meetings to report on progress, review draft reports and determine directions

   - ► Presentations of results to Inter-agency Working Group, the Congress, the President and others.

THE NATIONAL CONSERVATION FINANCE PLANNING PROCESS IN MADAGASCAR

A summary by Andrew Keck, US Aid Consultant

OVERVIEW: CONSERVATION FINANCE THROUGH 1999

Madagascar is one of the world's most highly prized hotspots of biodiversity. The island boasts an extraordinary level of endemism at the species, family and genera levels. The associated natural habitats consist mostly of dispersed blocks of forest. The existing system of 46 national protected areas covers 17,209 km^2, equal to around 15% of existing forest and 3% of the country's total area. There are also significant stretches of rich coral reefs around the island although only one marine protected area exists at this time.

The National Association for the Management of Protected Areas (ANGAP) manages the network of protected areas. ANGAP is one of three implementing agencies created in 1991 as part of the design of the National Environmental Action Plan (NEAP). The remaining natural forests in Madagascar, also recognized as robust habitats of biodiversity, are almost all government-owned forests under the supervision of the Ministry of Water and Forests. Other key national agencies that play complementary roles in favour of conservation and biodiversity protection include the Ministry of Environment (responsible for policy dialogue), the National Environment Office (the ONE is responsible for environmental monitoring, EIA, and regional capacity building), and the National Association for Environmental Activities (ANAE is responsible for community-based soil and water resources management projects). See organization framework page 9.

The NEAP has been the primary vehicle for channelling support to the management of protected areas, other forest areas, wetlands and coral reefs. Because of the country's low GDP per capita, high level of indebtedness and widespread poverty, government resources for the environment are extremely limited. Financial support as well as considerable technical assistance has therefore come almost entirely from the international donor community. The World Bank, USAID, the KfW, and more recently, the GEF have mobilized the lion's share of total financial assistance for conservation in Madagascar. The intensive level of funding from these organizations and others over the past ten years has allowed ANGAP to operate and to evolve, in a relatively short amount of time, into a stable, organized and functional organization.

The management, institutional and financial conditions are less favorable for the forests not managed by ANGAP. Although the Ministry of Water and Forests (MEF) is responsible for overseeing the sustainable use and management of most of Madagascar's forests, it has neither the financial nor technical means necessary to fulfill its mandate. Most forests are therefore prey to a variety of pressures ranging from illegal logging of high-value hardwoods to harvesting for charcoal production. However, the most significant threat stems from the practice of slash-and-burn agriculture.

The NEAP foresaw a 15-year investment program broken into three phases as a necessary process to create the required conditions for a more self-sustaining system of natural resource management in Madagascar. Each phase is referred to as an Environment Program. The first phase, the EP1, ran from 1991 through 1996. The current phase, the EP2, spans the period 1997 through 2002. The final phase, the EP3, is expected to run from 2002 through 2007. The approach of the NEAP assumes that by the end of the 15-year period, environmental management concerns would be integrated into planning and investment programs across the range of sector ministries, as well as at local and regional levels. The underlying assumption has therefore been that donor support at the end of the 15-year program could gradually diminish in favor of domestically driven or managed funding mechanisms. All of the above-mentioned organizations participate directly to implement the NEAP.

A rapid assessment of the situation in late 1999 and early 2000 indicated that significant action must be taken to begin re-aligning costs at a level that the country could support on its own. Since their creation, ANGAP, ONE, and ANAE have all followed a project-based approach to budgeting and financial management. As leading implementing agencies of the EP2 investment program this was entirely logical. However, a look at the numbers shows that nearly 70% of operating costs and 100% of all investment costs for these three agencies are supported via international donor project funds.

Although the government pays MEF personnel salaries, the Ministry is highly dependent upon donor funds to operate and implement projects. Forest concession fees are limited in reality and also in potential. The revenue capture of the other leading agencies is also limited. ANGAP's park entry fees, for example, cover about 3% of total annual costs.

A second-tier sustainability problem also exists in that there is virtually no capacity at the regional or local level to assume financial or managerial responsibility for natural resource protection.

THE TRANSITION

The initial push to position Madagascar's conservation agencies on a healthier financial trajectory was a joint effort involving leaders at the Ministry of Environment, the ONE, and ANGAP on one hand and the representatives of the World Bank, the United States Agency for International Development (USAID), the World Wide Fund for Nature and Conservation International on the other. All parties agreed that the long-term financing needs go well beyond those of ANGAP to include the vast forest areas currently under MEF oversight and to other natural habitats. At the same time the ONE and ANAE have meaningful supporting roles for conservation and the government and donors recognized that a long-term solution needed to be found to sustain these organizations.

In July 2000, a USAID-sponsored workshop on sustainable financing for the environment led to the creation of a national sustainable financing commission (SFC –see organizational context, page 9). The commission's main task is to propose to Government a financing strategy for the third phase of the Environment Program, or EP3, and beyond. At the core of the strategy is a goal to manage a gradual shift in favor of internally managed funds and away from external project assistance.

The timing of the commission's creation was not a coincidence. Only a month earlier the government and donors had begun discussions on the planning of the transition from the current investment program, the EP2, towards the EP3, projected to take place in mid-2002. The commission was therefore proposed as one of three working groups under the supervision of a steering committee charged with the design of the EP3. The EP3 design steering committee is presided over by the Secretary General of the Ministry of Environment.

The sustainable finance commission includes representatives of the implementing agencies of the EP2, the Ministry of Finance, the Central Bank and Tany Meva, Madagascar's only foundation. The commission's president is the current Country Director of Conservation International's Madagascar office. He is a former minister of finance, served as a representative of Madagascar to the IMF, and has experience implementing debt-for-nature swaps in Madagascar. The Country Director of WWF-Madagascar is also a member of the commission. All of those involved in the commission have the position of director or above in their respective institutions.

Financial and technical support to the sustainable financing commission has, to date, come mostly from a USAID-funded project, called PAGE (support project for environmental management). One of the components of PAGE is oriented specifically to provide assistance and training on sustainable financing issues. The government of Madagascar has also allocated some resources via a World Bank loan. Additional technical support on the specific needs of ANGAP has also come from a component of another USAID-funded technical assistance project.

Because PAGE already had a mandate to work on sustainable financing, the commission requested that the project act as the Secretariat to the commission.

THE WORK OF MADAGASCAR'S SUSTAINABLE FINANCE COMMISSION

The commission's efforts began in earnest in September 2000. A year later the commission submitted a draft strategy for the financing of the third and final phase of the Environment Program. The strategy document will be the object of discussion and negotiation with the donor community over the coming months. It is expected that the strategy will undergo multiple revisions during that period. But just how did the commission go about preparing this draft financing strategy? The steps in the process are described below.

1. **Preliminary needs assessment**. The commission began its work on a financing strategy with an analysis of the past uses and sources of funds. It was determined that the strategic objectives and activities of the EP3 were likely to be similar to those under the EP2. The strategic objectives for EP3 were initially identified as parks management, coastal zone management, sustainable forest management, soil and water conservation for rural development, and pollution control. The costs of the EP2 were used as a reference point for calculating future funding needs.

2. **Identification of potential financial instruments.** In September-October 2000 the commission began assessing possible sources and instruments for meeting the needs of the EP3. The emphasis of the process was on identifying activities or objectives that had the highest potential for getting non-project funds. Given the international community's on-going interest to help protect Madagascar's biodiversity, it was judged that instruments and tools, such as trust funds, carbon sequestration, and debt swaps should be focused on biodiversity-related funding needs.

3. **Initiate trust fund feasibility work**. The commission decided early on that a trust fund had particularly high potential for succeeding and that there was a need for the commission members to learn more about how biodiversity-related trust funds operate in other countries. PAGE mobilized a trust fund expert to undertake an initial feasibility analysis. Through the trust fund expert, the commission members learned about some of the key criteria that have led to the success of selected trust funds around the world.

4. **A study tour to Latin America and the United States**. To familiarize themselves with the full range of financing tools that might be able to support conservation and environmental management in Madagascar, the commission decided to undertake a three-week study tour in April, 2001 to a few countries and organizations that have proven experience on the topic. During week one, the commission separated into two groups to visit Costa Rica and Mexico. During week two, the groups came together in Washington, D.C. where they met with representatives of perhaps a dozen institutions including the World Bank, GEF, USAID, WWF, CI, and The Nature Conservancy (TNC) to discuss examples of various financing instruments applied in other countries.

During week three, the Minister of Environment, and the Madagascar country representatives of CI and WWF joined the group. With the entire commission gathered in Washington, they spent three days behind closed doors to:

a. create a typology of potential financing instruments for application in Madagascar;
b. analyze the relative potential of each instrument to contribute to the strategic objectives of the EP3; and
c. prepare a draft action plan for each financing instrument identified.

During the latter part of week three, the Minister of Environment met with representatives of the World Bank, USAID, WWF, CI and with the UNDP in New York to discuss the financing strategies for the EP3. The Minister returned to Madagascar with assurances from all these institutions to continue supporting environmental programs in Madagascar and to assist in establishing a biodiversity trust fund for Madagascar.

5. **Raise awareness and get consensus at home on sustainable financing issues**. ANGAP, in collaboration with IUCN, PAGE, WWF, CI and others organized an international Symposium in May 2001 in Madagascar on the subject of Sustainable Financing for Protected Areas and other Environmental Programs. The Symposium served as a public forum where the commission could present the results of its study tour. Symposium participants agreed with the commission's proposal that the highest priority short-term action involved establishing a biodiversity trust fund, although a much broader suite of instruments will inevitably be required.

6. **Government approval to initiate creation of the trust fund**. It has been clear from the beginning that any trust fund for biodiversity would require the political and financial support of the government of Madagascar. The commission therefore prepared a brief technical note providing justification on the need for a trust fund and proposing next steps. The note called for the creation of a trust fund steering committee. The note also recommended that the government use HIPC funds as a counterpart to external financing. The Minister and the Prime Minister's office gave their approval in principle to these proposals, thus paving the way for the creation of a trust fund steering committee.

7. **Proposal for allocating government funding to the environment**. The representative of the ONE to the commission prepared a comprehensive proposal for allocating USD 30 million in HIPC initiative funds between the years 2002-2006 to help meet a range of environmental objectives foreseen under the EP3.

8. **Development of a sustainable financing strategy document**. With analysis and agreements described above in hand, the commission sat down to the task of preparing a draft sustainable financing strategy for the EP3. The strategy document, submitted to the EP3 planning group in September, 2001, has three broad thrusts. The first is on diversification of funding as a means to complement project-based donor assistance over the course of the next five years. The second thrust is on the gradual substitution of donor funds over time. The third thrust is to develop and improve structures and systems to contain and rationalize costs. The point here being that because implementing agencies have historically operated on the basis of project budgets that must be dispersed by a given point in time, they must begin thinking more like private sector operators that must maximize the impact of each dollar spent.

THE TYPOLOGY AND ANALYSIS OF POTENTIAL FINANCING TOOLS

The typology of financing instruments developed by the commission can be broken down into five categories. The first category includes special instruments such as trust funds and debt swaps that are well suited to creating a long-term funding stream for specific objectives. The second category includes a suite of tourism-related fees, concessions or taxes. Such instruments will be developed gradually in a manner as to not discourage growth of Madagascar's small tourist industry.

A third category involves sector-based environmental fees. Madagascar is rich in natural resources, particularly mines, forests and fisheries. Because productive activities in all three can have negative impacts on the environment, the Ministry of Environment will examine the potential, in the medium-term of introducing environmental fees. One such fee is already in place in association with the sale of petroleum products.

A fourth category, denominated ecological payments for environmental services, focuses on testing the feasibility of schemes to get international or national actors to pay for the environmental services provided by forest resources. Conservation concessions, carbon offsets and watershed maintenance fees are three examples that have been put in practice in other countries and that are believed to have a potential for use in Madagascar.

The last category involves direct mobilization of private sector investment in the environment. Despite the limited number of private investors in Madagascar, the commission proposes that the approach be encouraged now.

RESULTS TO DATE

The process described above is really a work in progress. The most palpable result to date is the creation of the steering committee for the biodiversity trust fund. The trust fund is perceived as a cornerstone to the larger sustainable finance agenda. It is expected to lead to the mobilization of substantial funding necessary to ensure the core costs of operation of the parks network.

The commission recognizes that many of the other mechanisms will require negotiations and agreements with agencies or ministries not directly involved in the Environment Program. A green tax on international tourists, for example, would require the approval of the Ministry of Tourism and the Ministry of Finance. Furthermore, even if some instruments are technically and politically feasible, they are not always financially viable. This is the case of a diving fee in Madagascar. The total number of divers is extremely small and will grow slowly, thus the financial impact of a diving fee is projected to be marginal. In fact, the costs of designing and implementing the fee may be more than the potential revenues.

In the draft strategy document, the commission proposes that the EP3 serve as the main testing ground for innovative financing approaches and that donor funds under EP3 be earmarked for such testing. In the meantime, individual agencies are preparing their own strategies to improve their cost recovery and revenue streams. ANGAP is developing a marketing and business plan and intends to revise the entry fees to its flagship parks. The MEF is gradually restructuring the concession fee system and is moving towards a greater decentralization for management and use of funds. The ONE has prepared a strategy for higher cost recovery of its environmental impact assessment review fund.

LESSONS LEARNED

The previous discussion is a more or less objective account of the process Madagascar has followed towards development of a national financing strategy for the environment and conservation. The following observations on lessons learned are those of the author.

The following factors appear to have had a particular significance on Madagascar's progress on sustainable financing for conservation.

1. **Timing**. Cost recovery, revenue generation strategies and trust funds have been discussed for several years in Madagascar but with marginal impact. Historically, the highest priority of government and donors has been to implement field activities, draft enabling legislation and develop human resources. The transition from EP2 to EP3, however, will involve re-negotiation with the donor community on funding and activities. The Ministry of Environment and the donor community agreed in June 2000 that financial sustainability had to assume a high priority in the design of the EP3. With the end of the EP2 looming on the horizon, it was no longer possible to simply ignore the questions and concerns about the long-term financial viability of Madagascar's environmental programs and institutions.

2. **A formalized process**. The creation of a sustainable financing commission in July 2000, under the supervision of the EP3 planning and design committee, was a fundamental step towards making real progress. Not only did it create an arena for analyzing options, but it also clearly allocated responsibility to a specific group to formulate and propose a strategy. This helped to address potentially thorny issues of mandates both across institutions and of personnel within institutions. For example, once the commission member representatives for each institution were chosen, there was no longer any question as to who should participate in the study tour. Similarly, when it was

decided that the EP3 pre-feasibility document should have a chapter on sustainable finance, there was immediate agreement that the commission would be responsible for writing the chapter.

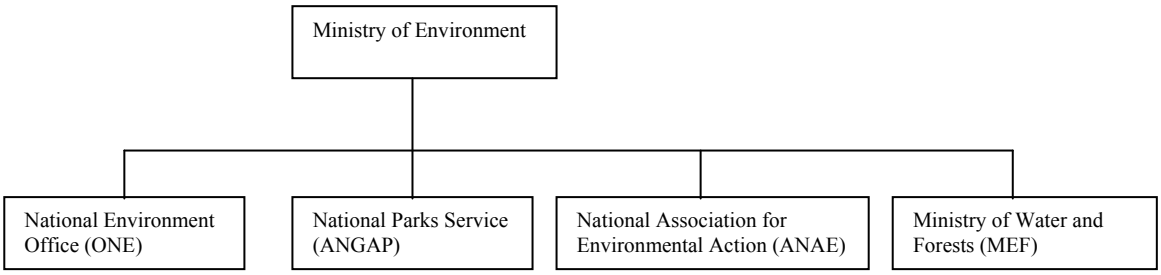
3. **Leadership and personal charisma**. Even with a mandate and a formalized process, the success to date has also largely been determined by the personal qualities of those involved. The Minister of Environment, a former staff member at ANGAP, is very familiar with the need for greater cost control and improved revenue streams. He was therefore a consistent proponent of the idea that each agency must identify its core mandate and activities and then seek out ways to finance those activities. Similarly, the president of the sustainable finance commission, a former senior member of government, has played an excellent role in championing the work of the commission and ensuring that it gets the job done. Without the perseverance of these people and others, it is not clear that the commission would have functioned as an effective working group.

4. **Dedicated technical support and funding**. Typically, foreign technical assistance programs focus on institution-specific development. Although a valuable approach, it is not adequate to address problems that cut across institutions. Recognizing that there are over-arching conditions to sustainable development, like finance, USAID and the government agreed to create the PAGE project. The PAGE sustainable financing team works with the commission and with individual agencies at both the strategic and operational level. The value of a dedicated technical team should not be underestimated. All of the members of the sustainable finance commission have full-time responsibility within their respective institutions. The PAGE team takes some of the burden off of the commission members to keep up the momentum of the work.

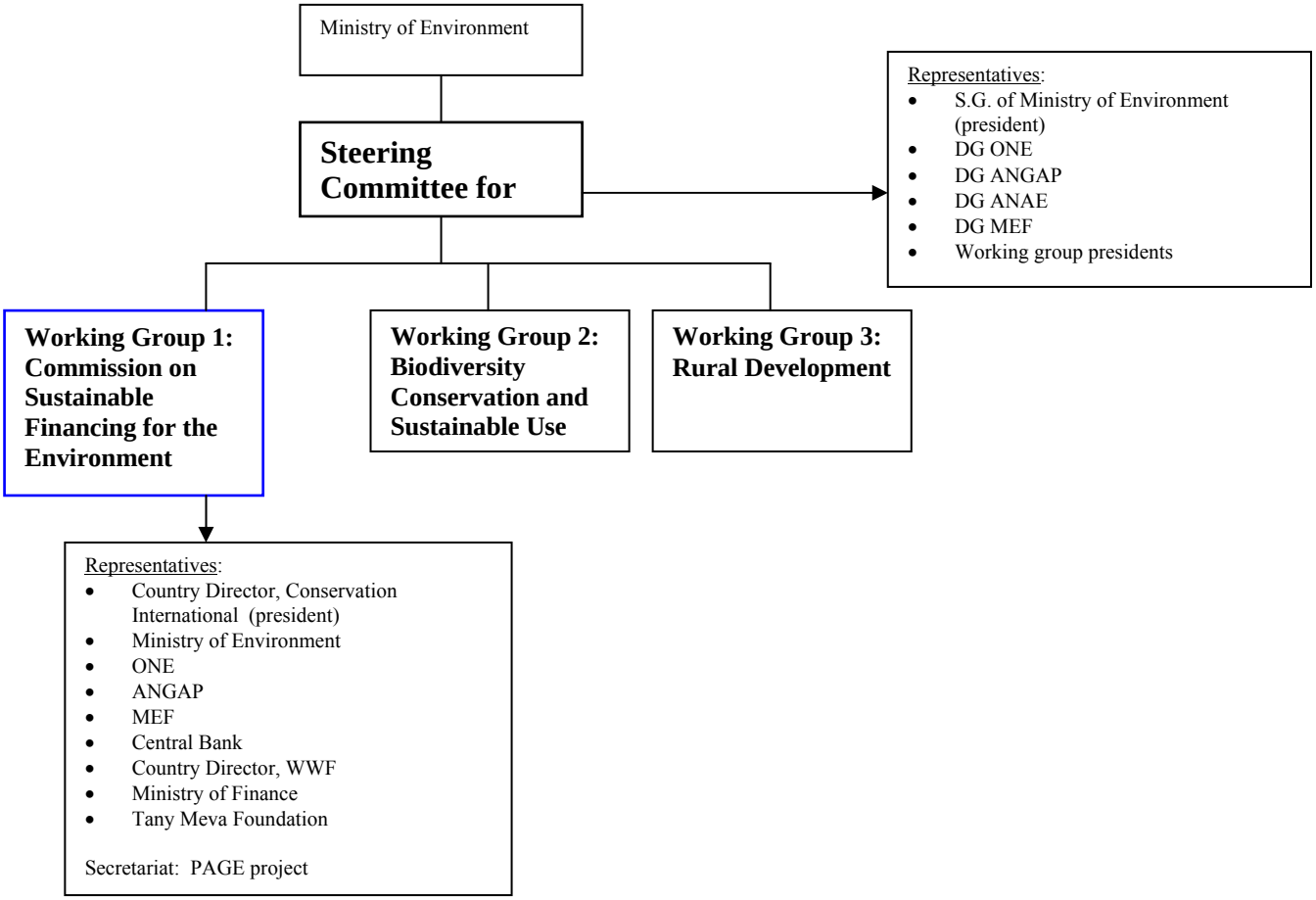
Although many other factors have certainly contributed to the success of the process in Madagascar, the above four factors, when taken together, are what distinguish the results achieved since July 2000 with the previous ten years.

Comparison of implementation framework of the Environment Program and the organizational context of the Sustainable Finance Commission

ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION OF THE ENVIRONMENT PROGRAM



ORGANIZATIONAL CONTEXT OF THE SUSTAINABLE FINANCE COMMISSION



SUSTAINING THE COSTS OF MOUNTAIN CONSERVATION: LESSONS FROM BHUTAN

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See also Togbay' s paper below provided to the pre-Durban Mountains Workshop organised by Larry Hamilton.

ABSTRACT

Environmental funds serve a wide mandate and provide broader benefits than traditional charities. It is especially evident in those developing countries where the cultural and political landscape promote innovation. Since its inception in 1991, the Bhutan Trust Fund for Environmental Conservation (BTF) has established a solid foundation for biodiversity conservation through enduring legal, institutional and technical frameworks. The first environmental fund in the developing world, BTF has demonstrated important global benefits, innovation, high replication value, and sustainability. Its endowment has seen a cumulative growth from an initial US$21 million to over US$36 million. Grant-making is guided by strategic funding objectives, focusing on biodiversity conservation and promoting the local capacity to manage it. However, the scale of emerging environmental issues, combined with limited financial resources to deal with these new threats, poses a serious challenge to the proponents of sustainable conservation finance. The problem is unique because emerging ecological stressors in Bhutan have their roots in the country's rapid economic growth. This paper briefly outlines the BTF's history and operations, its management and pioneering financial model, and some important lessons learned.

BACKGROUND

The tiny kingdom of Bhutan, occupying a narrow area of 46,000 sq km sandwiched between the Indian plains and the Tibetan plateau, represents a key environmental asset in the highly threatened Eastern Himalayan ecoregion. Bhutan ranks in the top ten percent of countries with the highest species density on Earth. This diversity is partly due to its location at the juncture of the Palearctic realm of temperate Euro-Asia and the Indo-Malayan realm of the Indian sub-continent, and from its great geological and climatic variety. The country ranges from subtropical forests in the south at elevations of150 m to Alpine grasslands and glaciers above 7,000 m, with annual precipitation ranging from 800 mm in the inner mountains to over 5,500 mm in the lowlands.

Bhutan's record of good governance and long-standing commitment to environmental conservation are widely recognized. Since 1974 the country's forest policy has operated under a royal mandate that at least 60% of the total landmass remain forested in perpetuity; commercial logging was nationalized in 1978 in response to concerns of over-exploitation, and the timber industry is tightly regulated. More than a quarter of the country is protected through ecologically representative national protected areas, including four national parks, four wildlife sanctuaries, one strict nature reserve, and a network of biological corridors linking all parks (Figure 1). Within these parks and forests, more than 60% of the endemic plant species of the Eastern Himalayas is present: of 5,500 species of recorded vascular plants, 750 are endemic to the region and 50 to

Bhutan (RGoB 1998a). Seven hundred seventy bird species have been recorded so far, of which 73% are resident. Among the 165 mammal species inventoried is the tiger, and Bhutan is the only country with a resident, breeding population living at elevations above 2,000 m.

However, until the mid-1990s Bhutan had few means of financing its environmental commitments. As a least-developed country with fewer than 1 million people, of whom 80% are engaged in subsistence agriculture, social and economic development consumed the national budget. Even with per capita gross domestic product (GDP) at US$755 — a relatively high figure for the sub-continent — almost all development activities depend on external assistance (RGoB 2003). Therefore, the initiative in the late 1980s to mobilize and sustain substantive funding for conservation was a practical and far-sighted vision by conservationists, donors, and the political leadership of Bhutan.

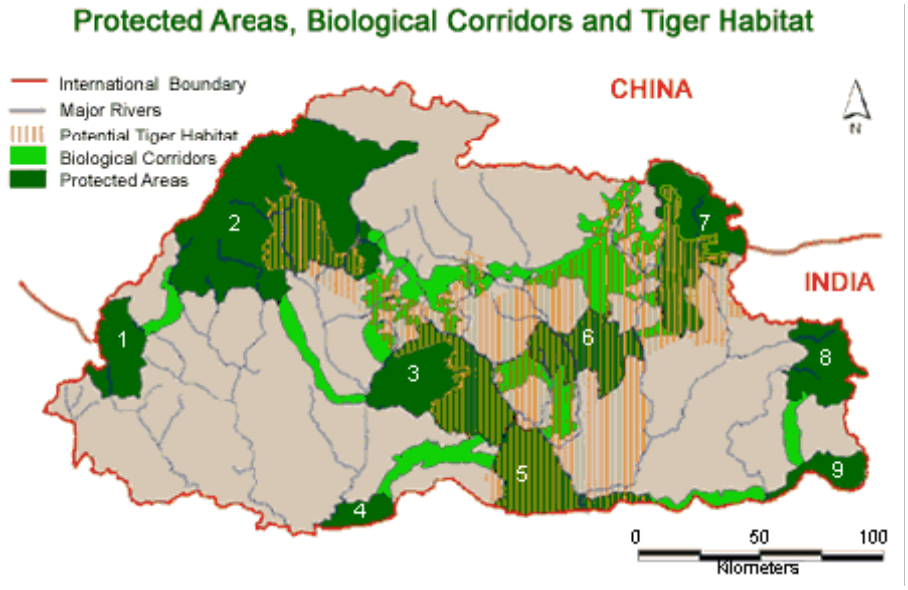

Figure 1. National park areas

ESTABLISHMENT

The Bhutan Trust Fund (BTF) was created to reduce the social "debt" of financing conservation by sustaining essential conservation programs, thereby allowing the national treasury to focus on direct poverty reduction. Considering the present-day fashion for sustainable development, it is important to recall that a trust fund is conceptually not new to Bhutan. For centuries, Buddhist monasteries, owned by resident communities with stewardship rotated among households, actively invested their assets in local economic systems through sharecropping of monastery land and livestock, financing trade expeditions, or monetary and in-kind credit. Investment returns financed community rituals and the monastery's upkeep. These early endowments ensured a consistent economic foundation to a community, while contributing to spiritual and social well-being.

A relative newcomer to modernization — planned development began only in the 1960s — Bhutan began to address issues of financial sustainability in its environmental commitments in the mid-1980s. BTF was established in January 1991, with US$1 million from the World Wildlife Fund and technical assistance from the United Nations Development Program. Following the Rio Earth Summit in 1992, the fund received US$10 million from the Global Environment Facility (GEF), the latter's second-ever grant and the first to an environmental fund. By 1996, Bhutan mobilized matching funds of US$10 million from several European countries (Figure 2). The GEF grant was executed through World Bank project supervision during the period 1992–1997. Project management strongly contributed to the fund's growth, with GEF grant disbursements tied to fulfillment of major policy and operational progress benchmarks. Guided by Bhutan's strong political will and dedicated donors, the project concluded satisfactorily two years ahead of schedule.

Fig.2: Endowment progression

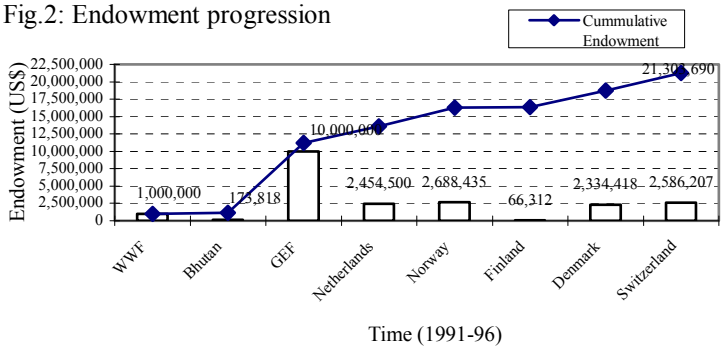

Figure 2. Endowment Progression

In mid-1996, when the United Nations' stringent financial regulations could no longer guarantee the fund's sustainability, the original mechanism was dissolved and the present institution legally incorporated under Royal Charter in Bhutan. Its assets (then US$21 million) were immediately invested in the global capital markets through U.S.-based professional fund managers. The fund is exempted from federal income taxes.

Following BTF's initial success, several dozen environmental funds have been established globally. The advanced financing and investment mechanisms of these second- and third-generation funds (Mikitin 1995; Tavera 1996; Norris 1997, 2000) present opportunities for BTF to refine its strategic direction and capitalization efforts. Within Bhutan, BTF inspired the creation of a health trust fund and a youth development fund, and guided the investment of half the government pension's assets in the global capital markets. Innovatively, the health trust fund secured external concessional credit of US$10 million, which is used to match contributions to sustain recurrent costs of essential drugs and vaccines. All three funds used BTF as a model, since the latter's financial innovation and technical credibility have received wide international support.

GOVERNANCE

BTF is governed by a fully Bhutanese, seven-member management board with ultimate program and fiduciary responsibility. The board has high-level membership reflecting the importance placed on the fund's objectives, and conferring prestige and credibility to the fund's business. Government representatives relevant to BTF's goals -- from the ministries of environment, education, finance, and agriculture — two private-sector members. and the trust fund director, the latter in an *ex officio* capacity, constitute the board. Government participation is crucial, as a representative board is the best guarantor of effective implementation when government agencies are the largest implementers of BTF grants. Two external donor representatives stepped off the board in 2001.

Board tenure is fixed at two three-year terms. It meets at least semi-annually to review proposals for funding, guide investments, and oversee progress. It is assisted in investment matters by a specialized committee comprising the board treasurer, governor of the central bank, and a U.S. private-sector specialist. Board and investment committee members do not receive financial compensation. A seven-member cross-sectoral technical advisory panel advises the fund on program matters, with membership rotated every two years. A small secretariat of five full-time staff headed by a director implements board decisions and oversees operations: the organization is deliberately kept small, as BTF does not implement projects. All staff are direct-hire professionals.

An annual spending ceiling is established based on the endowment's cost valuation at the end of the preceding fiscal year. This enables fund staff to operate within a financial target, and permits reinvestment of unspent investment income to hedge against inflation and continuously increase the endowment. The present

spending rule of 2.5% of the endowment was revised from its previous 5% less than a year ago, in order to preserve the inflation-adjusted capital or amount received from donors. Grants are implemented by various government agencies, rural communities, non-government entities, and eligible individuals.

The fund secretariat is empowered with executive authority over all board-approved finances. Progress related to grant and investment matters is reported to the board every financial quarter. Custodian bank oversight and independent advisory services provide the checks and balances necessary over active fund management and operations. The secretariat plays no active role in fund management, although a functional competence in economics and capital markets has become essential. At the end of each fiscal year, accounts are rigorously audited and the results publicly disseminated. BTF's entire operations and business matters are kept as transparent as possible.

REVENUE GENERATION

The financial endowment is the fund's most important asset, and the generation of healthy returns with minimum exposure to extreme risk receives the highest fiduciary attention. Besides quarterly and annual reporting, investment performance is carefully monitored by the secretariat and periodically reviewed by the board.

The decision to engage private asset managers in 1996 was strategic, and the fund earned a total return of almost US$15 million in the ensuing seven years (Figure 3).

Fig.3: Market value of endowment

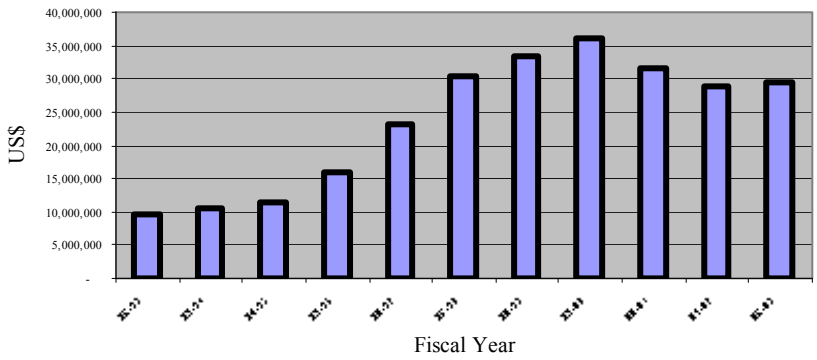

Figure 3. Market value of endowment

While the remarkable growth of the U.S. economy over the same period was a prime factor in the endowment's prosperity, professional fund management provided significant above-benchmark returns. Until the beginning of the U.S. bear market in fiscal year 2001–02, annual revenue exceeded expenditure (Figure 4).

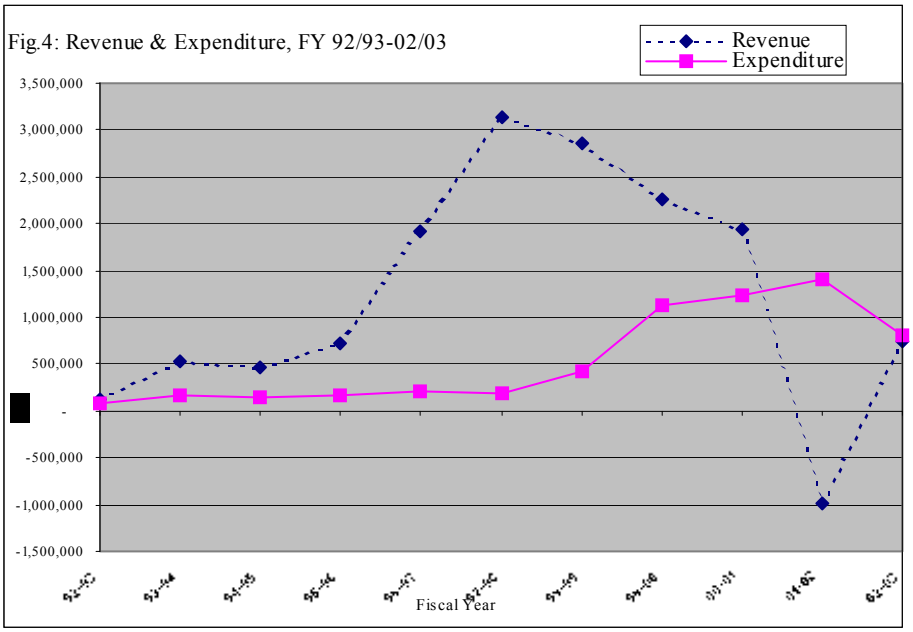

Figure 4. Revenue and expenditure, FY92/93-02/03.

The endowment is prudently diversified, with a 40:60 ratio between common stocks and fixed-income instruments, respectively. Until 2002, the major portion of the portfolio was invested in equities (up to 70% of the portfolio). In addition to adopting a general investment policy — one which appreciates capital preservation and long-term gains over risky immediate profit — specific investment guidelines are issued by the board outlining permissible instruments and performance parameters.

For the latter, broad industry benchmarks are used (viz., S&P500, EAFE, and Lehmann Brothers bond indices, for equities and fixed-income instruments, respectively), and fund managers are expected to consistently match or outperform these indices. Since 2000, BTF has invested in domestic blue-chip equities, though these investments are limited to 10% of the endowment to hedge against illiquidity.

In order to remain competitive, the portfolio is evaluated biennially by an independent specialist. Following a recent review, 85% of invested assets are now passively managed through indexed funds, since active management ceased to add value. As a socially responsible investor, BTF regularly screens its holdings for poor environmental performers. An automatic negative screen is deliberately not adopted, considering inherent difficulties in differentiating between good environmental performers in a “dirty” industry and poor performers in a more benign industry. Industry disclosure requirements are also not rigorous enough to yield sufficient information to judge a particular company’s relative environmental performance. While indexed socially responsible funds represent potential investment vehicles, their positive criteria substantially limits their universe of investment choices and thus implies different risk/return trade-offs.

Due to the specialized nature of investment instruments in use today, BTF relies on independent, North American-based expertise to advise on investment policy and strategy. This is important, as relying only on local expertise is not efficient.

OPERATIONS

BTF is mandated to promote social welfare through environmental conservation of the forests, flora, fauna, diverse ecosystems, and biodiversity in Bhutan (Royal Charter 1996). As an operational strategy, the fund adopted a long-term approach to instituting effective frameworks for conservation, partly due to the absence of immediate environmental crises and the presence of adequate external financing for current needs.

Beginning in 1996, grant-making guidelines focused on three strategic objectives, and all proposals have to fit within this framework (Table 1). Funding priorities complement national policy and priorities outlined in the Biodiversity Action Plan (1998a), National Environmental Strategy (1998b), and national five-year development plans. All stakeholders were widely consulted while formulating the funding framework.

Table 1. Strategic funding objectives

Strategic Funding Objective	Eligible activities
I. Supporting *in-situ* and *ex-situ* conservation in the green sector, including sustainable utilization of genetic and species resources.	(i) Capacity building for integrated conservation & development in protected areas (ii) Conservation management planning & infrastructure building for parks not yet under scientific management (iii) Enhancing central government capability to provide specialized support to park management (iv) Protecting and/or restoring the biophysical environment from natural & anthropogenic threats (v) Sustainable forest management planning & agro-biodiversity conservation
II. Strengthening integrated conservation & development planning through research & biological monitoring.	(i) Capacity building for socioeconomic & biodiversity assessments, & conservation research (ii) Promoting central government capability for organizing, analyzing & providing access to conservation information (iii) Assessing & monitoring biological change in protected areas & national forests, consistent with the Biodiversity Action Plan
III. Promoting conservation education and awareness of conservation policies and issues.	(i) Non-formal conservation awareness programs (ii) Integrating environmental education into the national education curriculum (iii) Developing resource materials & teaching aid on Bhutan's natural heritage (iv) Involving religious communities in promoting conservation values & ethics (v) Building awareness of conservation legislation, public policy & regulations

Grants are awarded every spring and fall during the board's semi-annual meetings. Unless otherwise approved by the board, grants are limited to US$300,000 over three years. The fund secretariat has been effectively using its discretionary annual fund of US$43,000 to promote applied conservation research (up to US$8,500 for each project). Scientists are required to publish their research in international peer-reviewed publications.

To better understand program impact, two major grants are discussed below. Recognising that the biggest constraint to effective conservation is the absence of local capacity, in fiscal year1998–-99 almost US$4 million was awarded to recruit and train 142 new staff positions in six priority parks, central regulatory agencies (including the National Environment Commission, the parks' parent agency, and the Ministry of Agriculture), and Bhutan's only environmental non-governmental organisation (NGO), the Royal Society for Protection of Nature (RSPN).

The basic premise was that without increased human capacity in the field and central offices, even the most generous conservation project will fall short of intended objectives. Furthermore, external donors prefer to see their assistance spent on immediately visible activities, and conservation is often not the foremost priority for a developing country.

As a result, BTF financing enabled the mobilization of 142 conservation professionals, from park guards to atmospheric scientists and graduate ecologists (Figure 6).

Fig. 6: Incremental costs of conservation (1998-2004)

Incremental staffing & Recurrent costs				Human Resources Development			
Beneficiary	Inc	Estab.	Cost ($)	Beneficiary	MS	Short term	Cost ($)
1. Nature Conservation Div.	10	96,061	272,952	1. Nature Conservation	9	10	739,500
2. Royal Manas NP	29	30,150	301,232	Div.	-	52	60,358
3. Jigme Dorji NP	34	-	295,065	2. General park mgmt.	1	-	87,000
4. JSWangchuck NP	11	-	114,524	3. Thrumshingla NP	2	-	174,000
5. Bomdeling WS	24	-	202,963	4. NEC	1	8	110,102
6. Thrumshingla NP	17	33,080	121,616	5. RSPN	6	-	
7. Phibsoo WS	4	-	42,779	6. Sherubtse College	3	6	300,000
8. National Env.Commission	2	-	40,275	7.Dept.of Forestry	1	-	175,000
9. RSPN	11	40,877	362,471	Services	-	-	43,600
				8. BSc (env. economics)	3	-	227,504
				9. Overhead to RCSC			175,000
				10. Ministry of Agriculture (botany, fishery biology, natural resource mgmt)			
Grand Total:	*142*	*200,168*	*1,753,877*	*Grand Total:*	*30*	*76*	*2,092,064*

Figure 6. Incremental costs of conservation (1998-2004)

The collective impact on Bhutan's scientific and management capability for conservation is tremendous, with the conservation "sector" now one of the least-dependent on external technical expertise. By 2004, a total of 142 individuals will have been recruited and trained, and their full recurring costs have been incorporated into central budgets as of July 2003.

Non-government interventions have also benefited from BTF support. Sherutbse College, the premier institute of tertiary education, will soon have six Bhutanese faculty trained in the natural sciences. RSPN has received core institutional support since 1997, which it has leveraged to secure external project financing. In order to promote RSPN's sustainability, a US$1 million endowment was created to sustain core recurring costs, which typically receive the least interest from donors. BTF provided a US$450,000 challenge grant to match external contributions.

In addition to the above examples, to date BTF has awarded another US$2.84 million through 37 grants to various beneficiaries. Using financial criteria alone, the US$5 million spent to date in 46 grants is a substantial investment in a small country's conservation programs. On the ground too, the increased institutional capability for conservation achieved with BTF support complements the goals of other donor-financed interventions. If necessary, BTF can sustain the core costs of Bhutan's parks, which amounts to about US$1.5 million per annum (Namgyal 2001). However, this would imply that other proposals would receive minimum grant financing.

THE FUTURE

The greater challenge to Bhutan is maintaining ecosystem integrity in the face of emerging ecological pressures from rapid urbanization and development. Although a severe threat to the natural environment, it is not addressed within the present conservation framework. Population pressure is an important root cause: the density per square kilometer of arable land (520 persons) is actually the second highest globally, almost ranking with South Asia as a whole (540 persons), one-third higher than sub-Saharan Africa (377 persons), and double the level of Latin America and the Caribbean (World Bank 2002).

Most settlements are concentrated along narrow valleys and on adjacent slopes with limited options for spatial expansion. Combined with an annual population growth rate of 2.5%, and an urban growth rate of 6.7% — coming largely at the expense of forested slopes, scarce agricultural land, and wetlands — land degradation and conversion for urban and industrial use can compromise ecosystem integrity. This is especially so in those parks with resident people, since parks country-wide were demarcated wherever primary forest cover was intact.

Soil erosion, agricultural run-off, and sediment loads in the extensive river systems have important consequences for downstream communities in Bangladesh and India. On the other hand, localized and seasonal water shortages are also on the rise, and, as macro-economic growth prospects are dependent on a reliable water supply for the growing hydropower industry, this linkage is explicitly recognized by the government (RGoB 2002).

The recent political decentralization launched across Bhutan can adversely impact common resource management regimes, as *Geogs* (blocks of households in a district) are now empowered with economic decision-making.

Therefore, the pressures from a growing and rapidly urbanizing society will require refocusing of environmental priorities. The government is integrating environmental management regimes across all sectors, and BTF is also looking beyond a compartmentalized "green" agenda.

In conclusion, while Bhutan is a unique case of effective conservation based on a pre-existing situation of good governance and social equity, the threats and challenges confronting the environment warrant responses equating economics with ecology to ensure that conservation and development are balanced for mutual benefit.

To remain effective, the BTF has to grow and adapt to emerging challenges, just as it gradually evolved from a central role financing *in situ* conservation, to a broader biodiversity mandate, to present support for the whole "green" environmental sector. It will require new capitalization to effectively advocate integrated, national ecosystem management, and further development is justified and desired.

REFERENCES

Bhutan Trust Fund. 1996. Royal Charter for the Trust Fund for Environmental Conservation, 6 May 1996. Tashichho Dzong, Thimphu.

Mikitin, K. 1995. *Issues and options in the design of GEF supported trust funds for biodiversity conservation.* Environment Dept.Paper No.011, The World Bank, Washington, DC.

Namgyal, T. 2001. *Sustaining conservation finance: future directions for the Bhutan Trust Fund* In *Journal of Bhutan Studies* Vol.3, No.1:48-83, Thimphu.

Norris, R. et al (Eds.). 1997. *Report on the first Asia-Pacific forum on environmental funds*. 16-21 February 1997, Cebu, Philippines.

Norris, R. (Ed.). 2000. The IPG handbook on environmental funds: A resource book for the design and operation of environmental funds. The Interagency Planning Group on Environmental Funds, New York, NY.

Royal Government of Bhutan. 1998a. Biodiversity Action Plan for Bhutan. Ministry of Agriculture, Thimphu.

Royal Government of Bhutan. 1998b. The middle path: national environment strategy for Bhutan. National Environment Commission, Thimphu.

Royal Government of Bhutan. 1999. Bhutan 2020: a vision for peace, prosperity and happiness. Planning Commission, Thimphu.

Royal Government of Bhutan. 2002. Ninth Five Year Plan (2002-2007). Planning Commission, Thimphu.

Royal Government of Bhutan. 2003. *Report of annual progress by the government to the National Assembly of Bhutan.* Cabinet Secretariat, Thimphu.

Tavera, C. and Vasquez, P. (Eds.) 1996. Regional consultation on national environmental funds in Latin America and the Caribbean. Ecofondo, Santafe de Bogota, Columbia.

World Bank. 2002. World Development Indicators 2002. Washington, DC.

APPENDIX 4. Global Environment Facility Council adoption of the Resource Allocation Framework

GLOBAL ENVIRONMENT FACILITY (GEF) COUNCIL ADOPTION OF THE RESOURCE ALLOCATION FRAMEWORK (RAF),

In September 2005, the Global Environment Facility (GEF) Council adopted the Resource Allocation Framework (RAF), a new system for allocating GEF resources to recipient countries to increase the impact of GEF funding on the global environment. The RAF allocates resources to countries based on each country's potential to generate global environmental benefits and its capacity, policies and practices to successfully implement GEF projects. The RAF builds on GEF's existing country□driven approach and partnerships with Implementing and Executing Agencies, and provides countries with increased predictability in the allocation of GEF funds.

Implementation began in July 2006 and will apply to resources for financing biodiversity and climate change projects through the 4th replenishment of the GEF.

The initial indicative allocations for each country during a replenishment period are publicly disclosed at the outset of each replenishment period. These allocations will be adjusted every two years to reflect changes in each country's capacity and potential to deliver global environmental benefits. All eligible countries have access to resources for biodiversity and climate change to support enabling activities and projects in these areas. Each country will work with the GEF Implementing and Executing Agencies to develop project proposals to be financed from its indicative allocation

For further information visit the GEF website at http://www.gefweb.org/operational%5Fpolicies/raf/

THE ENVIRONMENT PROTECTION FUND

THE COOK ISLANDS EXPERIENCE, 1994-1999

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INTRODUCTION

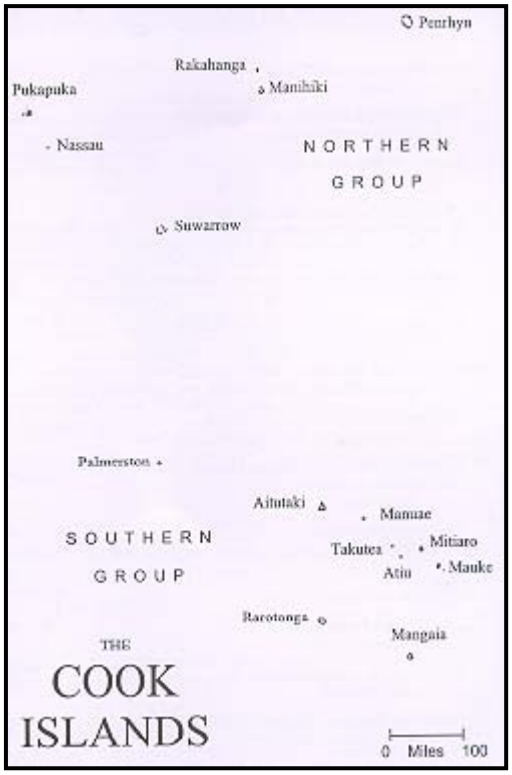
There has been a great deal of interest in ways to establish trust funds to support environmental and conservation programs in the Pacific. At the sixth South Pacific Conference on Nature Conservation and Protected Areas in Pohnpei, Federated States of Micronesia in 1997, the member countries of the South Pacific Regional Environment Program (SPREP) endorsed plans to establish a Regional Trust Fund. The South Pacific Biodiversity Conservation Program (SPBCP), which is executed by SPREP is currently exploring ways to develop a South Pacific Regional Trust Fund for Biodiversity Conservation to be established as an endowment in perpetuity. Within the Pacific region there are existing examples of trust funds that benefit the environment. Some examples include: The Pacific Development and Conservation Trust established by the New Zealand Government in 1989 and the Papua New Guinea Conservation Trust Fund, whereby The Nature Conservancy was instrumental in establishing a charitable trust in the form of a registered company under the Papua New Guinea Companies Act. In the Cook Islands the Environment Protection Fund was established with the aim of conserving and protecting the Natural Environment. This paper examines the Cook Islands Environment Protection Fund.

THE SETTING

The Cook Islands is a small landmass of 237 sq km made up of fifteen islands. The islands are spread over an ocean area of 1830,000 sq km, located between 9^{o} and 23^{o} S latitude and 156^{o} and 167^{o} W longitude. Tourism is the main source of foreign exchange, followed by pearl farming and off shore banking.

The Cook Islands is an internally self-governing state in free association with New Zealand, which is responsible for Cook Islands' defense. Executive authority is vested in the British monarch, who is Head of State, and is exercised through her official representative, the Queens Representative.

The Rarotonga Environment Act (1994-95) is the main environmental legislation for the island of Rarotonga. This Act doesn't apply to the other islands of the Cook Islands. However, the island councils of the respective islands can formulate by-laws relating to environmental matters.



Map of the Cook Islands

THE ENVIRONMENT PROTECTION FUND

In 1994, the Cook Islands Government took the initiative to establish a distinct self-generating fund to assist in protecting and conserving the environment. This fund, called the Environment Protection Fund (EPF), was established after an amendment to the International Departure Tax Act (1984) by Parliament on 7 September 1994. The amendment states that $NZ5.00 from each departure tax shall be paid to an account held by the Cook Islands Government to be known as the Environment Protection Fund. This statute increased the departure tax from $NZ20.00 to $NZ25.00. The extra five dollars from each departure tax applies to every person twelve years of age and over. Children under 12 pay a $10 departure tax, none of which goes towards the EPF. Payments designated for the EPF officially began on October 1, 1994.

Under the International Departure Tax Amendment, the EPF is to be spent on the conservation and protection of the natural environment at such times and in such manner as Cabinet shall from time to time approve. This includes the "protection and conservation of the reef and foreshore, any species of flora and fauna, soil conservation, the protection from pollution to land, sea and air and other purposes covered by the Conservation Act 1986/87" (repealed by the Rarotonga Environment Act 1994-95).

The EPF is regenerated from departure taxes as the capital is spent. This ensures sustainability.

Up until 1998, the money earmarked for the EPF was controlled by Treasury[16], and consolidated into the general crown revenue. It is uncertain if the extra five dollars from the departure taxes were being directed towards environmental purposes from 1994-1998, as no audit was conducted on use of the EPF component of this consolidated revenue.

The departure tax levy was identified as a means to generate funds because of the realization that most visitors have a high appreciation for the environment. Many visitors come to the Cook Islands to experience

[16] In 1996 Treasury was amalgamated with a number of other departments to form the Ministry of Finance and Economic Management (MFEM).

the "green image" of the country, and it was felt that most would not object to paying the extra $5 for a worthy cause.

Over the last five years, there have been approximately, 60,000 departures (visitors and departing residents) annually from the Cook Islands. As the EPF departure tax applies to those over the age of twelve, it is estimated that 75% of departures contributed towards the EPF. This equates to about 45,000 persons yielding an estimated $225,000 for the EPF per year.

ENVIRONMENT FUND COMMITTEE

In formulating the EPF, no guidelines were established to select projects eligible for financial support. The amendment to the departure tax legislation was broad in its intention and seemed to encourage wide participation. Thus, in early 1995, with cabinet approval, a committee was formed to establish guidelines and to assess project eligibility. The Environment Fund Committee was to operate under the chairmanship of the Minister of Conservation. The committee comprised of six senior officials representing Treasury, Conservation, Ministry of Outer Islands Development, Ministry of Internal Affairs, the Natural Heritage Project and the Special Projects Division (Office of the Prime Minister) and a representative from the private sector.

CONCEPT PAPER

A concept paper entitled "Environment Protection Fund: Guidelines and Criteria" was prepared for the Committee's consideration by the Cook Islands Conservation Service. It recommended that the fund have set limits on a yearly basis or over a number of years. The paper suggested a range of options on limits. For example, 80% of the Fund could be set aside for small grants up to a maximum of $15,000 per grant, while the other 20% of the Fund could be set aside for larger grants up to a maximum of $50,000 per grant. The paper also suggested project proposals for funding from the EPF be considered from both the Public and Private Sectors, provided the proposals involved promoting, enhancing, protecting and restoring the environment through education, conservation and sustainable use. Assessment of EPF proposals could be undertaken through a standard format application that needed to contain details such as objectives and endpoints, the implementors, and the budget. In its implementation the EPF required a standard application form to completed (see attached), a secretariat for administering the fund (one person), monitoring of the project during implementation and an end of project report.
To be eligible for support from the EPF, proposals for funding needed to include at least one of the following criteria:

- Promotion of resource conservation, including the preservation of historical and traditional sites, as well as socially and biologically important plants and animals;
- Promotion of environmental education and awareness;
- Protection of important habitats – forests, swamplands, foreshore margins, lagoons and coral reefs;
- Reduction of environmental degradation;
- Reduction of pollution, including chemical and pesticide misuse, hazardous waste, and solid and liquid waste;
- Promotion of the sustainable use of natural resources, both living and non-living;
- Encouragement of community participation in relation to any of the criteria above.

Despite encouraging community participation, the Committee did not include representatives from NGOs or community groups.

It was proposed that the Environment Fund Committee meet once a month as appropriate to assess and evaluate projects. The committee met on a few occasions, but it later collapsed. This was due to a lack of effective leadership and the EPF being consolidated into general Government revenue rather than a dedicated EPF account.

PROBLEMS OF THE EPF

The consolidation of the EPF into the general Government coffer created concern amongst environment agencies within both Government and non-government organizations. Their concern was that the funds were not being channelled to appropriate projects. A prime example of this was the allocation of $250,000 directly by government to a project that was not assessed by the committee.

The issue of where the EPF was going was publicly raised on a number of occasions by the local NGO environment group, Taporopoanga Ipukarea Society Incorporated. Perhaps this pressure, among other contributing factors, led in 1998 to a dedicated EPF Account being established at the Westpac Bank in Rarotonga. A portion of the EPF is now used to supplement the Tu'anga Taporoporo[17] budget (discussed in more detail later in this paper), as well as the National Heritage Project.

Vigorous attempts were made by the Environment Council of 1997/98 to have the EPF deposited into a separate account dedicated to conservation purposes. In 1998, the Environment Council started legal proceedings against the newly formed Ministry of Finance and Economic Management (MFEM) (formerly Treasury) that was administering the Fund to establish a separate account for the EPF. The situation was settled before going to court and in that same year, a separate and dedicated account for the EPF was established with the Westpac Banking Corporation in Rarotonga.

MANAGEMENT AND COLLECTION OF THE EPF

The current process for collecting the EPF is that the departure taxes are paid at the Westpac bank and are transferred to the MFEM. An annual budget proposal is prepared by the Tu'anga Taporoporo and is subject to approval by Cabinet. A portion of this budget comes from the EPF. The appropriated funds to the EPF are distributed by the MFEM into the EPF account held at Westpac bank approximately on a monthly basis. The combined monthly partial payments equate to the annual appropriation as calculated in the cabinet approved budget for the Tu'anga Taporoporo. The Environment Council is the trustee of the EPF Account.

When required, the Environment Service submits written requests to the Environment Council to disperse funds from the EPF Account to implement programs supported by the EPF.

For the 1997/98 budget, Cabinet appropriated a total of $353,063 to the EPF Account. This allocation supported a number of Environment Service projects, including those implemented outside of the Service, such as the Cooks Islands Natural Heritage Project[18] and collection of household rubbish by a private contractor[19]. In addition, the Environment budget received a top up of $41,806.00 from Crown revenue. Funds from Crown revenue are deposited into a separate account from the EPF.

In 1999, the Tu'anga Taporoporo had an approved budget of $513,977 with $297,00 coming from the EPF. The difference of $216,977 came out of crown revenue. The funds from the EPF supplement the Environment Service personnel and operational costs and some of their work programs.

Other recipients of the 1999 EPF again included the Cook Islands Natural Heritage Trust and the household rubbish collection service. Their funding requirements are budgeted into the annual environment budget proposal, and they are paid directly by Tu'anga Taporoporo.

The appropriated EPF also includes grant money for environmental projects run by NGOs, public and private sectors or any other groups who successfully apply for it. Although this grant scheme is open to any

[17] The Tu'anga Taporoporo is a body corporate that comprises the Environment Council and the Environment Service. The Environment Council consists of six persons appointed by the Minister of Environment with the approval of cabinet. The council acts as an advisory body to the Minister of Environment and the Environment Service. It also formulates policies for the ES to implement. The Service consists of a Director and officers which implement policies and programs consistent with the Tu'anga Taporoporo as approved by the Council.

[18] The Natural Heritage Trust (formerly the Natural Heritage Project) collects and integrates scientific and traditional information on the plants and animals of the Cook Islands, and seeks to make such information available to the general public and schools.

[19] In the Cook Islands there are no rates that pay for the collection of household rubbish.

individual or group within Government or Non-Government there is a lack of publicity about the grant and how to apply for support.

Even though the issue of a separate EPF account has been resolved, the Environment Fund Committee established in 1995 has not been revived. In effect, currently, the Environment Council assesses and approves EPF funded projects.

LESSONS LEARNT AND RECOMMENDATIONS

Based on the Cook Islands experience with the EPF, a number of lessons were learned. Other countries that are considering establishing an EPF may wish to consider the following suggestions.

For an EPF to be effective, it is important to establish:

- The need and purpose for an EPF
- Whom should be able to access the resources of an EPF and how
- In what areas would an EPF compliment Governments environmental activities as well as those being undertaken at the community level? Essentially how would an EPF "work" and compliment existing projects.
- Finally, in what areas should an EPF be directed or targeted. Need it target only conservation activities or should the EPF have a much wider scope, i.e. include environment management, or development activities that enhance the environment.

Furthermore, when legislation is passed establishing an EPF or equivalent, it should be stipulated that the money go in to a separate account, and not included in Consolidated Revenue for possible later dispersal.

Utilization of the fund should be subject to an annual audit, to ensure that the money is spent on appropriate projects only, that is those that protect the environment.

The EPF should not be used by Government as an alternate source of funds for projects that would be considered a part of Government's normal responsibility.

In the past, there had been discussions about advertising that the levied five dollars from the Departure Taxes goes towards the EPF in the Immigration Arrival forms. Although, this did not eventuate, in order for visitors and residents to be aware of the EPF perhaps the advertising idea needs to be re-examined.

CONCLUSION

The concept of using part of the departure tax for environmental purposes is an excellent one considering that most visitors go to the Cook Islands to experience the "green image".

With some prodding from concerned environmentalists, it took over three years for Government to finally dedicate the full amount of the EPF to the purpose for which it was intended for as outlined in the amendment made to the Departure Tax Act. However, given that no other scheme like this exists in the Pacific, a locally self-generating fund solely for environmental purposes, credit must be given to the Cook Islands Government of the time for establishing the EPF. It should also be noted that the EPF reduces the aid dependency so common for many Pacific Islands environmental projects.

It could be argued that the Cook Islands Government is still indirectly using much of the EPF for general revenue, as, for example in 1999, the $297,000 from the EPF to support the ES would otherwise have had to come out of Government revenue. However, with approximately $250,000 being generated annually from the EPF, which is now administered by the Tu'anga Taporoporo, it is likely that spending on environmentally related projects within the Cook Islands has increased as a direct result of the EPF.

Currently, the Tu'anga Taporoporo is the only body which receives direct funding from the EPF. The structure and purpose of the EPF has steered away from the original concept as envisaged by the defunct Environment Fund committee. That concept was that anybody with an interest in protecting and conserving the environment could apply for financial support under the EPF.

Other Pacific countries should be encouraged to learn from the Cook Islands experience, and perhaps implement their own Environment fund similar to the Environment Protection Fund.

Maintaining a specially designated fund for conservation or environment purposes is largely dependent on the commitment of the Government to conserve the environment. Government has the potential to encourage and assist communities with their own environment management, and the EPF is one of a number of tools that could realize those aspirations.

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REFERENCES

Cabinet Minutes (94) 1272. (1994). *Environmental Protection Fund Uses of*

Christensen, M. (1999). *Draft Concept Paper: Proposing the Framework for a Pacific Biodiversity Conservation Trust Fund Legal and Administrative Issues.* The South Pacific Regional Environment Programme

Cook Islands News Feb 1995-Jan 2000.

Evans, J.T. (1997). Untitled. Paper presented on behalf of the Taproporoanga Ipukarea Society Inc. at the economic reform program (ERP) review and National Policy Development Retreat, Rarotongan Hotel.

International Departure Tax Amendment, 1994, No. 15. An Act to amend the International Departure Tax Act 1984, 7 September 1994.

King, W. (1995). *Environmental Protection Fund. Draft – Guidelines and Criteria.* Unpub paper.

Statistics Office, Ministry of Finance and Economic Management. (2000). *Total Arrivals and Departures 1993-1999.*

APPENDIX 6. References

Brooks Kaiser, Nancy Krause, Dee Mecham, Jessica Wooley and James Roumasset, *Environmental Valuation and the Hawaiian Economy* (unpublished) 1998.

Carret, J.C. and D. Loyer, *Madagascar protected area network sustainable financing Economic analysis Perspective,* IUCN World Parks Congress 2003.

Conservation Finance Alliance, *Conservation Trust Funds, including National Environmental Funds Mobilising Funding for Biodiversity Conservation Training Guide* 2001.

Conservation International, *Conservation Carbon: The Sierra Madre, Philippines* 2003.

Conservation International, *Economic Incentives* http://web.conservation.org/xp/CIWEB/programs/economics/

Convention on Biological Diversity Secretariat, *Towards Effective Protected Area Systems. An Action Guide to Implement the CBD Program of Work on Protected Areas*, Technical Series #18, 2005.

Convention on Biological Diversity Secretariat, *An exploration of tools and methodologies for valuation of biodiversity and biodiversity resources and functions* - http://www.cbd.int/doc/publications/cbd-ts-28.pdf

Emerton L., J. Bishop and L. Thomas , *Sustainable Financing of Protected Areas* IUCN Gland Best Practice Protected Area Guideline Series #13 2006.

Federated States of Micronesia *National Biodiversity Strategy and Action Plan* 2002.

Gooroochurn, Nishaal and Chris Milner, *Efficiency Effects of Tourism Taxes* Nottingham University Business School 2004.

Keck, Andrew, *The National Conservation Finance Planning Process in Madagascar* US AID 2001.

Kelman, I., *Sustainable Livelihoods from Natural Heritage on Islands* http://www.islandstudies.ca/journal/ISJ-2-1-2007-Kelman-pp101-114.pdf

Kesaia, Tabunakawai, *Fiji Locally Managed Area (FLMMA) Trust Fund Initiative* FLMMA Trust Fund Communiqué July 2007.

Lal, P. and A. Cerelala, *Financial and Economic Analysis of Wild and Cultured live Coral and Live Rock in Fiji*. A report for SPREP and FSPI. Suva and Apia. 2006.

Lal, P. and J. Finch,. *Financial Analysis of Wild and Cultured live Coral and Live Rock in Solomon Islands*. A report for SPREP and FSPI. Suva and Apia. 2006.

Lal, P.N., *Economic valuation of coral reefs - its role, relevance and prospects in the Pacific*' Proceeding of the International Workshop on Economic Valuation of Coral Reefs, ICLARM, Penang, Malaysia, 10-12 December 2001.

Lal, P.N., 'Economic valuation of mangroves and decision-making in the Pacific.' *Oceans and Coastal Management.* 40 (9-10): 823-844. 2003.

Lal, P.N. and M. Keen, *Economic Considerations in Community Based Project Planning and Implementation* IWP Technical Report 5. SPREP, Apia, Samoa. 2002.

Lal, P.N. and M. Keen, 'Economic Considerations in Community Based Project Planning and Implementation' *Development Bulletin* 58: 68-71. 2002.

Lal, P. N., *Ecological Economic Analysis of Mangrove Conservation: A Case Study from Fiji* Mangrove Occasional Paper No 6 UNESCO. 1990.

Lasco R.D., F. Pulhin and M. Banaticla, *Potential Carbon Sequestration Projects In The Philippines* (World Agroforestry Centre publication) date unknown. **h**ttp://www.worldagroforestry.org/Sea/Publications/files/paper/PP0182-06.PDF

Micronesia Conservation Trust referenced from http://mctconservation.org/

Namgyal, Tobgay, *The experience of the Bhutan Trust Fund* IUCN World Parks Congress 2003.

Pagiola, Stefano, Konrad von Ritter and Joshua Bishop, *Assessing the Economic Value of Ecosystem Conservation* World Bank Environment Paper No.101. 2004.

Spergel, B., *Raising Revenues for Protected Areas A Menu of Options* World Wildlife Fund May 2001.

The World Bank, *Economic Value of Coastal Resources in Palau* (unpublished) 2004.

The Nature Conservancy, ICRSN and WWF, *Marine Protected Areas Benefits and Costs for Islands* CD June 2005.

Tidwell, J. *The True Wealth of Nations: How Costa Rica Prospers By Protecting Its Ecosystems,* Conservation International 2006.

Tiraa, A. *The Environment Protection Fund: The Cook Islands Experience, 1994-1999 SPBCP Consultant, Apia, Samoa* 2000.

Travel Industry Carbon Industry Offset Service, (United Kingdom) website http://www.ticos.co.uk/.

United Nations Development Programme website http://sgp.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=AboutSGP

Vanuatu's Crab Bay environment initiative is runner up in Equator Prize 16 July 2007. www.equatorinitiative.org

van Beukering, P., L. Brander, E. Tompkins and E. McKenzie, *Valuing the Environment in Small Islands - An Environmental Economics Toolkit* 2007. http://www.jncc.gov.uk/page-4065

World Bank, IUCN and The Nature Conservancy *How much is an ecosystem worth? Assessing the economic value of conservation,* 2004.

Related Web Sites

http://mctconservation.org/
http://www.sprep.org/att/IRC/eCOPIES/miscellaneous/Exploration_of_tools.pdf
http://www.sprep.org/att/IRC/eCOPIES/miscellaneous/Environmental%20toolkitchp1-3.pdf ;
http://www.sprep.org/att/IRC/eCOPIES/miscellaneous/Environmental%20toolkit4-6.pdf ;
http://www.sprep.org/att/IRC/eCOPIES/miscellaneous/Environmental%20toolkit7-9.pdf

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

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